

Submission by Systemiq and The Pew Charitable Trusts, coauthors of “Breaking the Plastic Wave,” on potential options for elements towards an international legally binding instrument on plastic pollution

Name of organization (for observers to the committee)	Systemiq and The Pew Charitable Trusts (joint submission)
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The Pew Charitable Trusts and Systemiq appreciate the opportunity to provide a joint submission on potential options for elements towards an international legally binding instrument on plastic pollution, for consideration in preparation for the second session of the Intergovernmental Negotiating Committee (INC). In 2020, Pew and Systemiq - with the support of Oxford University, Leeds University, Ellen MacArthur Foundation, Common Seas and a panel of 17 independent experts with broad gender, sectoral and geographic diversity – published the report [“Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution”](#) and the scientific article [“Evaluating scenarios toward zero plastic pollution”](#) in the journal *Science*. These publications analysed the plastic value chain associated with municipal solid waste. The recommendations included in this submission, largely derived from these publications, present a science-based pathway towards a circular and near zero-leakage plastic economy. The full publications are referenced at the end of this submission.

I. Substantive elements

1. Objective(s)

a) *What objective(s) could be set out in the instrument?*

Proposed Objective:

Near-zero plastic pollution to the environment by 2040

Explanatory Text:

Achieving a vision of near-zero plastic pollution is possible if governments, businesses, and innovators act now. An ambitious, legally binding instrument with global standards, obligations, and control measures will help achieve this goal.

In “Breaking the Plastic Wave,” we show that an 80% reduction in plastic pollution to the environment is possible by 2040 relative to Business-as-Usual with existing technologies when all upstream, midstream, and downstream solutions were activated. This System Change Scenario did not consider an ambitious global instrument that would establish global control measures and create the right incentives for value chain players, governments at all levels, investors, and consumers. Accordingly, by creating these incentives and spurring additional innovation across the entire plastics

value chain, the addition of a strong, international legally binding instrument has the potential to outperform even the System Change Scenario.

2. Core obligations, control measures and voluntary approaches

What core obligations, control measures and voluntary approaches would provide a comprehensive approach to addressing plastic pollution, including in the marine environment, throughout the full life cycle in line with the future objective(s) of the instrument?

The System Change Scenario modeled in “Breaking the Plastic Wave” includes interventions across the full plastic life cycle achieving an 80% reduction in plastic pollution to the environment. The modeled interventions are described below, grouped into upstream, midstream, and downstream interventions. To facilitate cross referencing, they are labeled and numbered as in the “Breaking the Plastic Wave” report and may, therefore, appear out of numerical order. Although we include specific control measures that may help achieve these interventions, we do not address voluntary approaches in this submission.

UPSTREAM INTERVENTIONS

System Intervention #1: Reduce the growth in plastic production and consumption to avoid nearly one-third of projected plastic waste generation through elimination, reuse, and new delivery models

Suggested control measures to avoid nearly one-third of projected plastic waste generation:

- **Bans on problematic polymers, pigments, additives, dyes, inks, and specific applications.** *Ban or tax problematic plastics, including those that are toxic, hinder recyclability or compostability, or have a high risk of leaking into nature (e.g.: <https://usplasticspact.org/problematic-materials/>; there may be a case for regional or application-specific provisions which depend upon markets and infrastructure.)*
- **Virgin plastic reduction:** *Target a significant reduction in virgin plastic production (fossil- or plant-based) by 2040 to at least 20-30% below the 2020 production level with interim targets; implement a virgin plastic tax by 2030 to account for externalities and remove subsidies to fossil fuel extraction and plastic production.*
- **Establish ambitious reduction and reuse targets:** *Set ambitious mandated reduction and reuse targets by 2030, 2035, and 2040 for specific plastic categories (e.g., sachets) that differentiate between countries, based on their current plastics use and /or management.*

System Intervention #2: Substitute plastic with paper and compostable materials, switching one-sixth of projected plastic waste generation

Suggested control measures:

- **Encourage material substitution where it makes sense:** *Global guidelines should be developed by a scientific advisory panel to identify sustainable substitute materials and criteria for where they should be applied (e.g., key product categories and compatibility with waste management infrastructure). Unsustainable technologies should be banned / curtailed, with more detailed regulations to be developed in line with national / regional circumstances and while accounting for unintended consequences. Note: The analysis in “Breaking the Plastic Wave” focused on paper and compostable materials but other materials, such as glass and*

aluminum and potentially new materials, may be appropriate depending on factors such as sustainable sourcing, the length of supply chains, recycling rates, and decarbonization of transportation.

- **Set international standards for compostable materials:** Create internationally accepted and adopted definitions and standards for ‘compostable’ and ‘biodegradable’ materials.

System Intervention #9: Roll out known solutions for microplastic sources

Suggested control measures:

- **Establish mandatory minimum requirements across the supply chain to prevent loss of plastic pellets, flakes, and powders.**

MIDSTREAM INTERVENTIONS

System Intervention #3: Design products and packaging for recycling to significantly expand the share of economically recyclable plastic

Suggested control measures:

- **Design requirements:** Adopt ambitious design rules e.g., [Golden Design Rules](#) globally for packaging; design products and systems for all plastics to be reused, recycled, or composted in practice and at scale.
- **Streamline polymers:** Limit the variety of polymers that can be used per application to facilitate recycling process and improve recycling economics.
- **Ensure plastic recyclability:** 100% of plastics in the market need to be cost-effectively recyclable, or reusable and recyclable, within the local context in which they are sold; demonstrate a clear and substantial reduction in material use (terms to be clearly defined).
- **Establish a globally consistent labelling scheme:** Establish a global labelling system that clearly describes: (a) material composition including recycled content; (b) additives, dyes or chemicals of concern in the material; (c) whether the material is reusable /recyclable/ compostable and if so, by what process.
- **Set ambitious recycled content targets:** Set global targets for recycled content by 2030, 2035, and 2040 by plastic category (accounting for e.g., recyclability) and differentiating between countries, e.g., based on their current per capita plastics use and collection rates; tax incentives for recycled content to be set by individual countries.

System Intervention #9: Roll out known solutions for microplastic sources

Suggested control measures:

- **Restrict the use of microplastic ingredients in products likely to be released to the environment:** Phase out the use of microplastic ingredients in personal care products, agricultural and horticultural products, detergents, etc., and other products likely to be released to the environment during reasonably foreseeable use.
- **Design requirements and emission limits:** Establish design requirements for products, such as tyres, paints, and textiles, to minimize microplastic emissions during production, manufacture, use, and disposal. Establish abrasion limits for tyres referring to the work performed in the UN World Forum for Harmonization of Vehicle Regulations (WP29).

Note: Control measures should not be limited to the microplastic sources mentioned above and analyzed in “Breaking the Plastic Wave”. They should include all known sources of microplastic pollution to the environment, including (but not limited to) paints, microfibers, tyre particles, industrial abrasives, etc.

DOWNSTREAM INTERVENTIONS

System Intervention #4: Expand waste collection rates in the middle-/low-income countries to 90% in all urban areas and 50% in rural areas and support the informal collection sector

Suggested control measures:

- **Set collection targets:** Collection targets should be set based on current collection rates, as a critical first step to responsible waste management. Geographically-specific packaging restrictions should be tied to collection rates in-place to limit the likelihood that plastics will not be collected, or are likely to be dumped or burned.

System Intervention #5 and #6: Double mechanical recycling capacity globally and develop plastic-to-plastic chemical conversion, contingent on decarbonization of energy sources

Suggested control measures:

- **Define a common approach and criteria for national Extended Producer Responsibility (EPR) policies, including eco-modulation:** It is difficult to design products that meet EPR approaches, requirements, and criteria across jurisdictions with unaligned definitions. EPR programs will be more effective in promoting eco-design, collection and recycling if all EPR schemes are implemented in line with global standards, and if appropriate technical support for design and implementation is available.
- **Set ambitious recycling targets:** Set escalating targets for recycling (e.g., in 2030, 2035 and 2040) by plastic category and recognizing differences among countries, based on per capita plastics use, collection, and existing recycling rates. A scientific advisory panel should assess the environmental and social impacts of plastic-to-plastic chemical conversion technologies, and guidance should be issued to determine whether plastic-to-plastic should be included in recycling targets based upon a formal benefit-risk analysis.
- **Design global guidelines for Deposit Return Schemes (DRS):** Global DRS standards should be established, so that national schemes can align with best-practice and are economically efficient. These guidelines should include detail about suitable products, provisions for reuse and recycling, appropriate governance, logistical setup, and collaboration between private and public sectors in DRS.

System Intervention #7: Build facilities to dispose of the plastic that cannot be recycled economically, as a transitional measure

Suggested control measures:

- **Implement environmental impact assessment for waste management facilities** and establish harmonized emission limits and monitoring requirements. A scientific advisory panel should assess the environmental impacts of different waste management technologies and issue advice for governments.
- **Set targets to retrofit all unsanitary landfills** taking account of country contexts, to be supported through technical capacity building and funding.

- **Set targets to separate organic wastes from plastic waste and encourage composting:** *Separating organic waste and avoiding its deposition in landfills will reduce methane emissions and extend the longevity of landfill infrastructure.*

System Intervention #8: Reduce plastic waste exports by 90% to countries with low collection and high leakage rates

Suggested control measures:

- **Build a circular economy closer to the point of waste generation:** *create a sustainable, local sink for plastic materials. This will free up waste management infrastructure in countries that previously imported large amounts of plastic, enabling them to better process domestic waste.*
- **Greater transparency and better monitoring of plastic waste trade flows:** *effectively enforce multilateral agreements (e.g., Basel Convention) to prevent the trade of “illegal” plastic waste.*

System Intervention #9: Roll out known solutions for microplastic sources

Suggested control measures:

- **Controls on microplastic emissions during production and manufacture of textiles and mandatory treatment of factory effluent.**
- **Establish nationally specific targets for extending wastewater treatment according to the Sustainable Development Goals.**

Additional suggested control measures:

- **Fishing gear:** *Regulation and / or economic incentives to help prevent gear loss and increase proper disposal of unwanted gear, e.g., EPR for fishing gear, or disincentives for fishers to generate abandoned, lost, or otherwise discarded fishing gear (ALDFG) by charging a fee for gear that cannot be accounted for. Providing adequate disposal facilities at ports for fishing gear and other waste; appropriate monitoring and reporting frameworks for delivery of waste to port.*

II. Implementation elements

1. Implementation measures

- How to ensure implementation of the instrument at the national level (eg. role national action plans contribute to meeting the objectives and obligations of the instrument?)*
- How to ensure effectiveness of the instrument and have efficient national reporting?*
- Please provide any other relevant proposals or priorities here on implementation measures (for example for scientific and technical cooperation and coordination as well as compliance).*

Recognizing that all countries have roles to play and that there are geographic differences among priority solutions, national action plans will play an important role in the implementation of the instrument. National action plans should be ambitious and include a globally defined science-based template that facilitates a detailed baseline assessment and measurable commitments that can be tracked over time. These plans should require regular updates.

To help governments take an evidence-based approach to evaluating policy options for addressing plastic pollution, modeling tools – including free and low-cost tools - are available for use. Examples of such tools include the Global Plastic Action Partnership’s [National Analysis and Modelling Tool](#), The Pew Charitable Trusts’ [Breaking the Plastic Wave Pathways Tool](#), and others. Derivations of the “Breaking the Plastic Wave” model have been implemented by Pew and Systemiq in multiple geographies (e.g., Indonesia, South Africa, Europe, Ghana, Vietnam, Norway, Germany).

To ensure efficient reporting, the INC should define the minimum set of standardized data that must be annually disclosed by countries and companies (with appropriate size thresholds) that produce, use, or sell plastic. Targets should focus on easily measured or calculated metrics (e.g., collection rates, recycling rates, virgin plastic production, virgin plastic consumption, percent plastic products covered by EPR, and system-level greenhouse gas emissions). Standardized definitions for these metrics will be critical for tracking change through time and comparing progress among signatories.

CDP, Pew, Minderoo Foundation, and the Ellen MacArthur Foundation are working together to expand CDP’s global environmental disclosure system to include [plastics reporting](#). This effort builds on key Global Commitment metrics, and leverages CDP’s leading reporting platform (> 13,000 companies representing 64% of global market capitalization) to expand plastics reporting to thousands more businesses. With expertise from the Ellen MacArthur Foundation and committed multi-year funding from Pew and Minderoo, CDP’s objective is to build a plastics disclosure and reporting initiative comparable to its corporate carbon reporting product. Relevant questions and metrics on will be added to CDP’s annual disclosure questionnaires beginning with a pilot in 2023. Full details of CDP’s pilot plastics disclosure, including those companies requested to disclose initially, will be released prior to the April 2023 launch of the disclosure platform. This voluntary initiative could help lay the groundwork for mandatory reporting obligations under an international legally binding instrument. For additional detail, please see the submission entitled [“Joint submission to the Intergovernmental Negotiating Committee \(INC\) to develop an international legally binding instrument to end plastic pollution, including the marine environment: Potential options for elements towards an international legally binding instrument: Plastics Disclosure and Reporting”](#) submitted jointly on behalf of CDP, Ellen MacArthur Foundation, Minderoo Foundation, and Pew.

It will be important to strengthen governance and infrastructure across the plastics value chain - upstream, midstream and downstream - from extraction and production through to ensuring practices for safe and sustainable recycling, disposal and management of all plastic that cannot be eliminated or circulated. For example, ensuring production, conversion and waste management facilities meet emission standards, establishing legislative and enforcement mechanisms to ensure waste collection and prevention of open dumping and burning, and incentivizing and providing support for countries to implement policies such as EPR and DRS, as well as deploy refill and reuse technologies should all be part of the instrument.

The INC should also consider compliance mechanisms as well as a review mechanism that would strengthen the agreement over time. Mandatory core obligations and control measures and an appropriate compliance mechanism will be key to underpinning national action plans and harmonizing the approach taken at a national level.

Lastly, provisions to protect and respect the livelihoods, health, labor, and human rights of all people involved in the plastic value chain, including informal sector systems (e.g., accessible licensing system

for the informal recycling sector, no exclusion from accessing waste), are essential for ensuring equitable benefits of the instrument.

2. Means of Implementation

With respect to means of implementation, document UNEP/PP/INC.1/5 covers the following elements: capacity-building, technical assistance, technology transfer on mutually agreed terms and financial assistance.

a) *What measures will be required to support the implementation of the instrument?*

We propose the following measures to help achieve the System Change Scenario outlined in “Breaking the Plastic Wave”:

1. **Establish an intergovernmental scientific body**

The role of this body could be to provide independent and authoritative research and support to aid implementation, including defining terms not defined within the instrument, guidelines for appropriate material substitution, life cycle assessment, estimates for the effectiveness of different solutions, establish labelling guidelines, assessment of environmental impacts and appropriate application of different waste management technologies, validation of difficult to measure activities (open burning, rates of environmental pollution), translation of global goals to national targets, assessing progress of national plans and international efforts towards near zero plastic pollution, among others. The scientific body should also conduct periodic reviews of the latest science and available technologies to inform countries and support the strengthening of the instrument over time.

2. **Establish appropriate financing mechanisms**

Although the overall financial costs of the System Change Scenario are comparable to the Business-as-Usual scenario, there are disproportionate infrastructure needs in low-income countries. Sufficient, ongoing, and dedicated public and private funding for the construction, maintenance, and operation of systems to collect, sort, reuse, and recycle plastics will be necessary. Accordingly, a dedicated financial mechanism will be needed to ensure sustained success of the instrument.

3. **Coordination with other multilateral organizations**

There are a number of existing international instruments and initiatives related to plastics, but they typically focus on one part of the plastics life cycle, for example on waste trade (The Basel Convention), trade in plastics (World Trade Organization’s (WTO) Informal Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade), the Food and Agriculture Organization’s (FAO) Voluntary Guidelines on the Marking of Fishing Gear, or plastic pollution derived from shipping (MARPOL). However, there are no existing international initiatives that provide a comprehensive framework and coordinated measures to tackle plastic pollution across the plastic life cycle. The development of an international legally binding instrument has an opportunity to fill identified gaps, and at the same time complement existing international and regional initiatives without duplicating efforts. As a result, harmonizing with the WTO, World Customs Organization, Secretariat of the Basel, Rotterdam and Stockholm Conventions, and other multilateral bodies will be essential.

4. Capacity building

Capacity building and technical assistance, including technology transfer, communities of practice, and other mechanisms, should be funded to support implementation of the agreement. All countries could benefit from capacity building and knowledge sharing on certain components of the agreement, such as design for reuse, and the effective design and implementation of national action plans. Additional support would be required for low collection countries to ensure effective waste collection and recycling systems are designed. The potential for partnerships with existing expert organizations (e.g., International Solid Waste Association on global training platforms, operator certifications, etc.) should be explored.

III. Additional input

Please provide any other relevant proposals or priorities here (for example introductory elements; awareness-raising, education and exchange of information; research; stakeholder engagement; institutional arrangements and final provisions).

The recommendations in this submission do not address toxicity and health concerns of plastics, nor non-intentionally added substances (NIAS) in plastic. These aspects were not in scope of “Breaking the Plastic Wave”. However, the importance of these issues suggests they should also be addressed in the instrument, including by the design of appropriate control measures. The goal should be to reduce the complexity of chemicals in plastics, ensure the transparency of chemicals in plastics, and align incentives for a systematic transition towards safer plastics.

For additional background, please see the following references:

The Pew Charitable Trusts and Systemiq (2020). “Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution”. The Pew Charitable Trusts. Available at: https://www.pewtrusts.org/-/media/assets/2020/10/breakingtheplasticwave_mainreport.pdf

Lau, W.W.Y. *et al.* (2020). “Evaluating scenarios toward zero plastic pollution”. *Science* 369:1455-1461. Available at: <https://www.science.org/doi/10.1126/science.aba9475>

The full methodology, approach and assumptions of our research is available in the technical appendix accompanying Lau et al. (2020), and is available at: https://www.science.org/doi/suppl/10.1126/science.aba9475/suppl_file/aba9475-lau-sm-rev.1.pdf