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Towards a Global Plastics Treaty: Tracing the UN Negotiations

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Towards a Global Plastics Treaty: Tracing the UN Negotiations

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Table of contents

Abstract	3
Summary.....	4
Main takeaways	5
Introduction	6
Coding the treaty-making process	8
Policy mix	8
Material	8
Coding.....	9
Results	12
Visualising submissions	12
Objectives of the Treaty	14
Value Chain.....	16
Types and number of measures proposed	16
Value chain and types of measures matrix	19
What might the Plastics Treaty look like?	24
What are the prospects for the Treaty?	24
Montreal vs Paris? On the legal architecture of the Plastics Treaty.....	26
Will the Treaty solve the plastics crisis?	27
References.....	28
Pre-session submissions mentioned in text.....	30
Appendix 1 – Pre-session submission overviews.....	32
Appendix 2 – Coding of instrument targets and measures	34

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MADE IN SWEDEN 

Abstract

In 2022, the United Nations Environmental Assembly (UNEA) adopted resolution 5/14, giving mandate to UN Member States to start negotiations toward an international legally binding instrument on plastic pollution. This report delves into the pre-session submissions by states and coalitions for the second (INC-2) and third (INC-3) rounds of negotiations, held in 2023. Once the contents of the documents had been reviewed, a coding analysis was conducted with the aim of understanding the current policy mix being proposed for the Plastics Treaty. The nine categories to emerge from the coding process cover proposed objectives for the treaty, types and range of measures proposed, and where along the value chain these measures fall. Our results show: (1) that the pre-session submissions give considerable at-

tention to improving waste management and extending recycling infrastructure, while scant attention is given to upstream measures; (2) that relatively few economic measures have been proposed thus far, with pre-session submissions focusing on regulatory and soft measures instead; (3) that this uneven distribution of proposed measure types could weaken the overall effectiveness of the instrument by impeding its ability to address the issue of plastic pollution in all its complexity; (4) that, if current trends continue, we can expect a treaty focused on waste management and recycling, instead of one addressing the full life cycle of plastics; (5) and finally, that the sheer quantity of plastics being produced each year undermines any efforts either to 'end' plastic pollution or to reach any net-zero carbon emission targets.

Summary

At the fifth session of the United Nations Environment Assembly (UNEA-5) in March 2022, a mandate was given to UN Member States to start negotiations toward an international legally binding instrument on plastic pollution. Five rounds of negotiation were to be held between 2022 and 2024. Ahead of the second negotiation round (INC-2), Member States were asked to submit proposals as to what the instrument might cover and how it might be implemented. Between the second and third rounds of negotiation, a draft treaty text was circulated, and states were asked to supplement their previous submissions with comments on the draft. These submissions – 182 in total – provide an overview of what its future signatories want to see included in, and excluded from, the Treaty. In this report we have surveyed these submissions to understand who has submitted what; what implementation tools they propose to include; and where along the value chain of plastics – from material extraction to post-consumption waste management – their attention is most focused. We found that the majority of nation states' submissions concentrate on the end of the value chain: most have a stated aim of ending plastic pollution, while few mention a need to reduce or regulate production. Rates of virgin plastic production have been accelerating for some time, and this trend is expected to continue, with a projected 66% increase of annual virgin plastic production by 2040 relative to 2019 (Shiran et al., 2023,

p. 9). The question arises as to how effectively we can deal with a growing waste problem without addressing burgeoning production rates.

The four categories into which we divide submissions across the plastic value chain are those that concern the upstream, midstream, and downstream of the chain, and those that range across it. We clearly observe an overall focus on the midstream, downstream, and cross-value-chain, while the upstream is relatively neglected. We also classify the measures by different types of implementation strategy and find a preponderance of 'soft' measures that depend on voluntary compliance. These generally focus on gathering further knowledge of the plastic pollution issue, or on distribution of knowledge, funds, and technology. While important, these measures do not directly address the need to reduce plastic pollution. The most mentioned regulatory measure is bans, largely aimed at midstream issues like harmful chemicals and avoidable plastics, but mentions of bans are also present in the upstream section of the value chain. Other frequently suggested regulatory measures are mandatory action plans and performance standards for different parts of the value chain. These are mostly intended to be implemented at the national scale, where states can decide the level of ambition based on their capacities. Among the economic measures, the most mentioned were economic penalties, tax incentives,

and R&D funding, with penalties and tax incentives representing strong economic incentives to combat plastic pollution. But economic measures are under-represented among the submissions, making up only 12% of the total. In short, a majority of proposals focus on soft and regulatory measures in the midstream and downstream; few measures involve economic incentives or disincentives; and still fewer would bind all signatories to mandatory, measurable outcomes. Only a small number of proposals mention targets or dates. Those that do tend to be divided into two different sections of the value chain: targets relating to the production of plastic, and targets geared towards waste management and reuse, repair, and recycling. This sums up the two main viewpoints in the state submissions on how to tackle plastic pollution: that pollution is best handled by reducing the amount of new plastic being produced; or that it is better to improve the handling of plastic waste to avoid it becoming pollution. The suggestions currently give a wider range of policy options for the latter rather than the former. Given that the measures suggested so far are distributed very unevenly across the value chain, alongside the fact that few economic measures and quantifiable targets are being proposed, there is reason for concern about the effectiveness of the final instrument to combat plastic pollution.

It is common in international treaty negotiations that states with common interests form coalitions. We observed that the Alliance of Small Island States (AOSIS), the Group of Latin America and the Caribbean (GRU-LAC), the African Group, and the High Ambition Coalition (HAC) – together consisting of most states in Africa, South and Central America, Oceania, and Europe – have a fairly similar distribution of measures across the value chain, suggesting most measures in the midstream, with high numbers also in the downstream and cross-value-chain. Less attention is given to the upstream. A clearly divergent coalition is found in the ‘group of like-minded countries’ – a loose alliance that has recently formed between Iran, Saudi Arabia, Russia, Bahrain, China, and Cuba. These states give even less attention to the upstream – virtually none – and comparatively less attention to the midstream, their submissions concentrating on the downstream, and on softer cross-value-chain measures. While these countries have not yet made their alliance official, our analysis of their submissions clearly indicates that their preferences for the global Plastics Treaty are closely aligned.

While these findings may be disheartening to those more concerned with the wellbeing of humanity and the natural world than with the corporate bottom line, they are not surprising. The global production of plastic was

estimated at 460 Mt in 2019, with 430 Mt being virgin plastics and 29 Mt recycled (Shiran et al., 2013, p. 9). Given the size of the virgin plastic manufacturing industry, it is to be expected that countries with major activity in this sector, or with oil and gas reserves, will resist any measures that would threaten further expansion. Plastic is, after all, the material arm of the fossil fuel industry. As efforts increase around the world to move away from hydrocarbons as fuel, the ubiquity of hydrocarbons as material will become ever more important for these countries. Increasing virgin plastic production is a way for some countries to continue to profit financially from their fossil fuel reserves in a world that moves towards renewable energy in electricity and mobility. Naming this reality in the present is the first step to challenging its domination over the global value chains and world economy of the future.

MAIN TAKEAWAYS

1. Relatively few economic measures have been proposed overall so far; most are of a soft or regulatory type. The uneven distribution of proposed measure types could weaken the effectiveness of the instrument by impeding its ability to address the issue of plastic pollution in all its complexity.
2. Pre-session submissions give considerable attention to improving waste management and extending recycling infrastructure.
3. Across all submissions, scant attention is given to upstream measures. Countries in the ‘like-minded group’ (Iran, Saudi Arabia, Russia, Bahrain, China, and Cuba) suggest no measures at all regarding the production of plastics.
4. In light of the submissions, the next rounds of the negotiations are most likely to see common ground around waste management and recycling. If this trend continues, we can expect these issues to feature heavily in the Treaty in its final form, with other parts of the value chain comparatively neglected.
5. If nation states are to come together to solve the plastics crisis, the production of plastics needs to be addressed. Currently, the sheer quantity of plastics being produced each year undermines any efforts either to ‘end’ plastic pollution or to reach any net-zero carbon emissions targets.

Introduction

Plastics are versatile, mouldable, and durable. These attributes have contributed to the accelerating use of plastics in applications from medical care to computing, from food storage to space exploration. Useful as plastics are to us, their ubiquity and persistence in the environment have created a serious challenge for humanity and the planet. Plastic production continues to rely predominantly on unsustainable fossil fuel extraction, to make feedstocks and to power their energy-intensive production process, which in turn creates significant carbon emissions throughout the value chain of plastics (Bauer et al., 2023). The global production of plastic was estimated at 460 Mt in 2019, with 430 Mt being virgin plastics and only 29 Mt coming from recycled plastics (Shiran et al., 2013, p. 9). Microplastic particles – those intentionally added to products such as cosmetics; those that are cast off in the course of use from products such as tires and clothing; and those that emanate from discarded plastic exposed to weathering – constitute a serious threat to human and other forms of life (Prata et al., 2020). Many plastics have harmful chemical additives added to them to enhance texture, colour, durability, and so on, which then pervade the natural environment and enter food chains, causing significant negative effects to humans, plants, and animals (Hahladakis et al., 2018). In summary, there are well-established “causal links between plastics and other major environmental problems at the global scale” (Villarrubia-Gómez et al., 2022, p. 2).

Growing global concern about the impact of plastics has led to the opening of negotiations toward a global plastics treaty. These were initiated in the fifth session of the United Nations Environmental Assembly in March 2022. The formal aim of the negotiations is to agree on an international, legally binding instrument to end plastics pollution, with a specific mandate to consider the full life cycle of plastics, from material extraction to waste management (UNEP, 2022c). The first round of negotiations, INC-1, took place in November and December 2022 in Punta del Este, Uruguay. Policy positions and questions of scope and enforcement remained vague at this initial stage. Delegations put forward tentative hopes about the potential content of the treaty, and questions of burden sharing and differentiated responsibilities took centre stage. One key question in the INC-1 discussions was whether the treaty ought to be ‘bottom-up,’ that is, letting states determine their contribution based on

the common but differentiated responsibilities principle, or ‘top-down,’ that is, establishing global targets binding to all signatories. The delegations were split by their preferences on this issue, with the USA and Saudi Arabia, for example, strongly favouring the former, while the EU and Alliance of Small Island States (AOSIS) argued for the latter (GRID Arendal, 2022; Kantai et al., 2022).

The second negotiation round, INC-2, took place in May and June 2023 in Paris. INC-2 attracted more NGOs, and more and larger delegations from UN Member States. Ahead of the round, UN Member States had been asked to submit position papers. These were summarised into a document that was intended to form the basis of the second-round negotiations.¹ However, the time available for debating the substance of the treaty was shortened by a long stalemate in the plenary hearing over a question on the Rules of Procedure. Over the two-day-long debate, Saudi Arabia, Russia, China, India, Brazil, Iran, and Argentina expressed their wish to alter rule 38.1 to ensure that it would not leave room for a two-thirds vote in the event that a consensus cannot be reached at the final INC. The Brazilian delegation eventually mediated a temporary solution, whereby an interpretive statement was made noting the disagreement and the rules of procedure continued to be provisionally applied, leaving the issue to be resolved at future INCs. Two and a half days of discussion of the treaty’s content were lost to this procedural matter. Towards the end of INC-2, some clarity was attained on the points in the pre-circulated position document. Of the suggested obligations, waste management, recycling and reuse, design for circularity, and plastic product substitutions received the most attention (Kantai et al., 2023a).

When the UN Secretariat called for submissions ahead of INC-2, they provided a template that invited delegations to comment on: the objective of the treaty; substantive provisions including core obligations, control measures, and voluntary approaches; implementation measures; and means of implementation. Similarly, ahead of INC-3, which took place in November 2023 in Nairobi, national delegates were asked to supplement their previous submissions with comments on: (a) elements not discussed at INC-2, such as principles and scope of the instrument, and (b) any potential areas for inter-sessional work. The new submissions were compiled by the co-facilitators

1. “UNEP/PP/INC.2/4 Potential options for elements towards an international legally binding instrument” (UNEP, 2023a).

of the two contact groups,² to inform the work of INC-3. As the deadline for the second submission was set for a couple of weeks after the first Zero Draft of the treaty was released, the second submission also became a platform for states to give a preliminary opinion on the Zero Draft. These combined submissions, which make up our data pool, provide a detailed picture of the states' priorities and ideal outcomes for the instrument. In this study we have sought to understand: (1) the ambition level of each member state; (2) what a likely pathway to a finished plastics treaty might look like; and (3) which aspects of the plastic pollution crisis are receiving the most attention from states.

In this report we have compiled and analysed the pre-session submissions for INC-2 and INC-3 with the aim of getting an overall picture of what has been proposed. This includes information such as: whether states have submitted individually or through one or more coalitions; which objectives have been proposed for this new instrument; which kind of policy measures have been put forward; and where across the value chain these have been proposed, from upstream issues like feedstock production, to downstream matters like waste management. This latter line of analysis provides a quantitative overview of where the majority of delegations are focusing their attention – and hence what kind of Plastics Treaty we can expect to emerge from this process – but also of the ambition level of the treaty-making process overall.

The academic community have been vocal about the need for a treaty, and what should be included within it in order for it to be considered ambitious enough to adequately address the many facets of the plastics crisis (Nielsen et al., 2020). Simon et al. (2021) called for a treaty that is ambitious in scope and stringently binding to targets that are based on outcomes, not processes. Scholars have also emphasised the need for the treaty to include plastic-related chemicals (Dey et al., 2022), guided by precautionary principles, because of the serious hazard they pose to living things, including humans (Deeney et al., 2022). Furthermore, Bergmann et al. (2022) and Villarubia-Gomez et al. (2023) have suggested that a cap on virgin plastic production would likely be the most effective way of dealing with plastic pollution, given that the growth of plastic production undermines all efforts to effectively tackle the problematic afterlife of this ultra-durable product. Other commentators on the treaty process have focused on how

it should be designed for greatest effectiveness. They emphasise the importance of: (1) applying the principle of common but differentiated responsibilities (CBDR); (2) taking a full-life-cycle approach to the issue; (3) linking the instrument to international plastics trade regulations and provisions; (4) including financial mechanisms to support implementation; (5) including effective monitoring, reporting, and review procedures; (6) designing in enough flexibility to adapt to local contexts and new scientific findings; and (7) incentivising compliance and deterring non-compliance (Cowan & Tiller, 2021; Tessnow-von Wysocki & Le Billon, 2019). Legal scholars have welcomed a plastics treaty as necessary but emphasise the importance of using definitions that will fit into the existing landscape of international law, to avoid legal uncertainty which would slow down the implementation of principles to which powerful interest groups may be reluctant to adhere (Stöfen-O'Brien, 2022).

Our quantitative assessment of nation state pre-session submissions contributes to the scientific literature on a global plastics treaty by comparing the overall position of states on what should be included in the Plastics Treaty. In other words, what do states want out of this instrument? And what kind of agreement can we feasibly expect at the end of this process, given the proposals that participating nation states have submitted to date?

Because this study has drawn on state and coalition submissions that were made ahead of INC-2 (June 2023) and INC-3 (November 2023), any changes of position that may have happened since INC-3 are not accounted for in this study. This is nevertheless a rich and recent stock of material to help us understand how nation states are thinking now about cooperating to regulate activities related to plastics. Given the complexity of plastics, it is unsurprising that we found a great deal of variation in how the different submissions approached the topic. As other commentators have noted before us, different actors perceive the plastics challenge differently, and so propose different measures to address it (Hamid, 2023; UNEP, 2023a).

Section 2 below sets out the methods used for this study: how we categorised the proposals, and our approach to coding the material. Section 3 provides an overview of the results. First, we map which states made submissions, and whether these were done as individual states, as members of coalitions, or both. We then analyse the distribution of measures along the plastics value chain, from fossil fuel extraction to waste management.

2. Contact Groups (CG) are informal working groups used during UN negotiation processes. During the INCs, they help structure the negotiations process by dividing the workload into two (or in special cases three) working groups. For example, during INC-3, CG1 focused on Part II of the Zero Draft, CG2 worked on Part III of the Zero Draft, and GC3 worked on elements not discussed during INC-2, namely Parts I and IV of the Zero Draft.

We go on to provide an overview of the types and the value-chain distribution of measures being proposed. Finally, we provide matrices visualising where each type of measure (economic, regulatory, soft, and targets) has been proposed along the value chain. The discussion

summarises the findings and offers an outlook on the type of international treaty on plastic pollution that we might anticipate, given the present stated priorities of the participating states.

Coding the treaty-making process

POLICY MIX

The method and analysis of this report has been inspired by the policy mix framework. It has been used both to create a methodology for coding the suggested treaty measures, and to understand how the proposed measures fit together in the broader context of achieving the Treaty's goal. The policy mix perspective emphasises the necessity of a diversity of approaches – economic, regulatory, and soft – in any attempt to bring about a major shift in economic activity, such as changing the operating principles and practices of an entire industry. This perspective considers both the multiplicity of objectives that are in play at such moments of change; and the broad portfolio of measures that may be needed to achieve these objectives (Rogge & Reichardt, 2016)³. We view the submissions of states and coalitions to the treaty process as statements of intent regarding a future global plastics policy mix, with a focus on the differences and similarities between the submissions. When analysing the measures suggested by participating states and coalitions, we were interested in two main questions. First, which part(s) of the value chain did a given measure target? And second, by what lever would a measure be implemented? We divided these levers into three types: regulatory (based on laws and regulations); economic (based on monetary incentives and disincentives); and soft (based on voluntary, non-binding compliance). Previous research demonstrates that an effective policy mix requires a mix of types of measures across these different categories (Bach & Hansen, 2023; Kivimaa et al., 2017). In complex socio-technical transitions, such as the one targeted by the Plastics Treaty, the main goal should not be to discover a single, optimal measure or policy, but to arrive at a balanced policy mix that combines the advantages of different measures to reach multiple, interconnected goals (Schmidt & Sewerin, 2019) A policy mix that skews heavily towards one

category of measures will be less effective in addressing a complex challenge like that posed to humanity and the natural world by plastics.

MATERIAL

This report is based on a review of individual nation state and coalition pre-session submissions for the INC-2 and INC-3 meetings, totalling 182 documents. These submissions represent 170 states recognised under the UN and four that are not recognised under the UN. Although other stakeholders also submitted responses to the calls for submissions, only state submissions are covered in this report. Due to the time constraint imposed by future negotiating sessions, we have opted to prioritise state submissions due to their greater influence on the treaty-making process. The first of the two rounds of submissions that make up the material for our study was requested at INC-1 by the Intergovernmental Negotiating Committee. Members of the committee, i.e. nation states, were invited to propose “potential options for elements towards an international legally binding instrument, based on a comprehensive approach that addresses the full life cycle of plastics as called for by UNEA resolution 5/14” (UNEP, 2023a). A template was circulated by the Executive Secretary of the INC Plastic Pollution Secretariat on 15th December 2022, with a deadline set for 10th February 2023, so that the submissions could be collated for discussion at INC-2 in May of that year (UNEP, 2022a).

The template included the following categories: (1) Objective, core obligations, control measures, and voluntary approaches; (2) Implementing elements (including implementing measures and means of implementation); and (3) Additional input (e.g., introductory elements, awareness-raising, education and exchange of information, research, stakeholder engagement,

3. In the policy mix literature, measures are most commonly named ‘instruments’. However, to avoid confusion in the context of the global plastics treaty (where the final result is referred to as the instrument), we use the term ‘measure’ to refer to the various suggested interventions (following the vocabulary of the treaty making process).

institutional arrangements, and final provisions) (UNEP, 2022a). It offered guiding questions for each subsection and emphasised the option to not answer all fields in the template. 67 submissions were received for INC-2, some from individual states and others from coalitions. With a few exceptions, the submissions made use of the template. Their contents were collated and summarised in UNEP/PP/INC.2/4 (UNEP, 2023a), which was circulated ahead of INC-2 for discussion at that round.

Ahead of the third session, the Secretariat published a new call for submissions. States were asked to cover the following to inform the work of INC-3 (UNEP, 2024): (a) elements not discussed at INC-2, such as the principles and scope of the instrument, and (b) potential areas for inter-sessional work. A template in two parts was proposed, and a deadline set for 15th September 2023. Part A of the submission template had three sections: (1) Scope of the instrument, as well as types of substances, materials, products, and behaviours to be covered by the instrument; (2) Principles to guide the implementation of the instruments; (3) Additional considerations. Part B was divided into topics relating to the two contact groups. The areas of possible intersessional work for Contact Group 1 were definitions; criteria for chemicals, problematic and avoidable plastics, design, and substitutes and alternatives to plastic polymers and products; substances of concern in plastics; and microplastics. The areas of discussion for Contact Group 2 were the potential role of a science and technical body; the scope of National Action Plans (including optional and/or suggested elements); harmonisation with other Multilateral Environmental Agreements; financial mechanisms; technology transfer; and capacity-building.

Due to the two days of debate on the rules of procedure that began INC-2, many of the submitted element options for the instrument were not discussed during the session. States were thus asked to submit their views on elements not discussed at INC-2 ahead of INC-3. For this reason, we view the pre-session submissions for INC-3 as supplements to the INC-2 pre-session submissions. In other words, we view each country's combined INC-2 and INC-3 submissions as representative of that state's position on the elements to be included in the instrument, though not all states submitted at both rounds. Coding submissions for both sessions therefore allowed us to include more states, as well as providing a more

comprehensive view of the elements states wished to be included in the final instrument.

The submissions of the different states and coalitions had a high degree of similarity in overall structure and content, thanks to the templates provided. However, the coding material from the two sessions came with some limitations. The INC-3 templates did not ask states to submit proposals for the objective of the instrument, so objectives have only been coded for the states which submitted for INC-2. Additionally, some submissions were not available in English, and were translated for the purpose of coding. The UNEA process includes all states recognised by the UN, and in this part of the negotiations process all submissions are equal. Every state that was willing and able to submit could do so prior to the negotiation sessions. Thus, these pre-session submissions provide us with a comprehensive view on the different position each state has chosen to take.

CODING

The coding procedure applied to the material submitted to the UN Plastics Treaty is based on a previous codebook prepared for a GREENFLEET project (Hansen et al., 2016), and the principles of *The coding manual for qualitative researchers* (Saldaña, 2009). Our provisional coding of the Treaty submissions consisted of a codebook with fifteen categories. These categories were updated throughout the coding process. The need for continuous critical evaluation of the codebook is highlighted by Saldaña (2009, p. 146): "If you become too enamoured with your original Provisional Codes and become unwilling to modify them, you run the risk of trying to fit qualitative data into a set of codes and categories that may not apply." The first read-through of the material prompted a review of the initial coding categories, since not all of them proved useful. For example, too few submissions were explicit about the time horizon of the implementation of measures, making the coding category obsolete. Thus, some of the coding categories were not used in the analysis of this report. Nine categories have been used in this report, shown in Table 1, and include: (1–7) objectives proposed in the state submissions; (8) measures to be included in the instrument; and (9) part of the value chain addressed by each measure (see Table 1).

Table 1: Overview of coding categories used in the analysis.

Category 1	Objectives – end plastic pollution
Category 2	Objectives – reduce production of plastics
Category 3	Objectives – benefits of plastics mentioned
Category 4	Objectives – protect human health
Category 5	Objectives – protect biodiversity and (marine) environment
Category 6	Objectives – address the full life cycle of plastics
Category 7	Objectives – other objectives
Category 8	Type of measures to be included in the instrument
Category 9	Part of the value chain addressed by measure

The data collection and analysis were carried out in the following three stages. First, all state pre-session submissions for the INC-2 and INC-3 were downloaded from the UNEP website and imported to the qualitative data analysis software NVivo. Second, the material was coded in the program using the categories from Table 1. Two people coded and reviewed the material, to ensure consistency and coherence. A continuous review and discussion of how to interpret the material was undertaken by the team members, with memos written to secure the transparency and traceability of the process. Finally, the results of the code were exported and aggregated and underwent a descriptive analysis to identify the central tendencies in the coded data.

One limitation of our analysis is that we have chosen to base it on submissions rather than individual states, with some submissions representing coalitions of upward of 50 states. Time constraints prevented us from extrapolating the views of individual states from coalition submissions, not least because some states are part of more than one. Furthermore, coalition negotiations are conducted behind closed doors, so the view of an individual member state cannot be inferred from a coalition submission with absolute certainty, even though most of the coalitions work by consensus. This means that the results section below shows the types and numbers of measures favoured by submission papers, and not by nation states.

In the remainder of this chapter, we describe the categories used in the analysis of the report. Section 2.3.1 explains the seven categories for the proposed treaty objectives, section 2.3.2 describes the types of measures and targets used in the coding of the submissions, and section 2.3.3 explains the coding of the value chain of plastics.

The objectives of the instrument

The seven objectives in Table 1 are used as an indication of what a state or coalition believes to be the main goal of the final instrument. Seven of our nine coding categories focus on states' proposed objectives for the treaty. The question of objective makes up just one sub-section of one of the two templates offered by the Secretariat to participating states. In our view, however, they are key to understanding each participating state's attitude toward the treaty as a whole. This is because, as the Secretariat points out, the Treaty's objective "may guide the interpretation and implementation of all the other provisions" (UNEP, 2022a, p. 3). By analysing what elements are included in, and excluded from, a submitting party's proposed objectives, we can gain a sense of that state's or coalition's overall ambitiousness with regard to the Treaty – how broad they feel the instrument's objective ought to be, and how forcefully they believe it will need to be implemented in order for that objective to become reality.

The coding categories 1, 2, 4, 5, and 6 for the objectives in Table 1 represent elements from the objectives proposed in the working document UNEP/PP/INC.2/4 prior to INC-2. Category 3, on the benefits of plastics, was added after an initial read-through of the material revealed that several members stressed this topic in their submissions. Category 7 captures objectives that do not fit under the other headings. The two most notable objectives mentioned in this miscellaneous category are transition from linear to a circular economy of plastics; and 'sustainable production and consumption' of plastics. Both objectives would be challenging to achieve, since there are conflicting definitions of what 'circular economy' or 'sustainable production' mean, and we found no consensus on which part of the value chain these terms were aimed at. Therefore, they have not been included in the final analysis.

The template for INC-2 submissions specifically asks about the objective of the future instrument, while the template for INC-3 submissions does not. This means that 18 states which submitted for INC-3 and not for INC-2 did not state their views on the objective of the instrument. These countries are therefore not represented in the analysis of proposed objectives. Another challenge with coding the suggested objectives of the instrument was the overlap between different provisions in the submissions. The objective, preamble, and scope of the instrument are separately defined by the Secretariat but sometimes overlap in the submissions. For the sake of clarity, only objectives that are clearly mentioned in the section on objective in the template were coded, even though some countries mentioned elements from these coding categories in other parts of their submissions. For example, Cambodia's submission mentions the reduction of global plastic production in the scope of the instrument, but not as part of the objective, meaning that Cambodia in the analysis is coded as not having mentioned reductions in plastic production (Cambodia, INC-2). Similarly, the notion that the treaty should address the 'full life cycle of plastics' was not explicitly mentioned by the High Ambition Coalition (HAC), Norway, or Morocco, but this approach is implied in other parts of their submissions. The numbers in this dataset are therefore a conservative analysis of states' positions on the objective of the instrument.

Targets and measures

Appendix 2 shows an overview of the categories used to code the proposed targets and measures in the submission material. We coded for seven different economic measures: tax incentives, subsidies, penalties, trading system, deposit system, public procurement, and research and development funding. We coded for 11 different regulatory measures: ban, moratorium, performance standard, mandatory infrastructure, mandatory certification, mandatory labelling, mandatory action plan, mandatory reports, requirements, surveillance of plastic in trade systems, extended producer responsibility (EPR), and legal recognition and just transition. We coded for nine different soft measures: voluntary certification, voluntary labelling, assessment/monitoring/evaluation, information and guidance, education and awareness-raising, expert group, promotion of research and innovation, harmonisation, and knowledge-sharing (including data registry, capacity-building, technology transfer, and joint research projects). The categories were inspired by the policy types used in a policy mapping by Kivimaa et al. (2017, pp. 121–122), and were adapted to suit the measures reflected in the Secretariat docu-

ment "UNEP/PP/INC.2/4: Potential options for elements towards an international legally binding instrument, based on a comprehensive approach that addresses the full life cycle of plastics as called for by United Nations Environment Assembly resolution 5/14."

Both measures and targets were coded if they were connected to a specific action aimed at fulfilling the goals of the instrument. Measures related to the treaty-making and negotiations processes were not coded. Targets were coded whether or not they specified a quantity or time frame. All codes for targets and measures have a code for the part of the value chain which they pertain to.

Value chain

Each measure and target in the submissions was coded by its place within the value chain of plastics. The value chain represented in Figure 1 represents the full life cycle of plastics, from feedstock to final disposal, and has been adapted from the value chain presented in UNEP/PP/INC.1/7 on plastic science: 'Preparation of an international legally binding instrument on plastic pollution, including in the marine environment'. The changes made have the purpose of simplifying the value chain for coding and analysis. For example: 'Reuse, repair, and recycle' is only present at the downstream stage in Figure 1, even though materials from each stage of the value chain can be recycled.

The three main stages of the value chain are: (1) upstream; (2) midstream; and (3) downstream. The upstream stage includes the raw material used for the production of plastic, which can be made from crude oil, natural gas, biomass, and recycled materials, as well as the polymerisation of the raw materials into plastic monomers and polymers. The midstream stage involves the design, manufacturing, distribution, and use of plastic products, including the use of harmful chemicals, intentionally added microplastics, and avoidable plastic (unnecessary, short-lived, and single-use plastic). The downstream stage focuses on the end-of-use treatment of plastic, which includes collection, sorting, waste management, repair, reuse, and recycling, as well as legacy plastic (understood as existing plastic pollution, often accumulated in hotspots). A change from UNEP's value chain is the addition of a fourth category: 'cross-value-chain', for elements that are present in each stage of the value chain. The 'cross-value-chain' category has also been used for measures or targets which do not specify a part of the value chain. One example is 'capacity-building', which can pertain to any part of the value chain from feedstock to recycling.

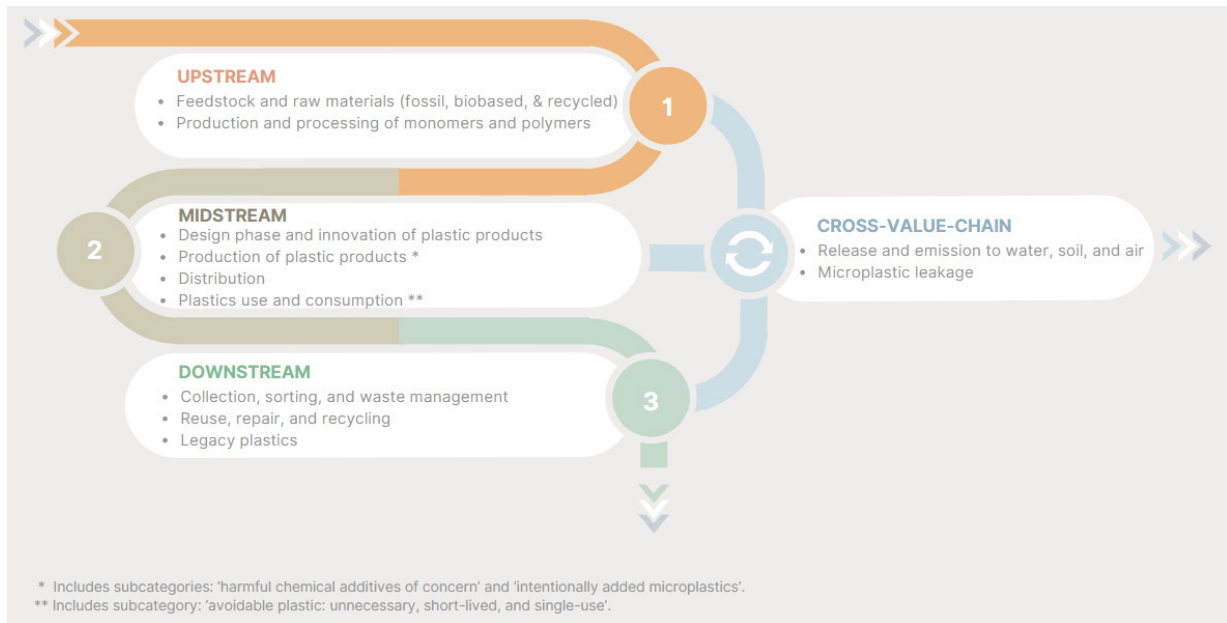


Figure 1: Value chain of the full life cycle of plastics used in coding. Adapted from UNEP/PP/INC.1/7.

After we coded all measures and targets and their place in the value chain the resulting data set was used for statistical analysis. The result section of this report shows figures summarising some of the findings from this dataset. It is important to note that each type of measure (for example, 'ban,' 'mandatory reports,' 'voluntary certification,' etc.) is only counted once for each country for each part of the value chain in which it is proposed (see Figures 6 through 13). This is because

some submissions would repeat the same measure with small variations several times in their submissions. If each were counted separately, it would give a misleading picture of the number of measures that state proposed to include. For example, if a country suggested a ban on single-use plastics and a ban on unnecessary plastics, both being within the section 'avoidable plastics,' then it would show up as one measure in the figures below.

Results

In the Results section of the paper, we synthesise the data and present our key takeaways. Section 3.1 maps out who made submissions, whether individually, or as part of one or more coalitions, or both. Section 3.2 collates the objective(s) proposed by different nation state and coalition submissions for the new Plastics Treaty and notes some prominent tendencies. Section 3.3 provides an analysis of the distribution of proposed measures along the plastics value chain. Section 3.4 presents a quantitative analysis of the types and range of measures proposed in the submissions. Finally, section 3.5 analyses the measures proposed by states and coalitions in terms of which parts of the plastics value chain they

address more thoroughly, and which parts are relatively neglected.

VISUALISING SUBMISSIONS

Figure 2 gives a visual overview of the submissions. Countries in green are those which only submitted through one or more coalitions. Countries in red only submitted individually, while countries in blue submitted both individually and through one or more coalitions. Countries in dark grey are those which did not submit for either INC-2 or INC-3.

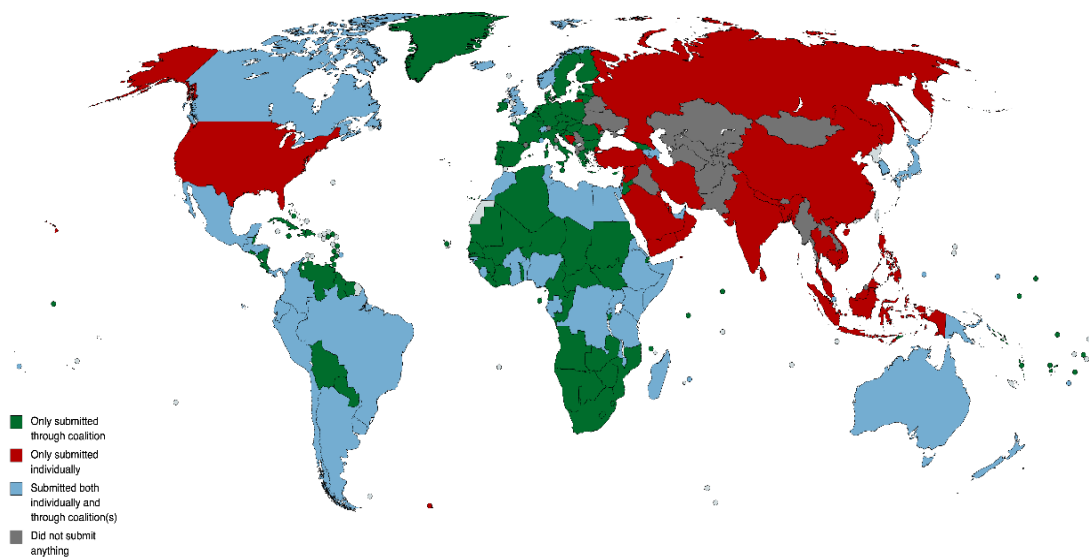


Figure 2. Number of INC-2 and INC-3 pre-session submissions.

Overall, the pre-session submissions by states and coalitions for INC-2 and INC-3 represent 175 states worldwide. 25 countries submitted only individually (the United States, the Russian Federation, China, and India among them), whereas 95 countries only participated through coalitions. It is worth noting that some states are part of two or more coalitions. For example, Mauritius is part of the African Group (also called the Group of African States), the HAC, and AOSIS. Included in the 95 countries which submitted exclusively through coalitions are also the 27 European Union (EU) states. This is because the countries within the EU have given competency to EU institutions to negotiate on their behalf, with the Commission typically representing them during negotiations. Whichever state holds the EU presidency at the time of each round of the negotiations speaks on behalf of the EU (for example, Spain at INC-3) and brings back decisions to Brussels for the Council to adopt as the final decision (Council of the EU & European Council, 2023). In all, five coalitions submitted positions for INC-2 and INC-3: AOSIS, the African Group, GRULAC, the HAC, and the EU. All except the HAC are geographical affiliations. The HAC is an initiative from “a group of like-minded countries [...] to form a coalition of ambitious countries following the adoption of resolution 5/14” (GRID-Arendal, 2023). As of 9th November 2023, it had 60 members representing all regions of the world. AOSIS “represents the interests of 39 small island and low-lying coastal developing states.” This included countries from the following regions: the Caribbean; Pacific Ocean; and the African, Indian Ocean and South China Sea (AIS). The African Group represents all 54 states

within the African continent that are full members of the UN. GRULAC represents 26 states from Latin America and the Caribbean (IPU, 2023). Lastly, the EU represents the 27 member states of the European Union. 54 countries submitted both individually and through one or more coalitions. 22 United Nations Member States did not submit anything for INC-2 or INC-3. Finally, four countries submitted either individually or as part of coalitions despite not being members of the United Nations. These were Palestine (submitted individually), the Cook Islands (submitted both individually and through HAC and AOSIS), Niue (submitted through AOSIS), and Greenland (submitted through HAC). Appendix 1 provides a full list of which countries submitted individually, through coalitions, both individually and through one or more coalitions, or not at all.

The map in Figure 2 shows a stark divide between the USA and most Asian nations, which opted to submit only individually, and the rest of the world, with other participating nations submitting as part of coalitions regardless of whether they also submitted individually. 149 states were part of one or more submitting coalitions. They represent over 75% of pre-INC-2 and INC-3 submissions overall. It is possible that states in the Asia-Pacific region found it harder to find common ground with their neighbours due to having very diverse interests. Some have miniscule fossil fuel or plastics industries, such as Palau (INC-2, p. 2), while others, like Saudi Arabia and China, are economically dependent on their fossil fuel or plastic production industries. Nonetheless, during its first interventions at INC-3, Iran revealed a new informal coalition with other ‘like-minded’ states

which may be filling the gap of a coalition group in the region, potentially bringing together states such as the Russian Federation, Saudi Arabia, Bahrain, China, and Cuba (Kantai et al., 2023b). For now, it is still unclear exactly which states are part of this new coalition, what form this coalition will take, and the role it will play in the last two rounds of negotiations in 2024.

OBJECTIVES OF THE TREATY

In the review of the pre-session submissions for INC-2, we identified six different objectives proposed across 68 submissions. Figure 3 summarises the results for

objectives 1, 2, and 3, while Figure 4 does the same for objectives 4, 5, and 6. When coding for objectives, we specifically looked at the section in the INC-2 pre-session submission template which asked states to outline what objective(s) could be set out in the instrument. This means that a submission might not have included the topic of one of our coded objectives within that section, but that topic might have been brought up somewhere else in their submission, or in their INC-3 pre-session submission. In such a case, the topic was excluded from coding of that state's proposed objective(s).

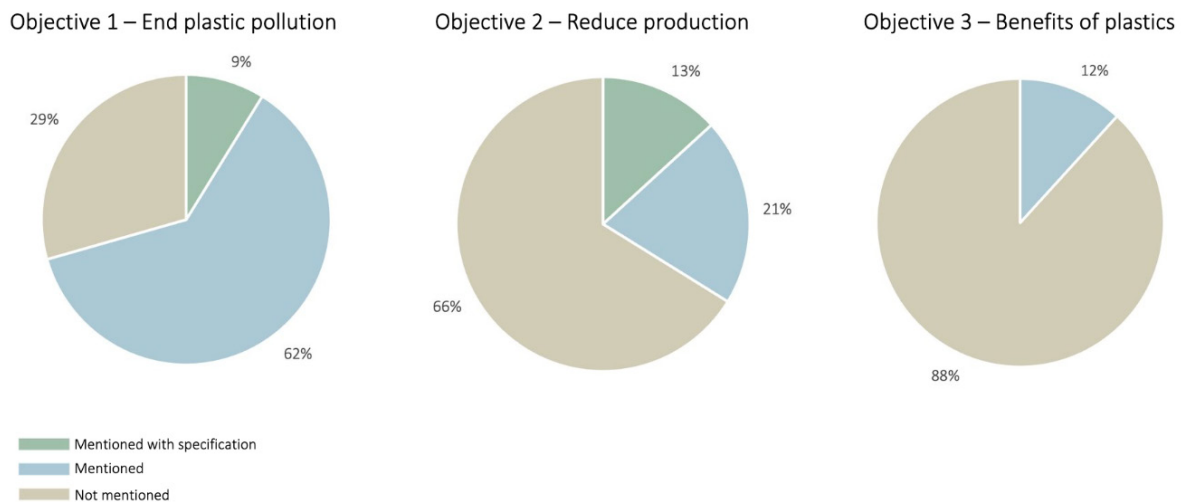


Figure 3. Submission mentions of objectives 1, 2, and 3.

The first objective we coded for was whether submissions mentioned 'ending plastic pollution' as a potential objective for the Treaty. The United Nations Environmental Assembly (UNEA) 5/14 resolution, which gives the mandate to negotiate a new legally binding instrument, is entitled "ending plastic pollution" (UNEP, 2022b). As can be seen in the first pie chart of Figure 3, 9% of submissions mentioned this objective and proposed that it be time-bound. The United Kingdom specified that "the instrument should contain a time-bound commitment to ending plastic pollution, to be contained in the ILBI annex" (UK, INC-2, p. 2). Similarly, Japan mentioned that "we need to set a global common goal to reduce additional plastic pollution, particularly in the marine environment, to zero by a certain year" (Japan, INC-2, p. 3). The four submissions which nominated a year – the HAC, Iceland, Monaco, and Morocco – all suggested 2040. This time frame was first put forward during the first negotiation rounds (INC-1) in Uruguay (UNEP, 2022a, p. 12). 62% of submissions mentioned the objective of ending plastic pollution, but did so without

referring to a specific time frame. 29% of submissions did not mention ending plastic pollution as an objective of this treaty.

The second objective we coded for was whether the submissions asserted that reducing production should be an objective of the Treaty. 21% of submissions mentioned this objective with no specifications, many using wording similar to "reducing overall plastic production and use" (African Group, INC-2, p. 2). We found that 13% of submissions included a mention of this goal with a specification, meaning they included some detail on which types of plastic they would like to regulate. Six of these submissions referred to phasing out, reducing, banning, or stopping the production of single-use plastics (Azerbaijan (INC-2, p. 1), Bosnia and Herzegovina (INC-2, p. 3), Indonesia (INC-2, p. 2), Nigeria (INC-2, p. 2), Palau (INC-2, p. 1), and Palestine (INC-2, p. 1)). Indonesia also mentioned toxic and problematic plastics (INC-2, p. 2). Moldova argued that "unnecessary, avoidable, and problematic plastics, substances and additives should be reduced, eliminated, substituted

or banned” (Moldova, INC-2, p. 1). The Cook Islands submission mentioned, within its proposed objective for the treaty, “a reduction in the overall production and consumption of unnecessary, avoidable and problematic plastics” (Cook Islands, INC-2, p. 2). Sri Lanka referred to a different type of specification within this objective, and stated that “the tendency to increase in plastic production in future using fossil fuels needs to be considered and a control mechanism has to be established” (Sri Lanka INC-2, p. 2). Lastly, 66% of submissions did not mention production reduction as a potential objective for the Treaty.

The third objective we coded for was whether submissions included any wording on the benefits of plastics and the positive role these substances currently play.

We found that 12% of submissions talked about the positives of plastics as part of the potential objective of the treaty, while 88% did not. The states that mentioned this in their submissions were: Bahrain, China, Ghana, Japan, Qatar, Saudi Arabia, Sierra Leone, and Syria. They included wording such as: “plastic plays a very important role in all our societies as a key component in all manner of products” (Ghana, INC-2, p. 3); “a treaty must have general and simple objectives centred around the mitigation of adverse impact by plastic pollution [...] while recognizing the important role of plastics for society. Plastic is useful and can be reused and recycled” (Japan, INC-2, p. 3); and “the role of plastic in the modern world cannot be ignored” (Qatar, INC-2, p. 2).

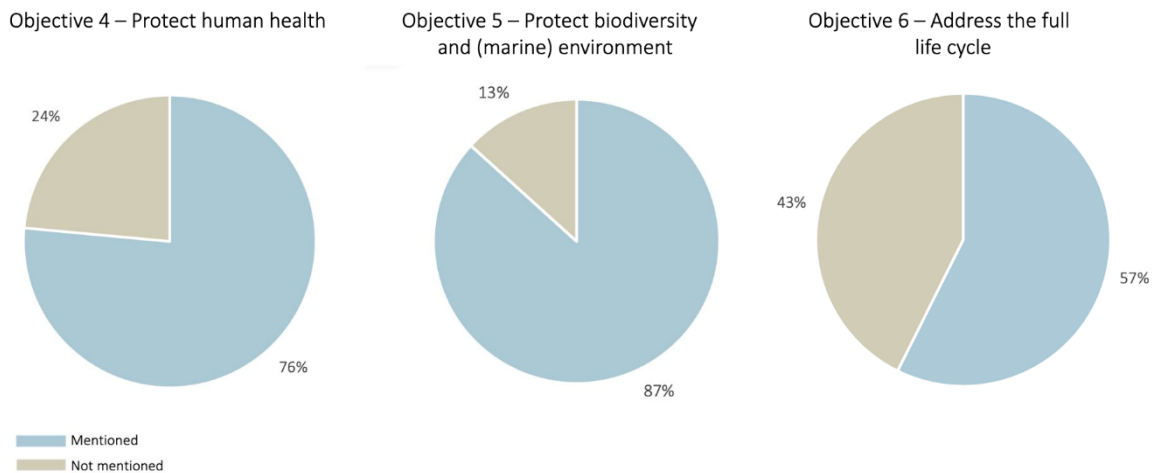


Figure 4. Submission mentions of objectives 4, 5, and 6.

The fourth objective we coded, shown in Figure 4, was whether the submissions included an objective of protecting human health. 76% of submissions mentioned this as a part of the objective of the Treaty, usually stating something along the lines of “the objective of the future Convention should be the protection of human health and the environment [from] adverse effects of plastic pollution” (Argentina, INC-2, p. 2). Only 24 submissions do not refer to the protection of human health among their objectives for this new legally binding instrument.

The fifth objective we coded for was whether submissions mentioned the protection of biodiversity and the (marine) environment. We found that 87% of submissions argued for protecting biodiversity and/or the (marine) environment as part of the objective of the instrument. For example, Azerbaijan listed among its proposed objectives the reduction of “the negative impact of plastic pollution on the environment and

human health” (Azerbaijan, INC-2, p. 2). Only 13% of submissions did not mention this.

The sixth and final objective we coded for was whether the submissions referred to the need to address the full life cycle of plastics. We found that 57% of submissions mentioned it, whereas 43% did not. We coded this by looking for the words ‘full life cycle of plastics,’ or similar, within a submission’s proposed objectives. For example, Brazil “supports an ambitious instrument aimed at ending plastic pollution, whose objective covers the life cycle of plastics” (Brazil, INC-2, p.1). Interestingly, the High Ambition Coalition (HAC) did not include a reference to the full life cycle of plastics within their proposed objective, and the topic is thus coded as not mentioned. Given that all stages of the plastics value chain contribute to the problem of plastic pollution – after all, every plastic bottle washing up on a beach was once virgin feedstock – it is striking that the coalition centred around ambitious outcomes for the Treaty do

not mention this issue clearly in their objective statement. It should be borne in mind that ‘full life cycle of plastics’ lacks a common definition, so it is likely that there was some diversity in intention and in conception of the problem among the 57% of states and coalitions that did use this term when setting out their objectives.

In conclusion, Figures 3 and 4 show an overview of the proposals made in INC-2 pre-session submissions as to the objective of the Plastics Treaty. Overall, most submissions agreed that ending plastic pollution (objective 1), protecting human health (objective 4), and protecting the environment (objective 5) should be within the objectives of the treaty. As for objective 3, acknowledging the benefits of plastic, a clear majority of submissions

did not see the need to mention this. Reducing rates of production (objective 2) was mentioned in roughly one third of the submissions (34%). Objective 6, consideration of the ‘full life cycle of plastics,’ was mentioned in a little over half of the submissions.

VALUE CHAIN

This section provides an analysis of the distribution of proposed measures along the plastics value chain. We coded all measures proposed in the pre-session submissions of INC-2 and INC-3, 86 submissions in total. We sorted all individual measures by their place along the value chain.

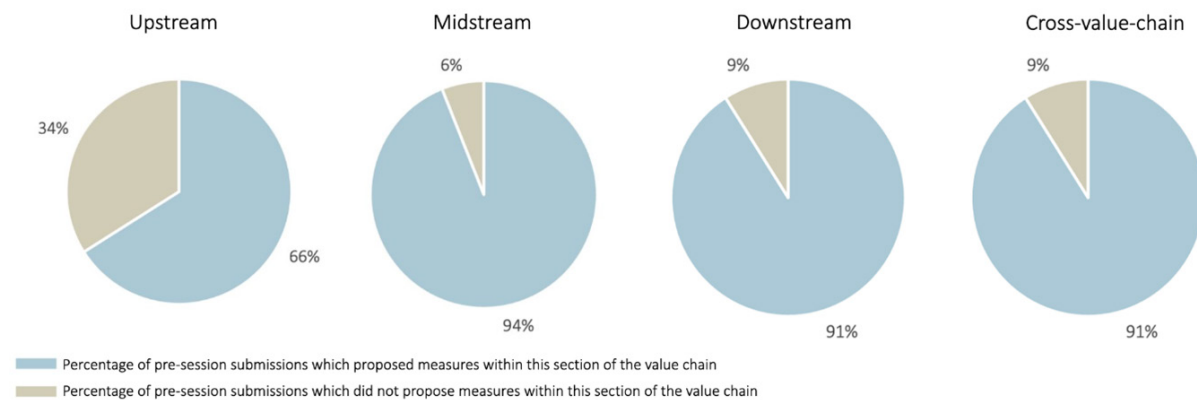


Figure 5. Measures proposed throughout the plastics value chain in the INC-2 and INC-3 pre-submissions.

Figure 5 gives an overview of how many submissions did, or did not, propose a measure within a specific part of the value chain of plastics. In the upstream part of the value chain, we see that only 66% of the submissions included a measure, while 34% did not. The other parts of the value chain attracted significantly more attention. 94% of the submissions included a proposition of implementing a measure within the midstream part of the value chain of plastics. 91% of the submissions included measures belonging to the downstream part of the value chain, while 91% contained proposals for measures across the value chain. Figure 5 shows that a vast majority of the submissions proposed at least one measure for the midstream or downstream sections, and at least one applying to the whole value chain. The comparative neglect of the upstream part of the value chain may be connected with our observation that there is not yet a common definition of the ‘full life cycle’ of plastics. Some states may be of the view that the upstream part of the value chain is outside the scope of the treaty, and thus did not propose any upstream measures. This became clear at INC-3 when “one delegation remarked

that addressing primary plastic polymers goes beyond resolution 5/14” (Kantai et al., 2023c, p. 2). Instead, this delegation proposed a narrower definition of ‘full life cycle,’ restricted to what we would understand as the midstream and downstream parts of the chain.

TYPES AND NUMBER OF MEASURES PROPOSED

This section provides an overview of the types and number of measures proposed within the pre-session submissions for INC-2 and INC-3. Figure 6 provides a breakdown of the proposed measures by how they would be implemented: economic measures, regulatory measures, soft measures, or targets. In total there were 2688 measures proposed in the pre-session submissions. Appendix 2 provides an overview of the different types of measures coded, a description of them, and examples with quotes from the pre-session submissions for INC-2 and INC-3.

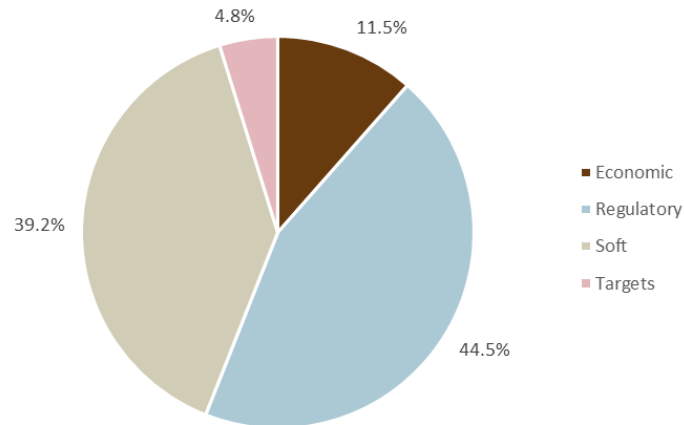


Figure 6. Types of measures proposed in INC-2 and INC-3 pre-session submissions.

Figure 6 shows that, of all the different measures proposed, 11.5% of them were economic measures, 44.5% were regulatory measures, 39.2% were soft measures, and only 4.8% were targets. We thus see a preference for regulatory and soft measures over economic measures or targets.

Figure 7 ranks the pre-submissions for INC-2 and INC-3 according to the range of measures each submission proposed. If a submission proposed one of these measures anywhere throughout the value chain at least once, then it was marked as proposed. In the case that a state or coalition submitted both for INC-2 and INC-3, the number reflected in Figure 7 is a combination of both submissions together. The figure shows the range of various measures proposed and not the total quantity of measures proposed by a country or coalition. We coded for seven different economic measures, eleven regulatory measures, nine soft measures, and whether the submissions proposed the use of targets. Thus, theoretically, a submission could score as high as 28 measures. The Cook Islands tops the chart in Figure 7 with a total of 22 different measures, including six different economic measures, eight different regulatory measures, seven different soft measures, and the inclusion of targets. This shows that the Cook Islands proposes a wide policy mix, with various policy options and varying types of measures – mostly economic, regulatory, and soft. The top ten submissions all had a range of between 18 and 22 types of measures, out of the maximum possible 28 as identified in our coding. Among these top ten individ-

ual nations, all except Cambodia were also represented by a coalition submission: five in the HAC (Cook Islands, Ecuador, Switzerland, Norway, EU), four in the African Group (Egypt, Sierra Leone, Tunisia, Uganda), one in GRULAC (Ecuador), and one in AOSIS (Cook Islands). Among the bottom ten submissions in Figure 7, eight were also represented by a coalition submission and two were not (India and Türkiye) with three states in the HAC (Armenia, Chile, Ghana), four in the African Group (Democratic Republic of Congo, Ethiopia, Ghana, Madagascar) and three in GRULAC (Honduras, Chile, and the GRULAC submission itself). The submissions by Ethiopia and Madagascar had the smallest range of measures, with only two soft measures each. However, both states are members of the African Group Coalition, meaning that their individual submissions are additional to that of the coalition, which works by consensus and so can be deemed to reflect their views in its submissions. The African Group proposed a total of 17 different measures (two economic, seven regulatory, seven soft measures, and target(s)). Therefore, the range of measures proposed by each state was complemented by the measures proposed by the coalitions they are associated with, with the African Group having the largest range of measures (17), followed by HAC and AOSIS (13), and GRULAC (4). Figure 7 is not meant to give a complete view of each state's stance on all the measures to be included in the final instrument, but rather to give an overview of the range of measures proposed in the coded submission.

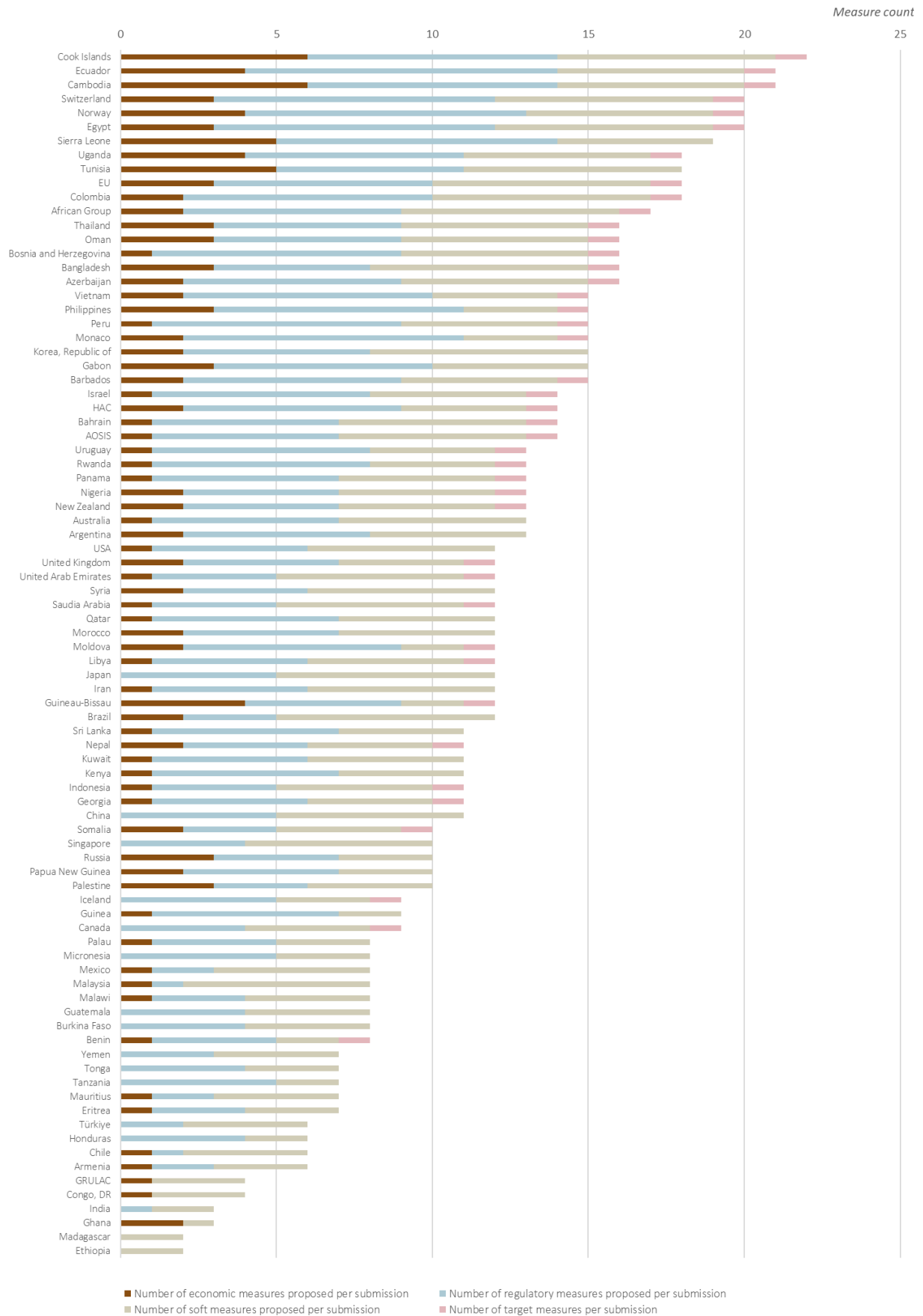


Figure 7. Range of measures mentioned in pre-session submissions for INC-2 and INC-3.

VALUE CHAIN AND TYPES OF MEASURES MATRIX

Having looked in section 3.2 at where along the value chain the objectives were focused, and in 3.3 at the types and range of measures proposed, this section focuses on which part of the value chain was targeted by each of the proposed measures. In line with our conceptual framework, we want to understand whether a varied policy mix has been proposed to date for addressing

each segment of the value chain. For example, if, in the final form of the Treaty, most economic and regulatory measures are proposed towards the downstream part of the value chain, whereas only soft measures are directed at the upstream part of the chain, this could arguably compromise the effectiveness of the new legally binding instrument in addressing the adverse impacts of plastic across its full life cycle. Figure 8 shows the distribution of proposed measures along the value chain of plastics.

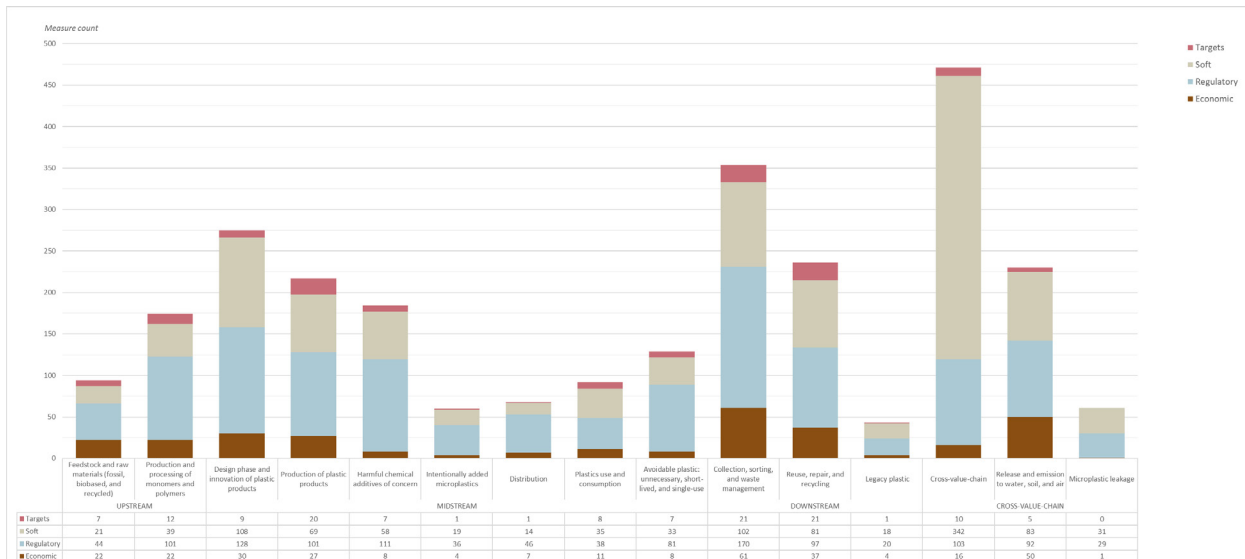


Figure 8: Overall distribution of measures along the value chain.

Three overarching themes emerge from analysing Figure 8. First, the part of the value chain that attracted the most measures of all kinds combined was the category ‘cross-value-chain’. Many of these were coded as soft measures, either because they lacked clear targets, economic impacts or coercion, or because they were proposed as voluntary measures. Other measures coded within this section are connected to multiple parts of the value chain, such as ‘education and awareness-raising’. This part of the value chain also includes calls for National Action Plans, as well as more general measures such as the need for capacity-building and technical support for developing countries.

Second, a substantial proportion of the measures were associated with plastic waste, which encompasses both the downstream and cross-value-chain sections. The three categories ‘collection, sorting, and waste management’, ‘reuse, repair, and recycling’ and ‘release and emission to water, soil, and air’ account for a third of the measures. These three categories attracted a varied policy mix, with all four measure types being mentioned. Close to half of all economic measures concerned these plastic-waste-related categories. Many pre-session sub-

missions preferred to limit their focus to questions of plastic waste management, and to actions geared towards dealing with plastic pollution in the environment. This was explicitly stated by some countries during the INC-3 negotiations. For example, Iran, speaking on behalf of the like-minded group during the preparatory meeting on Saturday 11th November 2023, said we must focus on addressing inefficiencies in the management of plastic waste (UNEP, 2023d).

Third, only 10% of the measures in Figure 8 were directly connected to the upstream segment of the value chain. Though fewer submissions mentioned upstream measures, a higher proportion of the measures that were mentioned were economic and regulatory in type. If one also includes the midstream categories of ‘production of plastic products’ and ‘avoidable plastic’, which are connected to plastic production, these together account for 22% of the measures in Figure 8 and are covered by a varied policy mix. However, when viewing Figure 8 in relation to Figure 5, it becomes clear that the upstream is underrepresented both in terms of quantity of different measures, and also in the quantity of submissions that address it.

In summary, the majority of measures proposed to date are connected to changing existing systems, products, and behaviours with the purpose of minimising the direct harm that plastics cause to humans and the en-

vironment (objectives 4 and 5) and improving global efforts to eliminate plastic pollution (objective 1).

The four figures below show the distribution of each type of measure (economic, regulatory, soft, and targets) across the value chain of plastics.

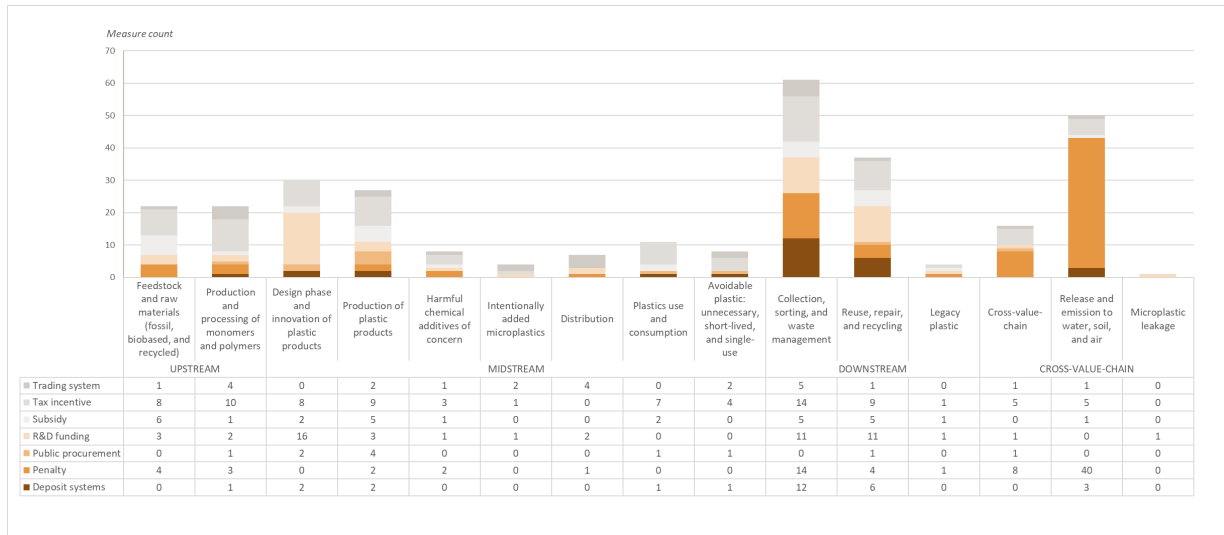


Figure 9: The distribution of economic measures along the value chain.

Starting with Figure 9, which shows the different types of economic measures proposed, one of the most notable results is seen in the section for ‘release and emission to water, soil, and air’, where economic penalties were mentioned forty times – half of the total penalties mentioned across the whole of the value chain. Within this section, many submissions included the polluter-pays principle to reinforce “the idea of long-term sustainability [and discourage] short-sighted practices that prioritise profit over environmental well-being” (Malawi, INC-3A, p. 3). The type of economic measure with the most mentions across the value chain was tax incentives (84 mentions in total), followed by penalties (79), and funding for R&D (53). Tax incentives were mentioned across all parts of the value chain, with the greatest number in the section for waste management. For example, the European Union (EU) proposed in its INC-2 pre-session submission the implementation of “economic incentives to move management of plastic

waste further up the waste hierarchy, e.g., minimum landfill taxes and incineration taxes” (EU, INC-2, p. 6). Tax incentives were also the economic measure which was most often mentioned in relation to the two upstream sections of feedstock and production of plastic polymers and monomers. Mentions of R&D funding were concentrated in the design phase of plastic production, and recycling and waste management. This category also includes calls for better technical solutions to address the issue of plastic pollution, mentioned by several states. For example, Azerbaijan mentions the need to “increase investments in new materials, additives, technologies and product design, as well as safe and sustainable alternatives” (Azerbaijan, INC-2, p. 3). In general, economic measures were rarely mentioned in the midstream section, with most occurring in the downstream and pollution sections of the value chain.

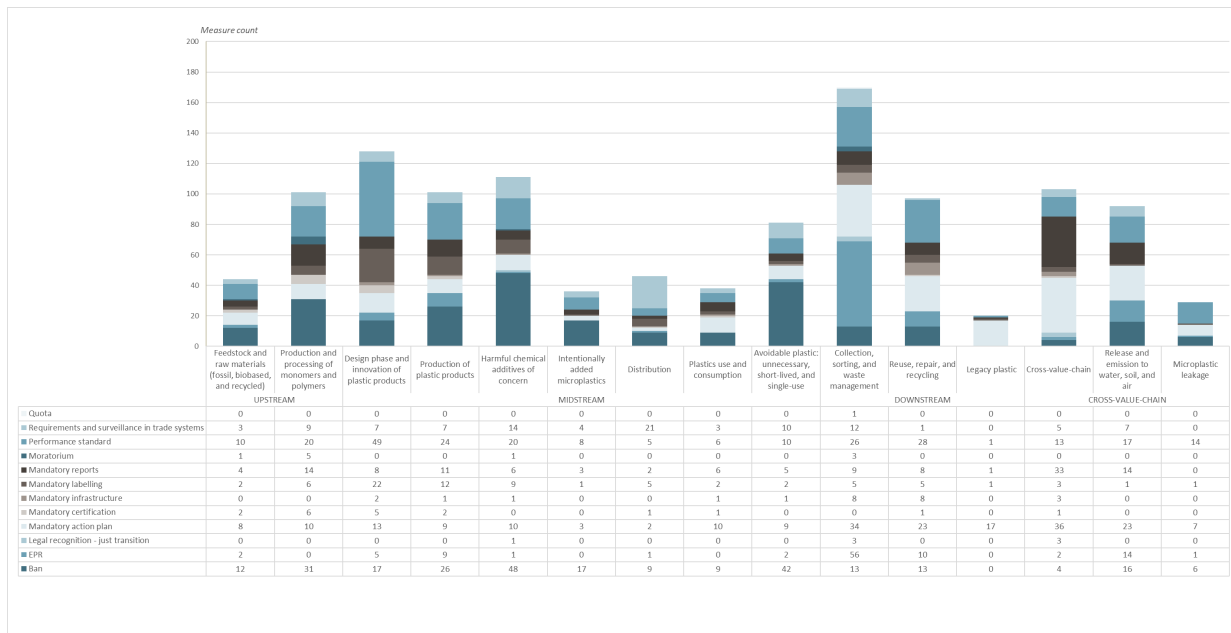


Figure 10: The distribution of regulatory measures along the value chain.

Figure 10 illustrates the distribution of regulatory measures. Here we can see a more even distribution of measures across the value chain. Note that all mentions of extended producer responsibility (EPR) were coded to the waste management section of the value chain unless other parts of the value chain were stated. This is due to the nature of EPR as a policy approach, because although such measures aim to make producers more responsible for their products from creation to final disposal, the purpose of this is to operationalise the polluter-pays principle. The most frequently mentioned regulatory measures were bans (263 mentions in total), performance standards (251), and mandatory action plans (214). Bans were most notably mentioned in relation to three parts of the value chain: harmful chemicals (48), avoidable plastics (42), and production of polymers and monomers (31). This suggests a relatively high level of ambition across submissions for these parts of the value chain. For example, AOSIS proposed “the elimination of hazardous chemicals, additives, and polymers which are harmful to the environment and human health and unfavourable to recycling” (AOSIS, INC-2, p. 3). When proposing bans on avoidable plastics, most states included a specification for the type of plastic product they wanted to ban, such as “problematic

and unnecessary plastics” (AOSIS, INC-2, p. 3), “high-risk plastics” (Benin, INC-3B, p. 2), “non-economically recyclable plastic items (Cambodia, INC-2, p. 4), and “single-use” (Palestine, INC-2, p. 1), to name a few. Performance standards were mentioned across most of the value chain. This can be understood as states calling for more consistent and clearer rules and guidelines relating to both the production of plastics and the management of plastic waste. This highlights the present lack of coordinated and harmonised efforts to combat plastic pollution across the globe, with no existing rulebook for states to follow. Performance standards, as a measure, is also notable for being clearly directed towards the plastic industry. The enthusiastic embrace of this measure suggests that states want guidance in their efforts to manage and control the plastic industries. For example, submissions proposed to “set conditions to use and the ratio of reprocessed plastics” (China, INC-2, p. 4), introduce “quality standards of substitute products” (Colombia, INC-2, p. 12), and introduce “standards and restrictions on the use of bio-based, biodegradable and compostable plastics” (EU, INC-2, p. 6), and argued that the new legally binding instrument “could consider the need [...] to introduce minimum recycled content incentives” (the United Kingdom, INC-2, p. 4).

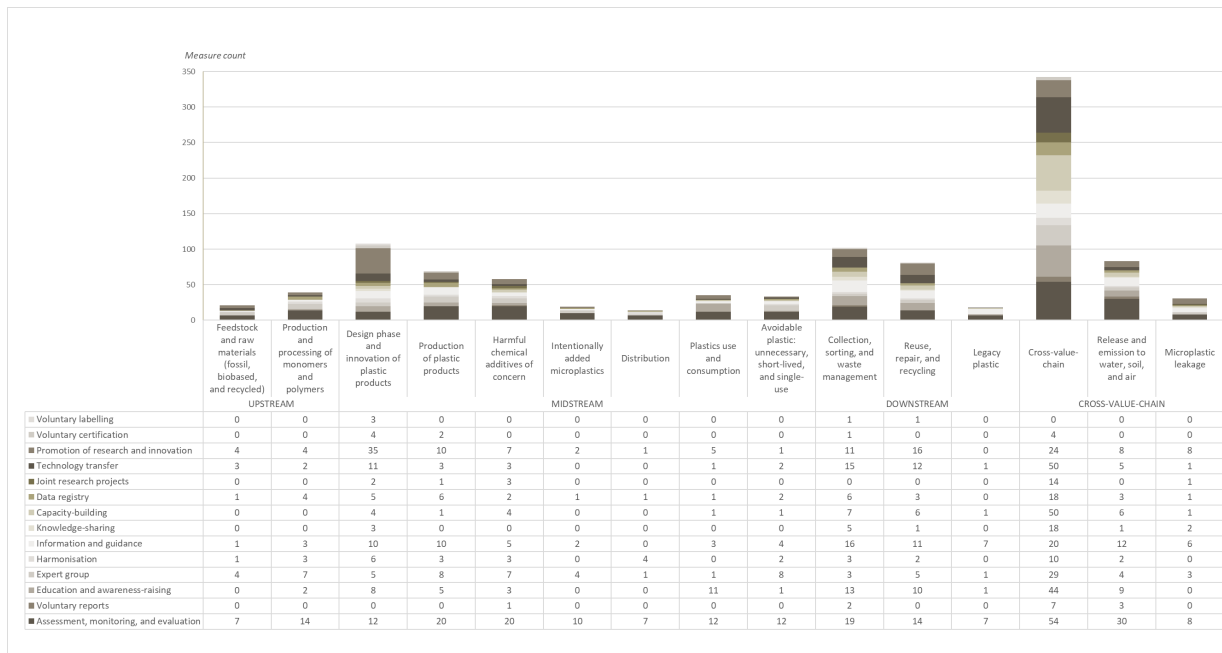


Figure 11. The distribution of soft measures along the value chain.

The distribution of soft measures in Figure 11 is highly skewed towards the crosscutting section of the value chain. Most often mentioned were: assessment and monitoring, capacity-building, technology transfer, and education and awareness-raising. For assessment and monitoring, submissions generally outlined the need for monitoring and reporting mechanisms. For example, through the identification of pollution hotspots (proposed by Bosnia and Herzegovina, INC-2, p. 5), the “collection of data that are not readily available (Brazil, INC-2, p. 1), and the implementation of a “monitoring and review committee [which could be] tasked to periodically assess and evaluate collective progress (EU, INC-3A, p. 11). With regards to capacity-building, most submissions included the need for capacity-building but did not go into specifics as to what this might look like. Only a small number proposed ways to implement capacity-building, for example through training programs for governments and stakeholders (Azerbaijan, INC-3B, p. 4) or through vague formulations such as creating “a dedicated committee for capacity-building” (Egypt, INC-3A, p. 10). When talking about technological transfer, submissions highlighted the need for assistance, for example “in terms of providing guidance on best practices” (the African Group, INC-2, p. 6). AOSIS highlighted that “the transactional costs for technology needed to implement action [tend] to be significantly higher in SIDS [Small Island Developing States] than non-SIDS” (AOSIS, INC-2, pp. 6–7), and therefore aid in

the form of technological transfer from non-SIDS states would be “essential for SIDS to meet their targets and obligations” (AOSIS, INC-2, pp. 6–7). Lastly, in terms of education and awareness-raising submissions, the African Group proposed the “adoption of pro-environment behaviour in societies through non-price and non-regulatory means (e.g., education, communication, and public awareness campaigns [...])” (the African Group, INC-2, p. 4). Other suggestions included: promoting “local environmental education regarding information and the impact of plastics on the environment and citizen participation” (Argentina, INC-2, pp. 6–7); “targeted initiatives at Educational institutions” (Armenia, INC-2, p. 5); and providing vital information to the public, such as on the “health, environmental and socio-economic consequences of plastic pollution” (Bahrain, INC-2, p. 4). The various states were in closer agreement on these soft measures than on other types of implementation tool, perhaps partly because of their unenforceable nature, and partly because they leave room for interpretation. Several submissions mentioned the state’s own incapacity to deal with plastic pollution, and stressed that they are receivers of waste produced elsewhere, either because they deliberately import it for commercial disposal, or because it reaches their territory as pollution. Focusing on measures such as capacity-building and technology transfer places more responsibility on developed states to support those with fewer resources.

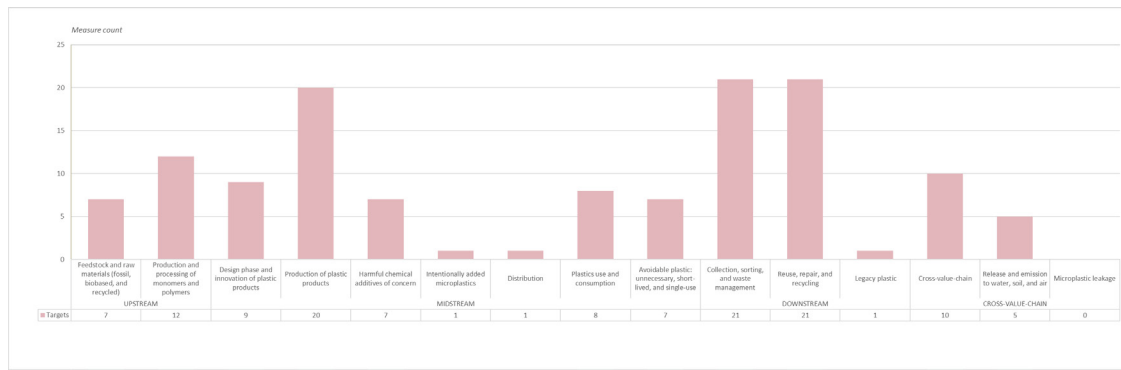


Figure 12. The distribution of proposed targets along the value chain.

Figure 12 shows the distribution of the fourth type of measure, quantifiable targets, across the plastics value chain. Three sections of the value chain saw 20 or more targets mentioned: production of plastic products (20), waste management (21), and reuse, repair, and recycling (21). Within the section ‘production of plastic products,’ submissions included, for example, targets on durability (Ecuador, INC-2, p. 4), recycling (Georgia, INC-2, p. 3), and reuse of plastic products (Monaco, INC-2, p.6). In the ‘waste management’ section, ideas for targets included “a target for reducing the generation of plastic waste in need of final disposal operations, such as landfilling and burning” (HAC, INC-2, p. 5); “a target for reducing the generation of plastic waste in need of final disposal operations, such as landfilling and burning” (Monaco, INC-2, p. 6); and a more general “global target for reducing plastic waste” (Indonesia, INC-2, p. 4). Nineteen submissions suggested targets for the upstream part of

the chain. These were not necessarily specified targets (i.e. target for ‘reduction of x amount of production’) but mentions of the *need for* specific targets to be part of the final instrument. For example, within the targets mentioned in the upstream section of the value chain, Moldova mentioned in its INC-3 pre-session submission the possibility of “global targets to reduce the production of primary raw materials” (Moldova, INC-3A, p. 2). Other parts of the value chain, such as microplastics, distribution of plastics, legacy plastic, and microplastic leakage had only one mention, or none. An explanation might be that the categories for microplastics and legacy plastics were often included in targets regarding ‘release and emission to water, soil, and air.’ Another explanation could be that states found different types of measures to be more appropriate tools to address these issues, due to the complex question of accountability and the difficulty in suggesting pertinent targets.

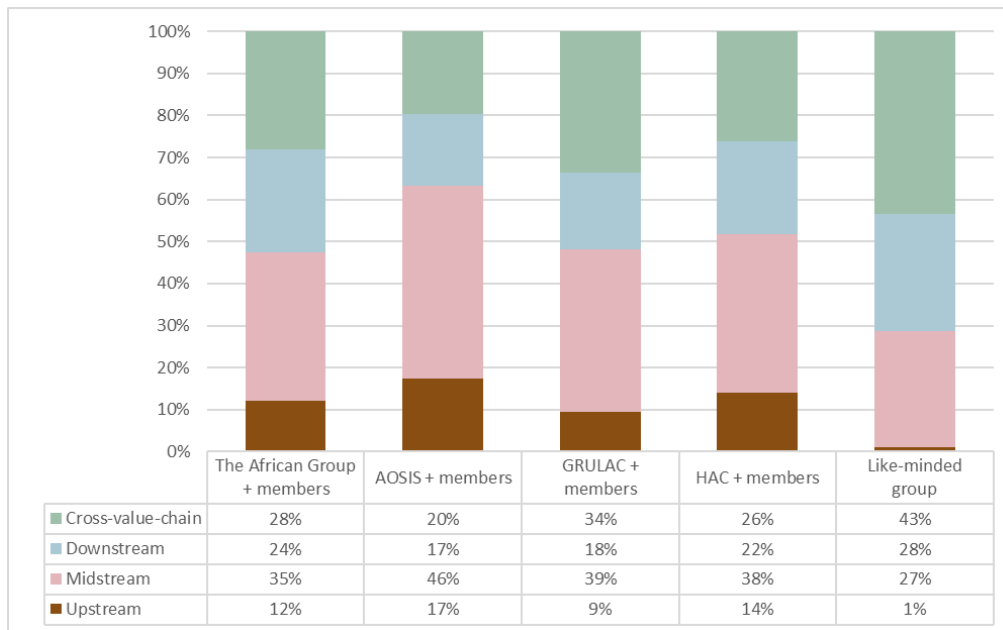


Figure 13. The distribution of measures proposed by five key coalitions along the value chain.

Figure 13 shows the proportions of measures that were directed at the four main segments of the value chain in the submissions of the major coalition and their constituent members' individual submissions (with the exception of the like-minded group, whose members have only so far made individual submissions). The African Group, AOSIS, and GRULAC each have a strong majority of global south countries that lack substantial petrochemical industries, with a few exceptions such as Brazil. Their members are likewise not major players in the extraction of oil and gas, the raw materials of plastic production. However, GRULAC and the African Group in particular consist of large groups of countries bound by their geographical proximity rather than by ideological positioning. A few countries in each coalition hold oil and gas reserves, which might impact their overall submissions. The HAC is a mixed group of countries, with members from all the aforementioned three groups, but also from the majority of OECD/developed countries.

The distribution of the proposed measures was somewhat similar for the four coalitions, with a relatively weaker emphasis on upstream measures which was even more pronounced in the cases of the African Group and GRULAC. The notable exception is the like-minded group. This loose coalition have not made a common submission so far in the INC process, but their individual submissions taken together illustrate the bloc's pronounced aversion to focusing on upstream measures. Indeed, although the lack of upstream measures was

most marked among the like-minded group's submissions, there was a relative scarcity of upstream measures suggested across the board. It would seem that most states imagine solving the plastics crisis mostly through the application of midstream, downstream, and cross-value-chain measures.

Of all sections of the value chain, the midstream was most strongly represented among all proposed measures. The first four coalitions in the table proposed the greatest number of measures in this section (35%, 46%, 39%, 38%). Here, again, the like-minded group stands apart, having a lower share of their measures coming from this part of the value chain, and more of their measures focusing on either the downstream or cross-value-chain, with these being notably dominated by soft policy suggestions. Overall, the lack of upstream measures, and the near-complete absence of them in the like-minded group's member state submissions, does not bode well for the potential effectiveness of the treaty. There is a risk that the treaty ends up being overwhelmingly focused on the practicalities of coordinating plastic recycling, not least because this is emerging as an area where the most agreement can be found. Recycling is important, and so is increasing its efficiency and the international cooperation around its processes. But, taken alone, such measures will be insufficient to address the adverse impact of plastics on human life and on ecosystems around the world.

What might the Plastics Treaty look like?

To look ahead, we need to remember what has preceded the treaty on plastic. After the Berlin wall came down in 1989 the world embarked on a new era of cooperation, which extended to tackling international environmental issues. The Rio Convention (the United Nations Conference on Environment and Development, UNCED) was attended by leaders from over 170 countries and resulted in several key agreements, among them Agenda 21, the Rio declaration, and the United Nations Framework Convention on Climate Change (UNFCCC), which was signed at this meeting although not formally part of the Rio convention. The "Earth Summit" in Rio put environmental issues on the global agenda and highlighted the connections between environmental protection and socioeconomic development. Three decades later, and amidst sharpening criticism of multilateral environmental diplomacy (Clapp & Dauvergne, 2023), states are

yet again coming together to negotiate an international environmental agreement, this time on the subject of plastic pollution.

WHAT ARE THE PROSPECTS FOR THE TREATY?

The extent to which this instrument is likely to succeed in changing the world's relationship to plastic is on the minds of all those directly involved in the negotiations, and of those watching with interest from the sidelines. The stakes are as high as plastics are pervasive – in our day-to-day lives, and in the natural environment we depend on for survival. Yet the process will not be straightforward. In the early 1990s Hurrell and Kingsbury posed a question about international ecopolitics that still looms large:

“Can a fragmented and often highly conflictual political system made up of 170 sovereign states and numerous other actors achieve the high (and historically unprecedented) levels of co-operation and policy co-ordination needed to manage environmental problems on a global scale?” (Hurrell & Kingsbury, 1992, p. 1).

While academic studies have not come to any firm conclusions, the state of the debate makes it clear that the answer to this question depends on which perspective on world politics is adopted. Realism, liberalism, and constructivism are three influential perspectives in the academic field of International Relations. Their different assumptions and logics lead them to divergent conclusions about the prospects for an international plastics treaty.

Realism focuses on the concepts of power and national interests. Realists hold that states will only commit to a plastics treaty if it aligns with their national interests, which are often defined in terms of power, and the security of their survival and economic prosperity. Realists assume that states always seek to maximise their own advantage, so a plastics treaty would be seen as viable only if it clearly benefits the powerful states.

Liberalism, on the other hand, foregrounds cooperation and would thus tend toward optimism about the prospects for an international plastics treaty. A liberal perspective would hold that the interdependence of states in matters of the economy and the environment creates strong incentives for states to collaborate on issues like plastic pollution. Liberalism also emphasises the influence of interests that are not bound by state borders. International institutions, activist movements, scientific networks, and indeed multinational corporations will all seek to influence international treaty-making in their domains of concern. This view presents a challenge to, or at least a complication of, the realist picture of treaty-making as a melange of antagonistic, state-vs-state power plays.

A constructivist perspective would hold that, by and large, it is ideas, norms, and cultures that over time shape world politics. Structures in world politics are not ‘timeless wisdom’ but can change. New norms about environmental stewardship and sustainable development have begun to shape the interests of states. Constructivism would emphasise that how we speak about plastics shapes how we think about them, and what actions we take in relation to them. A constructivist perspective on the plastics treaty, then, might note that the framing of plastics as a form of pollution, and the emerging narrative of a multidimensional plastics crisis that cuts across many different domains of human and

non-human life, will affect how plastics are discussed in the negotiations, and what kind of instrument results from them.

In sum, each of these perspectives will outline different potential trajectories for international environmental agreements more generally, which are relevant to assessing the prospects of a global plastics treaty.

Bearing in mind, then, that political analyses will differ, it is nevertheless possible to identify some factors that are unarguably influencing the process. In many countries there is growing concern about the problems arising from the ubiquity of plastics. This is being expressed not only at the institutional or ‘expert’ level, but also among ordinary voters. Many civil society movements are arguing that this concern is best addressed by a plastics treaty (Environment Investigation Agency, 2020; WWF et al., 2020). There is also an emerging ‘epistemic community’ – a scientific consensus regarding the negative impacts of plastic pollution on ecosystems, wildlife, and human health. Earlier examples of successful international cooperation are important precedents – for example, the Montreal Protocol’s reversal of damage to the ozone layer through the regulation of specific chemicals. Finally, corporate shareholders and consumers are increasingly expressing concern about sustainability, with companies actively trying to reduce their plastic footprint in response. They seek an instrument that could “level the playing field” by ensuring the economic viability of more sustainable technologies and solutions (Ellen MacArthur Foundation, 2023).

On the other hand, there are also factors that might hinder progress towards an effective plastics treaty. The petrochemical industry will resist any instrument that threatens the imperatives of profitability and growth. The industry’s ambitions on this front are steep: overall plastic production has increased from roughly 300 Mt to roughly 400 Mt in just the last decade. It follows that states with strong economic interests in the industry, either through feedstock or polymer production or large fossil fuel holdings, could seek to circumscribe the treaty’s scope and make it less implementable. Furthermore, in developing state economies where the infrastructure for alternatives to plastic is less developed, a treaty may be seen as a hindrance to development, and thus be imposing an unfair burden on them. Concerns around the implementation and enforcement of a treaty might also make states come out against it. Any treaty that emerges from these negotiations and attracts enough signatures to pass into law will have to strike a balance among diverse and competing interests. It will also need to have mechanisms for implementation and

enforcement that states judge to be both transparent and effective.

MONTREAL VS PARIS? ON THE LEGAL ARCHITECTURE OF THE PLASTICS TREATY

Given the divergent interests which must be reconciled to arrive at an instrument that can be adopted, it is worth considering the kinds of legal architectures that are on the table for the Plastics Treaty. Following on from the release of the Zero Draft text and the subsequent INC-3 negotiations, states are currently debating whether the final text should resemble the architecture of the Montreal Protocol or rather that of the Paris Agreement. The Montreal protocol representing a ‘top-down’ approach with firm global targets; whereas the Paris Agreement is described as a ‘bottom-up’ approach whereby states get to set their own targets, based on the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC). Throughout almost all provisions of the proposed text for the new legally binding instrument, some states have proposed a Montreal approach of setting global targets, while other states have proposed that they should determine their own national targets, in line with the Paris instrument. A clear example of this can be seen in the first provision of Part II of the Zero Draft concerning primary plastic polymers. Within this provision, option 1 proposes the implementation of national targets agreed upon at the global level (following the Montreal top-down approach), whereas option 2 allows states to nationally determine their own targets (following the Paris bottom-up approach) (UNEP, 2023c, p. 7). Most of the provisions in the Zero Draft currently have these dual options, and it thus remains undecided what treaty architecture states will agree on in the final negotiation round. At present there seems to be a majority preference for a bottom-up structure, allowing states to deal with all aspects of plastic pollution at their own speeds and capabilities. Notable among those states calling for a bottom-up approach is the United States, probably in part because of the political and legal difficulties attendant on implementing a top-down international agreement in that country.

Another important aspect of previous and future negotiation rounds will be finalising the Rules of Procedure (RoP). The RoP were debated at length during INC-2 in Paris, with no final agreement reached. In the first plenary of INC-3, the Chair stated that “in light of differing views [on RoP], it appears that more time is needed to resolve this matter” (UNEP, 2023e). He thus proposed to continue dialogues during the intersessional

periods, with the goal of arriving at a common understanding either at INC-4 or INC-5. The most important outstanding issue is about voting: whether voting with a qualified majority should be permitted if no consensus can be found on the final version of the text. It is likely that the newly formed group of the like-minded will keep advocating for lower ambitions and the exclusion of specific provisions in the final text. If the votes of this coalition are needed for the treaty to be passed into law, this will almost certainly mean a watering-down of the text in the final days and hours of INC-5. Conversely, if a provision is introduced that allows a qualified majority voting (QMV) procedure in the case that consensus cannot be reached, this paves the way for a more ambitious instrument to be adopted.

As of the conclusion of INC-3, there remains a wide diversity of views regarding the objectives, scope, and guiding principles of the new legally binding instrument. Many states voiced their concerns that it would be difficult to negotiate the substance of the Treaty if they did not first have a common understanding of its scope and objective. Indeed, although UNEA resolution 5/14 mention the need to address the full life cycle of plastics (UNEP, 2022, p. 2), no common definition of this was agreed upon. This became clear during INC-3, when some more ambitious states argued that the full life cycle of plastics included the upstream production of raw plastic materials and products, which ought therefore to be addressed in the treaty’s provisions. Other states instead argued that the new treaty’s scope should be limited to improving the management of plastic pollution, as it is only the mismanagement of the material which causes pollution. According to these states, an instrument encompassing the full life cycle of plastics would start midstream, with product design. For example, according to one of China’s in-session submissions at INC-3, “turning off the tap should not be turning off the production, it should be turning off the plastics flowing to the environment” (China, INC-3 in-session submission). ‘Turning off the tap’ is just one among many concepts that lack a common definition among the parties negotiating the treaty. Unless common ground can be reached on these key concepts, it is unclear to what extent this new treaty can truly be a success. Contact Group 3 identified a number of other terms which currently lack common definitions, for which some states would like to have stronger agreement before approving specific text. Among the terms that remain contested and unclear are: primary plastic polymers, reuse, recyclability, substitutes and alternative plastics, and bioplastics.

WILL THE TREATY SOLVE THE PLASTICS CRISIS?

We have, in this report, surveyed the objectives and provisions states have put forward for consideration in the plastics treaty negotiation process so far. We find that most measures focus on the midstream and downstream of the plastics life cycle, while upstream measures are relatively limited. In short, we find that the current mix of policies proposed within the pre-session submissions is unbalanced, featuring more measures for waste management than for the reduction of plastic production. And this imbalance aside, most measures proposed across the whole of the value chain currently lack explanations of how the states aim to operationalise them. Finally, we must recall that all options remain on the table for the next INC. Therefore, at this stage it is by no means certain which policy measures will end up being included in the final Treaty provisions, nor how these will eventually be formulated.

Although it is important to address such aspects of the plastics crisis as waste management, recycling, and the limitation of pollution, focusing on these aspects alone will not address the fact that increasing quantities of plastic are being poured into the world. A strong agreement is emerging among scientists that we must limit virgin plastic production in order to reduce the accumulation of plastics in the environment, as the current rate of increase undermines any efforts made further down the chain to stop plastic pollution (Bergmann et al., 2022; Geyer et al., 2017). The rate of virgin plastic production is projected to increase by 66% by 2040 relative to 2019 levels (Shiran et al., 2023, p. 9). Suggesting a limit on plastic production raises, however, several difficult questions: What is an appropriate global level of plastic production? Who shall be required to limit their production? What level of plastic consumption, and for what purposes, can be considered fair or necessary?

It is likely that many countries that are major producers of plastic, or have oil and gas reserves, will resist any measures that could threaten the expansion of virgin plastic production. But can we take inspiration from other instances of international environmental diplomacy that have modelled ways a common scarce resource can be fairly managed? It could perhaps be found in emissions trading schemes, also known as cap-and-trade systems. These work through the setting of a limit (a 'cap') on the total level of emissions, which are then distributed as 'right-to-emit' allowances to different emitters – be they firms, organisations, or countries – based on a common principle that is considered fair and feasible by the participants. A company that produces plastics might, for example, be required to hold

an equivalent number of allowances (representing the right to 'emit' or, in this case, sell a specific amount of plastic). A company that has an excess of allowances could sell these, creating a market for 'plastic production allowances.' In theory, such a system would decrease incentives for virgin plastic production. Depending on the principle of allocation, this could potentially also allow the transfer of resources to countries with low plastic consumption. The overall price of virgin plastic is expected to increase, which could incentivise midstream users to opt to use other or less materials. But it would also mean that any cap-and-trade system that attached economic levers to plastic manufacture and use would either need to take different countries' differentiated capabilities into account, or support a transition to other solutions around material use.

However, we should be wary of buying into the illusion of a 'policy silver bullet' that could single-handedly solve the challenges associated with the current plastic system. Cap-and-trade alone cannot achieve change, because the plastics crisis is not simply the result of a market failure to 'get the price of plastics right'. Plastics are deeply embedded into multiple, interconnected user practices, infrastructures, cultures etc. Addressing this crisis will require a systemic response, and a diverse range of policy. We will need to develop radically new practices and technologies – from new (and old-made-new-again) materials to new cultural norms and business models. It would be neither fair or feasible to expect a cap-and-trade system, however ambitious, to achieve this shift alone.

If the pre-INC-2 and pre-INC-3 submissions analysed in this report can be taken as broadly indicative of states' current views, then prospects are not currently good for a robust, implementable Plastics Treaty that is ambitious in scope and has the broad mix of policy that will be needed to tackle this complex challenge. A parallel could be drawn with international law's long and difficult road toward recognising the reality of climate change. The recently concluded COP28 under the United Nations Framework Convention on Climate Change (UNFCCC) saw countries agree for the first time on a text that asserts the aim of phasing out fossil fuels – the root cause of climate change. This victory took 28 years of negotiation efforts, and even so remains only a non-legally binding aim for states to follow. Meanwhile, we are very close to crossing the line that was drawn by the 2015 Paris agreement: to limit global warming to 1.5°C, or well below 2°C. The climate negotiations, where oil- and gas-producing countries remain reluctant to acknowledge the root cause of the problem, show some similarities with the ongoing Plastics Treaty negotiations. The

ideal of a unanimous global decision-making process is appealing, but it remains difficult to manifest while some states are dependent on an oil- and gas-based economy. Plastics can be seen as the material pillar of the oil and gas extraction industry. Most extracted hydrocarbons that do not become fuels end up as plastic. This is why plastics have been portrayed as a potential growing economy for oil and gas companies, who sit on huge reserves that would otherwise become stranded assets in a world transitioning away from fossil fuels.

As the INC process continues, oil- and gas-producing countries can be expected to defend their economic interests. Big oil-producing countries like Kuwait and Saudi

Arabia emphasised in their pre-INC-3 submissions that it is their sovereign right to exploit their own resources. In the present case, this means their right to make plastics from fossil hydrocarbons. During INC-3, the organisation of these interests seemed to solidify. Iran spoke on behalf of a new coalition, offering the clear message that the Treaty should be limited to downstream measures around waste management. If this wish carries the day, it will most likely mean that the core aim of 'ending' plastic pollution remains unattainable, as the root cause of the plastics crisis, its ever-increasing production, is not being put into question.

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Appendix 1 – Pre-session submission overviews

No submission	Only submitted individually	Only submitted through coalitions	Submitted both individually and through coalition(s)
Afghanistan	Bahrain	Algeria	Argentina
Albania	Bangladesh	Angola	Armenia
Andorra	Bosnia and Herzegovina	Antigua and Barbuda	Australia
Belarus	Cambodia	Austria	Azerbaijan
Bhutan	China	Bahamas	Barbados
Brunei	India	Belgium	Benin
Iraq	Indonesia	Belize	Brazil
Kazakhstan	Iran	Bolivia	Burkina Faso
Kyrgyzstan	Kuwait	Botswana	Canada
Laos	Malaysia	Bulgaria	Chile
Lebanon	Nepal	Burundi	Colombia
Liechtenstein	Oman	Cape Verde	Cook Islands
Mongolia	Philippines	Cameroon	Democratic Republic of the Congo
Myanmar	Qatar	Central African Republic	Ecuador
North Macedonia	Moldova	Chad	Egypt
Pakistan	Russia	Comoros	Eritrea
San Marino	Saudi Arabia	Republic of the Congo	Ethiopia
Serbia	Sri Lanka	Costa Rica	Federated States of Micronesia
Tajikistan	Syria	Ivory Coast	Gabon
Turkmenistan	Thailand	Croatia	Ghana
Ukraine	Türkiye	Cuba	Guatemala
Uzbekistan	United States	Cyprus	Guinea-Bissau
	Vietnam	Czech Republic	Honduras
	Yemen	Denmark	Iceland
	Palestinian National Authority	Djibouti	Israel
		Dominica	Japan
		Dominican Republic	Kenya
		El Salvador	Libya
		Equatorial Guinea	Madagascar
		Estonia	Malawi
		Eswatini	Mauritius
		Fiji	Mexico
		Finland	Monaco
		France	Morocco
		Gambia	New Zealand
		Georgia	Nigeria
		Germany	Norway
		Greece	Palau
		Grenada	Panama
		Guinea	Papua New Guinea
		Guyana	Peru
		Haiti	Rwanda
		Hungary	Sierra Leone
		Republic of Ireland	Singapore
		Italy	Somalia
		Jamaica	South Korea
		Jordan	Switzerland
		Kiribati	Tanzania

	Latvia	Tonga
	Lesotho	Tunisia
	Liberia	Uganda
	Lithuania	United Arab Emirates
	Luxembourg	United Kingdom
	Maldives	Uruguay
	Mali	
	Malta	
	The Marshall Islands	
	Mauritania	
	Montenegro	
	Mozambique	
	Namibia	
	Nauru	
	The Netherlands	
	Nicaragua	
	Niger	
	Paraguay	
	Poland	
	Portugal	
	Romania	
	Saint Kitts and Nevis	
	Saint Lucia	
	Saint Vincent and the Grenadines	
	Samoa	
	São Tomé and Príncipe	
	Senegal	
	Seychelles	
	Slovakia	
	Slovenia	
	Solomon Islands	
	South Africa	
	South Sudan	
	Spain	
	Sudan	
	Suriname	
	Sweden	
	East Timor	
	Togo	
	Trinidad and Tobago	
	Tuvalu	
	Vanuatu	
	Venezuela	
	Zambia	
	Zimbabwe	
	Greenland	
	Niue	

Appendix 2 – Coding of instrument targets and measures

Instrument measures	Description	Examples from coded material
TARGET		
Targets	Measurable targets, such as 'eliminate by x year.'	Africa Group, INC-2, p. 3: "Reduction targets and timelines to phase out specific plastics products, where alternatives are not available, accessible and affordable."
ECONOMIC		
Tax incentives	Measures including the increase or decrease of taxation levels.	Armenia, INC-2, p. 6: "The instrument should contain obligations related to the plastic products, which will include the Market-based instruments such as taxes [...] for consumption reduction and harmonized product labelling."
Subsidies	All subsidies, including reward systems, grants, and similar.	Ecuador, INC-2, p. 2: "Measures could include [...] the removal of negative fiscal incentives, such as subsidies that support the expansion of plastics production."
Penalties	Covers all types of penalties, including removal of subsidies, as well as pay-as-you-throw schemes and polluter-pays schemes.	Chile, INC-3-A, p. 4: "Polluter pays principle: the polluter should bear the cost of remediating pollution."
Trading system	Any measure on the economic side of plastic trade, such as tariffs. Carbon credit systems are included here.	Palestine, INC-2, p. 2: "Regulate the importing procedure of plastic material through posing some extra tariff (fees) [...] on single-use and other kinds of plastic materials"
Deposit systems	Deposit Return Systems (DRS), where the collection of waste is incentivised through the refund of a deposit upon return of waste to a collection point.	Barbados, INC-3-A, p. 2: "Deposit Refund Scheme regulations for certain product groups (e.g. packaging, electrical and electronic equipment) or specific products (e.g. PET bottles) that meet specific requirements and standards set by the treaty."
Public procurement	Measures that propose creating a market for new technology and practice.	Republic of Korea, INC-2, p. 3: "Promoting green public procurement, preferential purchase of products in the public sector with reduced environmental burden."
Research and development funding	Funding of R&D in all parts of the plastics value chain.	Azerbaijan, INC-2, p. 3: "Increase investment in new materials, additives, technologies and product design, as well as safe and sustainable alternatives."
REGULATORY		
Ban	All bans on materials or practices, including 'phase outs' or 'eliminations.'	Benin, INC-3-B, p. 2: "Proposals for priority groups of chemicals to be banned, as well as criteria for controlling polymers and chemicals of concern using hazard-based approaches, focusing on the intrinsic ecotoxicological properties of substances and aligning with the precautionary principle."
Moratorium	Bans for a specific period.	Monaco, INC-2, p. 3: "Measures could include [...] moratoriums."
Performance standard	Includes criteria for plastic products as well as general regulations of standards. For example, standards for wastewater systems, product recyclability, and so on. Frameworks and toolkits such as Environmentally Sound Management (ESM), best available techniques (BAT), and best environmental practices (BEP) are also coded under performance standard.	African Group, INC-3-B, p. 5: "Furthermore, mandatory requirements and standards on how products are designed and manufactured (including the materials/chemicals they contain) should be defined—products that do not meet the requirements are effectively prohibited or phased out."
Mandatory infrastructure	Require the establishment of infrastructures in order to operationalise provisions of the Treaty text.	Bosnia and Herzegovina, INC-2, p. 4: "Establish the infrastructure for separate waste collection (door-to-door collection, improve collection process)."
Mandatory certification	Require the adoption of certification measures that would control which types of plastics, and plastic products, are produced, traded, and consumed.	Vietnam, INC-3-A, p. 4: "Establishment of circularity design criteria and certification schemes for products put on the market."
Mandatory labelling	Require specific labelling of information, e.g., on the composition of the plastic itself.	Ecuador, INC-2, p. 2: "Each party should be required to ensure the appropriate labelling of plastic products considering the criteria and guidance."
Mandatory action plan	Includes National Action Plans (NAPs), as well as more general plans of action.	Japan, INC-2, p. 6: "National Action Plans will constitute the most essential part of the instrument particularly with regard to accelerating country-driven actions to end plastic pollution, in addition to monitoring and evaluating implementation and progress."

Mandatory reports	All reporting on the implementation of measures, as well as reports regarding specific industries or parts of the value chain. For example: reports from producers on quantities of plastics produced.	USA, INC-2, p. 4: "The instrument should have provisions on mandatory national reporting. The United States believes that such reporting obligations can help shed light on the extent to which Parties are individually contributing to the achievement of the instrument's objective and complying with their obligations under the instrument."
Requirements and surveillance of plastic in trade systems	Includes specific quotas mentioned.	EU, INC-2, p. 8: "The instrument should contain measures restricting the import of plastic products regulated (not meeting the instrument's requirements and standards) under the instrument from non-parties."
Extended Producer Responsibility (EPR)	Includes product-take-back schemes and right-to-repair schemes.	Switzerland, INC-3-A, p. 2: "Extended Producer Responsibility (EPR): this principle is necessary to reinforce the responsibilities of the manufacturers of plastic products at the various stages of the lifecycle of plastics, including take-back, recycling and disposal. The costs of the negative environmental externalities of the products shall be transferred to the producers."
Legal recognition – just transition	The recognition of the legal rights of certain actors involved in the plastics life cycle. This usually addresses the informal waste sector, with a special focus on waste pickers.	Nigeria, INC-2, p. 2: "Just Transition Programme for waste pickers and frontline communities: This is to support and provide social inclusion for vulnerable groups such as waste pickers and frontline communities. Integration of informal waste pickers into the plastic value chain programme/ plastic circular economy programme."
SOFT		
Voluntary certification	Parties to the Treaty could, on a voluntary basis, adopt measures relating to the certification of specific plastic products or within specific sectors.	Qatar, INC-3-B, p. 5: "Harmonized product design standards, certifications, and requirements, including for certain plastic products and packaging should be nationally determined."
Voluntary labelling	Parties to the Treaty could, on a voluntary basis, adopt measures on what information should be included on the labels of plastic products.	Singapore, INC-2, p. 3: "The instrument should identify a range of voluntary measures that can help address plastic pollution that countries can consider, such as: [...] labelling to enhance recyclability and safety."
Assessment, monitoring, and evaluation (subcategory: voluntary reports)	All mentions of the need for assessment, monitoring, and evaluation of different parts of the plastic life cycle, as well as practices and materials.	Canada, INC-2, p. 4: "The instrument should require cooperation, encourage and/or undertake appropriate research and monitoring related to plastic pollution, including assessing plastic consumption, production, material flows, sectoral analysis, releases to the environment and its associated potential socio-economic, environmental and human health impacts."
Information and guidance	Mentions of need for specific information and guidance to help states and stakeholders take effective action towards the goal of the instrument.	Norway, INC-2, p. 5: "The Conference of Parties should be required to develop and adopt guidelines on environmentally sound management and recycling of plastic waste."
Education and awareness-raising	Measures to educate and draw attention to the plastic pollution issue. Usually aimed at consumers of plastic and the general public.	AOSIS, INC-2, p. 5: "Educational and awareness-raising programmes on plastic pollution, including those aimed at behavioural change and developing capacity."
Expert group	The establishment of an expert group consisting of scientists, lawmakers, or others, to assist in the process of realising the goals of the instrument.	New Zealand, INC-2, p. 6: "Decision-making needs to be based on the best available information at the time, including scientific and traditional knowledge sources, guided by the precautionary approach. There could be a need for a scientific advisory function that will support impact assessments, data collection and standardisation."
Promotion of research and innovation	The promotion of research and innovation, without specific mention of financial investment. This includes promoting studies on certain topics, or encouraging the scientific community to focus on innovation in a certain sector.	Palestine, INC-2, p. 3: "Support a comprehensive baseline study to analyze the current status of the plastic sector."
Harmonisation	Harmonisations of systems and practices across states and stakeholders.	Panama, INC-3-B, p. 3: "Evaluation of the Customs Code with the Harmonized System of Designation and Coding of Goods for products, chemicals, polymers and microplastics to be listed in the annexes of the future treaty, which allows establishing control systems for exports and imports."
Knowledge-sharing (subcategories: data registry, capacity-building, technology transfer, and joint research projects)	Any exchange of knowledge and information with the intention to enhance the capacity of another actor to act towards the objective of the instrument.	China, INC-3-A, p. 4: "Developed countries should enhance their financial support, technology transfer, and capacity building for developing countries."

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STEPS designs sustainable plastics with suitable carbon-neutral building blocks, while exploring sustainable solutions and policy changes throughout the value chain from renewable feedstock, conversion, design, and consumer practices, to post-consumer plastic waste handling.

