Solutions for Single-Use Waste: Expanding Refill and Reuse Infrastructure

Testimony of Dacie Meng, Ellen MacArthur Foundation

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Subcommittee on Chemical Safety, Waste Management,
Environmental Justice, and Regulatory Oversight**

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Good morning, Chairman Merkley, Ranking Member Mullin, and esteemed members of the committee. Thank you for the opportunity to testify today on this important topic. I am Dacie Meng, the Policy and Institutions Senior Manager for the Ellen MacArthur Foundation in North America. The Ellen MacArthur Foundation is a non-profit organization with the aim of accelerating the transition to a circular economy.[1] We work with our network of hundreds of businesses, universities, policymakers, cities, and institutions to mobilize systems solutions at scale, globally.[2] We develop and promote the idea of a circular economy in order to tackle some of the biggest challenges of our time, such as climate change, biodiversity loss, waste, and pollution. This work is more important to me than ever, as I just returned from maternity leave last week after having my second son.

One of the Foundation's key areas of focus is plastics.[3] We have published (and continue working on) research on the topic, including our early groundbreaking report that examined the circular economy opportunity for plastics[4] and several that have followed on reuse and on other key topics.[5]

We have mobilized hundreds of businesses and other leaders toward a more circular economy for plastics, including through reuse. In collaboration with the UN Environment Programme, our Global Commitment has united more than 500 organizations, representing 20% of all plastic packaging produced globally, behind a common vision of a circular economy for plastics.[6] That vision includes: ensuring that 100% of packaging is reusable, recyclable, or

[1] A circular economy is driven by design to eliminate waste, circulate products and materials, and regenerate nature. For more information, please visit our circular economy introduction website: https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview.
[2] Information about Network members is available on our Network webpage: https://ellenmacarthurfoundation.org/network/who-is-in-the-network.
[3] For more information on the Foundation's work on plastics in a circular economy, see our plastics website: https://ellenmacarthurfoundation.org/topics/plastics/overview.
[4] World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy: Rethinking the future of plastics (2016), available at https://ellenmacarthurfoundation.org/the-new-plastics-economy-rethinking-the-future-of-plastics.
[5] See our plastics projects and publications webpage: https://ellenmacarthurfoundation.org/topics/plastics/projects.
[6] For the latest information about the Global Commitment, please visit: https://ellenmacarthurfoundation.org/global-commitment-2022/overview.

compostable by 2025; taking action to move from single-use towards reuse models where relevant; and, decreasing the use of virgin plastic in packaging.[7] We have also established nationally focused Plastics Pacts around the world working toward our vision.[8]

And, we have recently convened the Business Coalition for a Global Plastics Treaty together with WWF.[9] The Business Coalition brings together over 130 businesses and financial institutions committed to supporting the development of an ambitious, effective, and legally binding UN treaty to end plastic pollution. The Business Coalition has called for global support for reuse policies to address plastic pollution.[10]

Today, I will quickly cover: why reuse is key to addressing plastic pollution; what we mean when we talk about "reuse"; why we need policy intervention to fully capture the opportunity presented by reuse; and, which policy tools can best support reuse systems. I greatly appreciate the opportunity to participate in this hearing, and I look forward to your questions.

Reuse is key to addressing plastic pollution.

Plastic pollution requires a broad set of solutions. Modeling suggests that no single strategy can sufficiently reduce annual plastic leakage into the oceans by 2040.[11] Reducing plastic pollution in the oceans requires a comprehensive and integrated set of solutions from material redesign, plastic reduction, substitution, and reuse, to improved recycling and disposal.

Reuse is an essential component in this mix, and it has incredible economic potential. Replacing 20% of single-use plastic packaging with reusable materials represents a $10 billion opportunity.[12] Failing to build out a system for reuse would result in significant value lost – approximately 95% of a single-use plastic package's value is lost if it is disposed of after one use.[13]

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[7] Ellen MacArthur Foundation, New Plastics Economy Global Commitment: Commitments, Vision and Definitions (2020), available at https://emf.thirdlight.com/link/pq2algvgnv1n-uitck8/@/preview/1?o (hereinafter "Global Commitment Vision and Definitions").

[8] For more information about the US Plastics Pact, please visit: https://usplasticspact.org/. For more information about the global network of plastics pacts, please visit: https://ellenmacarthurfoundation.org/the-plastics-pact-network.

[9] For more information about the coalition, please visit: https://www.businessforplasticstreaty.org/.

[10] Key elements in the international legally-binding instrument to end plastic pollution Policy recommendations of the Business Coalition for a Global Plastics Treaty for consideration at INC2 (2023), available at https://emf.thirdlight.com/file/24/ZEx-3p5ZEreSJeJZEBRUZHnSMIU/Business%20Coalition%20recommendations%20for%20INC2_May%202023_final%20%281%29.pdf (hereinafter "Business Coalition INC2 Submission").

[11] Pew Charitable Trusts and SystemIQ, Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Toward Stopping Ocean Plastic Pollution (2020), available at https://www.pewtrusts.org/en/research-and-analysis/articles/2020/07/23/breaking-the-plastic-wave-top-findings (hereinafter "Breaking the Plastic Wave").

[12] Ellen MacArthur Foundation, The New Plastics Economy: Catalysing action (2017), available at https://ellenmacarthurfoundation.org/the-new-plastics-economy-catalysing-action (hereinafter "The New Plastics Economy: Catalysing action").

[13] World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy: Rethinking the future of plastics (2016), available at https://ellenmacarthurfoundation.org/the-new-plastics-economy-rethinking-the-future-of-plastics.

Furthermore, scaling reuse options and new delivery models is key to reducing material consumption, decreasing single-use plastic applications, taking effective action against plastic pollution, and capturing co-benefits. To accelerate collaborative action on scaling reuse, the Ellen MacArthur Foundation's Plastic Initiative is currently working with reuse partners and experts to develop a vision for scaling returnable packaging systems. This work uses future visualization and analytical modeling to show how scaled reuse return systems can perform economically, environmentally, and experientially in comparison to single-use.[14]

Reuse includes refilling or returning packaging, at home or on the go.

Reusing packaging means that the packaging is refilled or used again for the same purpose for which it was conceived.[15] Reusable packaging has been designed to accomplish (or proves its ability to accomplish) a minimum number of trips or rotations[16] in a system for reuse.[17] By contrast, single-use packaging is designed to be used once.

When talking about reuse, it is helpful to think of business-to-consumer[18] "reuse" in four categories:

- Refill at home: users refill their reusable container at home (e.g., with refills delivered through a subscription service);
- Refill on the go: users refill their reusable container away from home (e.g., at an in-store dispensing system);
- Return from home: users have packaging picked up from home by a pick-up service (e.g., by a logistics company); and
- Return on the go: users return the packaging at a store or drop-off point (e.g., in a deposit return machine or mailbox).[19]

These systems present countless potential benefits, including lowering costs (e.g., by providing refills in compact forms), building brand loyalty, improving user experiences, and gathering intelligence on user preferences and system performance. But, there are challenges to implementing reuse models in practice, resulting in a need for policy intervention.

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[14] The conclusions of this work will be finalized soon, and the full modeling results will be published with a thorough technical appendix.
[15] Global Commitment Vision and Definitions.
[16] A trip is defined as transfer of packaging, from filling/loading to emptying/unloading. A rotation is defined as a cycle undergone by reusable packaging from filling/loading to filling/loading. Id.
[17] For packaging to qualify as reusable, there needs to be a "system for reuse" in place that enables the user to ensure it is reused in practice where the item is placed on the market. Id.
[18] Note that these remarks have not focused on the business-to-business (B2B) reuse opportunity, but that is an important market as well. B2B reuse applications are generally better understood than business-to-consumer (B2C) reuse models and adopted at scale already. For further discussion and examples of B2B reuse models, see Ellen MacArthur Foundation, Reuse – rethinking packaging (2019), available at https://ellenmacarthurfoundation.org/reuse-rethinking-packaging (hereinafter "Reuse – rethinking packaging"), and The New Plastics Economy: Catalysing action.
[19] Reuse – rethinking packaging.

We need policy intervention to fully capture the reuse opportunity.

As of a 2020 report, current commitments from industry and government were set to result in only a 7% decrease in plastic flow into the ocean by 2040.[20] Reuse will be a crucial piece of the solution to further reduce plastic pollution, but business as usual will not get us there.

When it comes to reuse, policy intervention is needed given the barriers to build and scale the shared infrastructure and systems required to make the economics work and maximize environmental benefits. A coordinated policy approach can "create the system and market conditions for supply chain cooperation, infrastructure harmonisation, and an economically viable level playing field. This will also help build consumer habits and acceptance of reuse and refill models."[21]

Demonstrating the importance of policy action supporting reuse, businesses are calling for policy intervention to scale reuse options and new delivery models. The 100+ members of the Business Coalition for a Global Plastics Treaty, including many major brands, retailers and other businesses, have recommended: "countries should start setting binding, quantitative, and time-bound reuse targets to be achieved by economic actors in priority product segments that would be strengthened and expanded over time. . . ."[22]

Specific policies like reuse targets and economic incentives can drive successful reuse systems.

We need policy action to level the playing field for reuse. This will require:

- Reuse targets to reach the scale and shared infrastructure needed to unlock reuse's economic and environmental benefits;
- Measures to make the economics work; and
- Harmonized definitions and design to help ensure we are building efficient, beneficial, and scalable systems.

Setting ambitious, binding reuse targets

Reuse targets need to be ambitious, binding, quantitative, and time-bound. They should be established by sector in order to mobilize entire value chains. In theory, if collection infrastructure is shared, adding more sectors can help scale the infrastructure and improve outcomes. Any reuse target or policy should include provisions to minimize adverse impacts, like water use or greenhouse gas emissions.

[20] Breaking the Plastic Wave.
[21] Business Coalition INC2 Submission.
[22] Id.

Making the economics work

In addition to targets, we should consider tools to make the economics work. To establish effective reuse and refill systems that can be operated across markets, we need investment in shared and standardized infrastructure. But, the long-term, macroeconomic opportunity presented by reuse cannot always be captured by individuals in the current uneven field. Policies to help make the economics work can include: extended producer responsibility programs; deposit return schemes; tax breaks; funding for reuse scale-up research and innovation; funding for infrastructure; and, restrictions on single-use plastic packaging and virgin plastics.

Harmonizing definitions and design

To ensure the success of those policies, we also need standardized definitions, as well as guidelines for harmonizing infrastructure and design standards. We need clear definitions to ensure that the reuse models being incentivized and operationalized are effective and beneficial as envisioned. Going further, the use of harmonized infrastructure and product design will allow the scaling and operation of reuse systems across sectors and regions to take full advantage of the opportunity.

Focusing on the federal opportunity

Overall, reuse policies need to provide realistic targets combined with effective economic incentives, definitions, and metrics to shift supply chains. These policies will keep packaging in the economy at its highest value for as long as possible and avoid the production of virgin plastics. They will be most effective if all adopted (e.g., through an EPR program that establishes clear definitions, includes binding targets, and directs funding to reuse infrastructure development).

It is most helpful if these policies are packaged together at the federal level and are consistent with action underway at the global level. The scale of packaging supply chains, use, and pollution is massive. While local and small-scale solutions have demonstrated the opportunity and will continue to play a key role in the implementation of reuse systems, we need cohesive federal action to accelerate progress.