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**Introduction**

This submission presents independent and evidence-based research findings from the University of Portsmouth's Global Plastics Policy Centre relevant to the international legally binding instrument to end plastic pollution (the 'instrument', hereafter). Our submission draws from four projects: 1) a review of 100 policies<sup>1</sup>, instruments, industry-led initiatives, voluntary commitments and citizen campaigns covering the lifecycle of plastics. This study used a new plastics policy evaluation framework to identify factors that inhibit or enhance policy effectiveness. See the report for a detailed methodology and findings (<https://plasticpolicy.port.ac.uk/final-report/>); 2) A review of the plastic policy landscape in Southeast Asia as part of the UNEP CounterMEASURE II programme<sup>2</sup>; 3) a global analysis of policy options to deliver the G20 Osaka Blue Ocean Vision<sup>3</sup>; and 4) a global analysis of reuse policy and practice based on interviews with networks, organisations, and businesses involved in implementing reuse systems. This has provided an evidence base of the current global reuse landscape from the perspective of different market sectors, and environmental and socio-economic contexts. All of the research presented in this submission has received appropriate ethical approval. The research itself was supported by funding from the Flotilla Foundation, G20, and UNEP.

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<sup>1</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK

<sup>2</sup> <https://www.cms.int/en/project/countermeasure-ii-project>

<sup>3</sup> IRP (2021). Policy options to eliminate additional marine plastic litter by 2050 under the G20 Osaka Blue Ocean Vision. Fletcher, S., Roberts, K.P., Shiran, Y., Viridin, J., Brown, C., Buzzi, E., Alcolea, I.C., Henderson, L., Laubinger, F., Milà i Canals, L., Salam, S., Schmuck, S.A., Veiga, J.M., Winton, S., Youngblood, K.M. Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya.

## I. Substantive elements

### 1. Goal and objective(s)

**A global instrument is an opportunity to develop a holistic plastic policy framework driven by an ambitious and clear goal.** A global goal can be used as a unifying call for, and driver of, internationally consistent action. It can also create collective accountability and act as a simple measure of progress, as has been demonstrated by the 1.5°C target in the climate change agenda. The goal should be stated clearly and simply, with clear definitions for any terms used to ensure it is understandable by all stakeholders including the public, that conveys the key measure of success for the agreement. **An example of a possible overall goal of the treaty could be to ensure that there is no new macroplastic plastic pollution and 50% less microplastic pollution entering the environment by 2040.** We have found the use of quantitative and time-bound goals and targets to be important enablers of effective plastics policy<sup>4</sup>, and as such, an overarching goal for the instrument is likely to contribute to its effectiveness.

Based on our research to date, the following objectives are important to develop a system shift to a low-pollution plastics economy:

#### 1. Eliminate the production of unnecessary or problematic plastics.

There is an urgent need to reduce the amount of plastic entering the economy. Reduction, reuse and substitution offer sustainable solutions. Eliminating the production of unnecessary and problematic plastics is vital, and legislation against many avoidable single-use plastics is already proving successful in working towards this goal. The terms “unnecessary” and “problematic” plastics need to be clearly defined and agreed upon globally but could include plastics with little to no utility, that are difficult to collect or recycle, those that can be substituted with more sustainable alternatives, and those that contain hazardous materials that pose a threat to human and environmental health.

#### 2. Embed necessary plastics in circular systems to prevent pollution and retain value.

A systemic shift from single-use to implementation of reuse and refill is essential in order to keep plastics within the value chain for as long as possible, thereby reducing the production of new plastics and plastic leakage. Plastics must be designed so that at end-of-life they are recyclable from both an economic and technical perspective, can be collected and sorted in an efficient and sustainable manner, and do not interfere with the recyclability of other products in the same waste streams.

#### 3. A harmonised approach that weaves together fragmented plastics policies

Plastic pollution is a global problem requiring a harmonised global response. Unless international policies and actions are harmonised, the current fragmented plastics policy landscape will persist, inhibiting our inability to deal with complex international plastics value chains, diminishing business opportunities, and creating space for loopholes. As a

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<sup>4</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK

result, efforts to end plastic pollution will be impeded. Policies aligned across international value chains present an opportunity to manage the transboundary nature of plastic pollution. This could include harmonised design standards for reuse and recycling, global prohibition of unnecessary plastics, improved trade cooperation and transparency, and standardised plastic labelling. These should be accompanied by a harmonised suite of metrics for evidencing, reporting and measuring national and global progress. These metrics should be easy to understand, directly relate to policy goals, and encompass the entire plastics life cycle, including the extraction, production, consumption and disposal of plastic.

To further aid the achievement of the goal of the instrument, we propose that reuse should have a special focus within the instrument:

**4. Support the widespread uptake of reuse systems**

Reuse means using products or other items (such as packaging) multiple times for the same or similar purpose, and certainly beyond their break-even point (the number of cycles reusable products must complete to be equal to the environmental impacts of equivalent single-use packaging). Reuse should be considered as a system which requires the recovery of the reusable item, reverse logistics, cleaning, refilling and redistribution. An effective reuse system in practice will help to eliminate plastic leakage by a significant reduction in the frequency of products reaching their end-of-life, prevent further demand for virgin production, and reduce waste management costs and resultant GHG emissions. There are clear benefits to transitioning to reuse systems. The environmental benefits include lower GHGe from reduced extraction, production and end-of-life management, reduced pollution and damage to ecosystems<sup>5</sup>. The advantages for consumers include reduced waste packaging, waste costs, and litter. Reuse can add economic value by unlocking new revenue streams and creating a potentially valuable high-quality recycle<sup>6</sup>.

## **2. Core obligations, control measures and voluntary approaches**

Our research over the past three years has revealed recurring barriers to plastics policy effectiveness, including a weak evidence base upon which to make policy choices, fragmented approaches to policy development and implementation, and unclear goals and objectives of plastics policies. The global instrument presents an opportunity to overcome these barriers through the following proposed core obligations:

- 1) Implement consistent monitoring and evaluation to achieve transparency and accountability.** The debate around which policies and approaches should be prioritised for inclusion in the instrument is undermined by a lack of evidence about the effectiveness of

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<sup>5</sup> Coelho, P. M., Corona, B., ten Klooster, R., & Worrell, E. (2020). Sustainability of reusable packaging—Current situation and trends. *Resources, Conservation & Recycling*.

<sup>6</sup> Godfrey, L., Roman, H., Smout, S., Maserumule, R., Mpofu, A., Ryan, G., & Mokoena, K. (2021). Unlocking the Opportunities of a Circular Economy in South Africa. In *Circular Economy: Recent Trends in Global Perspective* (pp. 145-180). *Springer*, Singapore.

existing plastics policies<sup>7</sup>. In our analysis of 100 policies, 30 policies lacked sufficient evidence to determine their effectiveness, while 26 policies had severely limited evidence bases<sup>8</sup>. In most cases, it was uncertain as to whether evidence of policy effectiveness was not collected or merely not publicly disclosed. Similarly, there is limited evidence regarding the basic characteristics of the plastics life cycle, including the volumes of plastic produced, used and disposed of, the composition of plastic waste entering the environment, and of the impacts of plastic on people and nature<sup>9</sup>. Likewise, evidence of greenhouse gas emissions and climate costs of the different stages of the plastics life cycle is sparse and should be monitored, thus allowing any synergies between this instrument and other global agreements to be defined. Quantification of plastic leakage across the life cycle should be supported by environmental monitoring to identify when and where pollution is occurring. Such data is critical to developing an evidence-based adaptive approach to tackling plastic pollution. Making this evidence transparently available for public scrutiny improves public and stakeholder buy-in, and avoids misconceptions about policy effectiveness<sup>10</sup>.

- 2) Implement a comprehensive suite of coherent policies that integrate all stages of the plastic lifecycle.** Coordinated policy approaches are more effective than isolated, standalone actions. A balanced policy mix that addresses the entire plastics life-cycle, with a focus on circularity (i.e. reuse of materials and products, refill systems) and reduced reliance on virgin material, is, from our evidence, more likely to be effective than individual policies focused on downstream actions. The application of the life cycle approach in global plastics governance is further supported by recent scientific literature<sup>11</sup>. A majority of national policies have been implemented in a patchy and sometimes reactionary fashion, often focusing on single items or groups of items such as bags, straws and cups<sup>12</sup>. Our research identified two prevalent areas of policy interaction within the plastic policy landscape: 1) targeting consumption of plastic, and 2) targeting end-of-life treatment<sup>13</sup>. Downstream policies are often more complex and require all earlier stages of the plastic life cycle to be cognisant and synergistic to be effective. At present, the lack of upstream interventions is weakening the ability of, not only downstream measures but the life cycle approach to have the desired impact. It is clear that there is a pressing need to progress beyond the current siloed thinking about plastics and acknowledge that there are various other interacting policies beyond the plastics life cycle<sup>14</sup>. A strategic shift towards a system

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<sup>7</sup> Diana, Z., Vegh, T., Karasik, R., Bering, J., Caldas, J. D. L., Pickle, A., ... & Virdin, J. (2022). The evolving global plastics policy landscape: An inventory and effectiveness review. *Environmental Science & Policy*, 134, 34-45.

<sup>8</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Simon, N., Raubenheimer, K., Urho, N., Unger, S., Azoulay, D., Farrelly, T., ... & Weiand, L. (2021). A binding global agreement to address the life cycle of plastics. *Science*, 373(6550), 43-47.

<sup>12</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

<sup>13</sup> Ibid.

<sup>14</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

in which other policies (including for biodiversity, climate, economy, human health and labour) are developed with plastics policy in an integrated way is strongly encouraged in conjunction with a comprehensive life cycle approach. The instrument should also look into ways of complementing the implementation of other global agreements, such as the Post-2020 Global Biodiversity Framework<sup>15</sup> to boost the achievement of the plastic instrument's objectives.

- 3) **The use of globally consistent quantitative and time-bound goals.** Of the 100 policies evaluated by the Global Plastics Policy Centre in 2022<sup>16</sup>, 72 policies did not have objectives with measurable targets. This is a finding consistent with other policy analyses<sup>17</sup>. Quantitative and time-bound goals that align with monitoring and evaluation schemes enhance accountability, the lack of which creates ambiguous policy success and impairs attempts to refine policies based on performance. Such goals were found to be a key enabler of policy success in all policy types evaluated by the Global Plastics Policy Centre (see Section II, point 1b for a list of the remaining key enablers). To be effective, any objective (legal or voluntary) within the instrument should be clearly defined, have a clear baseline built on up-to-date data and country contexts, and be supported by enforcement measures that increase accountability and compliance.
  
- 4) **To mandate or incentivise the establishment of globally integrated reuse systems.** This obligation is intended to require the widespread uptake of reuse schemes that deliver significant reductions in virgin plastic production through effective and viable transitions to multi-scale reuse systems. Interim findings from our analysis have identified that a universal set of reuse principles may help to underpin effective reuse systems. The proposed principles include:
  - **Any reuse labelling scheme should be globally standardised** with easily identifiable reuse packaging, a universal logo for reuse and clear instructions for return, and to achieve at least a 90% return rate<sup>18</sup>.
  - **Any reuse scheme is accessible to everyone** taking into account access to technology, cost of deposits and availability of collection points.
  - **Any reusable item should exceed its sustainability break-even point** and contain no chemicals of concern and have safe end-of-life disposal options readily available or recyclable into the same or equivalent item.
  - **Any monitoring of reuse systems should be globally consistent** to include consistent data collection and analysis approaches, and transparent disclosure of reuse activity.

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<sup>15</sup> <https://www.cbd.int/doc/c/914a/eca3/24ad42235033f031badf61b1/wg2020-03-03-en.pdf>

<sup>16</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

<sup>17</sup> Diana, Z., Vegh, T., Karasik, R., Bering, J., Caldas, J. D. L., Pickle, A., ... & Viridin, J. (2022). The evolving global plastics policy landscape: An inventory and effectiveness review. *Environmental Science & Policy*, 134, 34-45.

<sup>18</sup> Dixon, C., & Gessner, L. (2022). Convention on Plastic Pollution: Plastics Treaty essential Elements: Reuse. Environmental Investigation Agency (EIA).

## II. Implementation elements

### 1. Implementation measures

The widely applicable implementation measures that have been derived from our research are as follows:

- *National Action Plans (NAPs)*. As plastic flows are often highly transboundary, a focus on NAPs is unlikely to have the reach to resolve plastic pollution that spans multiple jurisdictions. The limited evidence available suggests that whilst NAPs can generate coordinated national actions, the variation between plans can create unintended consequences that push plastic pollution to parts of the world with the least capacity to cope with it. Small island developing states and low-income countries are particularly at risk. Relying measures (some of which are likely to be voluntary) spread across multiple NAPs intended to tackle systemic pollution across national boundaries may be of limited effectiveness and would require strong guidance or legally binding measures in the instrument to form the core content of NAPs.
- *Key enablers of plastic policy success*. The Global Plastics Policy Centre study<sup>19</sup> identified the following six key enablers for successful policies that were applicable across multiple plastic policy types:
  - i) Leadership and commitment
  - ii) Public buy-in, trust and acceptance
  - iii) Education and awareness-raising in association with policy implementation
  - iv) Stakeholder engagement throughout the policy development process
  - v) Data collection and monitoring
  - vi) Quantitative and time-bound objectives

These enablers provide a robust foundation for the implementation of any policies at the national level to increase their effectiveness. More detail on these enablers can be found in our report published in 2022.

#### ***Specific implementation measures for reuse systems are:***

- *National action for reuse*. At the national level, a suite of implementation measures can support the transition to reuse systems. At the heart of these measures are financial incentives that tip the economic scales in favour of reuse systems and away from systems reliant upon single-use plastics. There is a suite of policies that can support reuse. Our analysis so far suggests that **Extended Producer Responsibility (EPR) with specific reuse targets<sup>20,21</sup> is a significant implementation measure**. As plastics value chains are international, national EPR schemes should be consistent, ideally with

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<sup>19</sup> Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

<sup>20</sup> Coelho, P. M., Corona, B., ten Klooster, R., & Worrell, E. (2020). Sustainability of reusable packaging—Current situation and trends. *Resources, Conservation & Recycling*.

<sup>21</sup> Ellen MacArthur Foundation (2021). Extended Producer Responsibility: a necessary part of the solution to packaging waste and pollution. Ellen MacArthur Foundation, UK.

universally agreed minimum standards. Reuse-focused EPR schemes can be supported by taxes on virgin plastics and bans on single-use plastic packaging to enhance the economic favourability of reuse further. Deposit Return Schemes (DRS) will further help to facilitate and incentivise consumer behaviour and trackable returns in a reuse system.

- *Standardisation.* Standardisation of reuse packaging would reduce costs and aid centralisation, but some elements are likely to be driven by market forces. Standards can be introduced for hygiene along with bans on materials of concern at an international level along with a global reuse logo and labelling requirements. **Open source software would promote ease of use and build consumer engagement as the system would be easily recognisable with a single access point, if app based.**
- *Open and Closed Reuse Systems.* There are two distinct types of reuse system applications, the first is a closed system where packaging remains in the original purchase location (for example, in events, business-to-business, transport hubs, hospitals and schools) and the second is an open system where packaging can move outside the original purchase location (for example for groceries, food and beverages on the go). Transition to reuse in closed systems, especially when supported by single-use plastic bans, can be achieved cheaply and rapidly, as extensive infrastructure changes are not required. This type of policy, for the prevention of single-use for onsite dining, has been successfully implemented in Berkeley California<sup>22</sup> and has been recently introduced in France for transition by 2023<sup>23</sup>. **Standardisation is an essential part of the development of open systems but is less vital for closed systems, and the introduction of reuse in closed systems should not be delayed while standards are developed.**
- *Financial incentives and disincentives.* **A consistent theme identified in our interim findings is that financial considerations are key to any transition to a reuse system.** Specifically, the concerns and barriers created by increased costs for consumers, including deposits, the costs of infrastructure and the overall financial risk for producers, retailers and logistics suppliers.

## 2. Means of Implementation

Our research has identified a number of **key hallmarks for successful implementation of reuse systems**:

- **Universal tracking system.** Tracking of return rates, deposits, fines, breakeven points and other logistical data collections with open-source software.
- **Scalability.** Reuse systems must be scalable to achieve the economy of scale required for sustainable finances for businesses. Standardisation greatly improves scalability.
- **Reuse should reduce greenhouse gas emissions and costs.** Logistics should involve short transport distances using a centralised system or hub requiring collaboration and pooling to avoid excessive greenhouse gas emissions and costs.

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<sup>22</sup> City of Berkeley (2021). Single-Use Foodware Rules. City of Berkeley, California.

<https://berkeleyca.gov/doing-business/operating-berkeley/food-service/single-use-foodware-rules>

<sup>23</sup> Circular Economy Europa (2020). The Anti-Waste Law for a Circular Economy.

[https://circulareconomy.europa.eu/platform/sites/default/files/anti-waste\\_law\\_in\\_the\\_daily\\_lives\\_of\\_french\\_people.pdf](https://circulareconomy.europa.eu/platform/sites/default/files/anti-waste_law_in_the_daily_lives_of_french_people.pdf)

- **Packaging requirements.** Reusable packaging should be durable, free of chemicals of concern, desirable and recognisable with a clear international reuse symbol and labelling, which align with consumer needs and accessibility.
- **Stakeholder engagement in the establishment of reuse systems.** Knowledge sharing from all sectors including informal waste workers and community action groups will enable a move from a siloed approach to a collaborative, pooled system.

**The reuse ecosystem will develop and mature as the policy landscape incentivises a transition to reuse.** Economic drivers will create a streamlined, scalable system and global standardisation through voluntary agreements and legislation to provide a pathway for collaboration. Reuse must generate economies of scale to avoid being niche, expensive and inaccessible to the majority. Collaboration, pooling and centralised hub and spoke reuse systems drive cost efficiency and essential economic viability, especially with a standardised system which reduces business costs, as the system is easier to scale. **The focus needs to be on sustainable systems, not materials** as material-focused action can lead to false solutions and consumer confusion.

**Focus should be placed initially on reuse for the most frequently littered items.**

The transition to reuse systems in closed systems (schools, events, etc) could occur with minimal delay through national mandates, but open systems require major infrastructure and logistical changes, including alterations to backhauling, production lines, centralised sorting, washing and redistribution networks. These larger system changes require the financial scales to tip heavily towards favouring reuse through legislation. The economics of reuse systems are fundamental, and their financial viability can be supported through legislation. Single-use plastics have benefited from virgin plastic subsidies, and the costs of waste and pollution have been externalised, creating a false economy in favour of single-use plastic products. Reuse implementation does not need to be delayed while the perfect system is developed, but financial incentives must be introduced at a global scale to provide the framework in which reuse systems can flourish and evolve.

### **III. Additional input**

**To ensure the success of the global instrument, ensuring that human rights and the wellbeing of workers in the informal waste sector are protected will be critical.** Waste pickers and informal waste workers play an essential role in combating plastic pollution by effectively sorting, reusing and recycling plastic waste that would otherwise be sent to landfill or incinerated. Often, the conditions in which they work are extremely poor, with significant risks to their health and wellbeing. As such, regulations and support on mitigating the impacts associated with chemicals of concern used as additives and regulating the mismanaged dumping of plastics, among other approaches, should be employed to support bringing the informal waste sector to the forefront and ensuring the health and safety of its workers.