

# HEARING ON SOLUTIONS FOR SINGLE-USE WASTE: EXPANDING REFILL AND REUSE INFRASTRUCTURE

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON CHEMICAL SAFETY,  
WASTE MANAGEMENT, ENVIRONMENTAL JUSTICE,  
AND REGULATORY OVERSIGHT  
OF THE  
COMMITTEE ON  
ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE  
ONE HUNDRED EIGHTEENTH CONGRESS  
FIRST SESSION  
JULY 27, 2023

Printed for the use of the Committee on Environment and Public Works



Available via the World Wide Web: <http://www.govinfo.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

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# HEARING ON SOLUTIONS FOR SINGLE-USE WASTE: EXPANDING REFILL AND REUSE IN- FRASTRUCTURE

THURSDAY, JULY 27, 2023

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON CHEMICAL SAFETY, WASTE MANAGEMENT,  
ENVIRONMENTAL JUSTICE, AND REGULATORY OVERSIGHT,  
*Washington, DC.*

The Subcommittee met, pursuant to notice, at 9:45 a.m. in room 406, Dirksen Senate Office Building, the Hon. Jeff Merkley (Chairman of the Subcommittee) presiding.

Present: Senators Merkley, Mullin, Carper, Whitehouse.

## OPENING STATEMENT OF HON. JEFF MERKLEY, U.S. SENATOR FROM THE STATE OF OREGON

Senator MERKLEY. Good morning. Welcome to the third hearing of the Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight Subcommittee on environmental and public health dangers and solutions in regard to plastics.

The folk singer, Pete Seeger, once said if it cannot be reduced, reused, repaired, rebuilt, refurbished, resold, recycled or composted, it should be restricted or redesignated or removed from production. We are here to explore that philosophy in the context of how to have our containers and packaging have longer life and serve us better than the single-use world we are often living in.

Generations have grown up believing the mantra of the three Rs, reduce, reuse recycle, and then everything is resolved. We know with plastics only about 8 percent is recycled. I think this past year it dropped to 6 percent. Instead, it gets the three Bs: it is buried, it is burned or borne out sea. It really has a remarkable, almost near eternal, life span.

Plastics break down into smaller and smaller pieces until they are microplastics. They are in our lungs, our bloodstream, in the breast milk we feed our babies, and are full of all kinds of chemicals we do not necessarily want in our bodies, our bloodstream or our breast milk. That is to say nothing of the massive amount of fossil fuels needed to produce single-use plastics.

I was thinking back to when I was in grade school and Alpenrose Dairy had a box on our front porch. They dropped off the milk in a glass jar. Then the glass jug went back into the box and according to whatever you ordered, other products showed up. Those glass jars got used eternally.

After my senior year of high school, I was working as a mechanic. The lunchroom had a vending machine. I would get an orange soda in a glass bottle. Every time one was different, I would put it up on the wall and by the end of the summer, it had 8 to 12 different evolutions because the bottles were simply washed and reused, and reused and reused.

Well, the old sometimes becomes the new. Ideas we had in the past are looked at again as we face different issues. With reusable containers, consumers can either refill containers or return them to be sanitized, refilled or restocked on store shelves.

The Ellen MacArthur Foundation, which is represented here today by one of our witnesses, estimates that replacing 20 percent of single-use plastic packaging with reusables would be an opportunity worth at least \$10 billion of economic activity. The World Economic Forum estimates that reusing just 10 percent of plastic products would cut the annual amount of ocean plastic pollution by 50 percent.

This is not theoretical. We are already making recycling work in Oregon. Oregon was the first State to require that all bottles are returnable with a deposit and 90 percent of our bottles are recycled. This program employs about 500 people across the State.

Even some of our Oregon brewers are now using a common beer bottle that can be cleaned and refilled up to 40 times, meaning the bottles do not need to be crushed, melted or remade after every use. That actually does go right back to the experience we had early in the bottle bill in my State.

It is not just bottles we are talking about, not just drinks we are talking about. At 25 Fred Meyer stores in the Portland metropolitan area and some Giant Grocery Stores here in D.C., customers can buy products from name brands like Cascade, Clorox, Gillette in reusable containers from Loop, an innovative company that is also represented on today's panel.

We are fortunate to have a few witnesses who will help us to learn more about how you build a culture and economy of reusables. We are joined by Dacie Meng from the Ellen MacArthur Foundation which focuses on the issue of plastics and rebuilding a circular economy. We are also joined by Clemence Schmid, who is the General Manager for Loop, a social enterprise whose mission is "eliminating the idea of waste." With them is Tim Debus, the President and CEO of Reusable Packaging Association whose member companies promote reusable transport packaging systems like pallets, bins and containers.

Thank you all for being here this morning.

With that, let me turn things over to the Ranking Member of the committee, Senator Mullin.

**OPENING STATEMENT OF HON. MARKWAYNE MULLIN,  
U.S. SENATOR FROM THE STATE OF OKLAHOMA**

Senator MULLIN. Thank you, Mr. Chairman.

I would like to start with thanking all the witnesses for attending the hearing today. We appreciate your taking the time to be with us today. It is not always an easy trip to get here to Washington, DC. It is definitely not an easy trip getting back home. We

do want to thank you for taking the time to enlighten us and share your thoughts and your experiences.

As I said in my first subcommittee hearing, I believe free market innovation is the best way to promote sustainability in all forms of waste management, whether it be in reusable packaging or recycling. However, as we discuss potential solutions, we must ensure America's supply chains remain productive and competitive in the global market.

As we have seen in America and in other countries, a one-size-fits-all mandate is not necessarily the right solution, especially for smaller businesses who are less likely to be able to absorb those extra costs. Businesses should not be forced to spend time and capital on unnecessary and erroneous regulations that do not serve their customers or their business model.

Regulatory overreach has the potential to hamper free market solutions, including for reusable and refillable packaging. These solutions should not require a heavy hand of government to be successful in the marketplace.

Our Nation's economy thrives when private industry has the right to choose how to tackle these hard-to-address issues in a way that provides realistic, affordable, and attractive solutions for both consumers and businesses. Otherwise, these ideas simply will not survive.

Again, I want to thank our witnesses for being here today and look forward to your testimonies.

I yield back.

Senator MERKLEY. Thank you very much.

We will now turn to our panel. We are grateful for your joining us today and bringing your experiences and knowledge.

We will begin with Dacie Meng from the Ellen MacArthur Foundation.

**STATEMENT OF DACIE MENG, POLICY AND INSTITUTIONS  
SENIOR MANAGER, NORTH AMERICA, ELLEN MACARTHUR  
FOUNDATION**

Ms. MENG. Thank you so much.

Good morning, Chairman Merkley, Ranking Member Mullin. Thank you so much for the opportunity to testify today on this important topic.

As you said, I am Dacie Meng, the Policy and Institutions Senior Manager at the Ellen MacArthur Foundation in North America. EMF is a non-profit organization with the aim of accelerating the transition to a circular economy in order to tackle some of the biggest challenges we face today like climate change, biodiversity loss, waste, and pollution.

This work is more important to me than ever, as I have just returned from maternity leave last week after having my second son. I am very grateful to be here with you all today and be talking about this.

One of EMF's key areas of focus is plastics. We have published and continue working on research on the topic. We have mobilized businesses and other leaders toward a more circular economy for plastics.

In collaboration with the U.N. Environment Programme, our Global Commitment has united more than 500 organizations, representing 20 percent of all plastic packaging produced globally, behind a common vision of a circular economy for plastics that includes reuse. We have convened the Business Coalition for a Global Plastics Treaty together with WWF.

That brings together over 130 businesses and financial institutions committed to supporting the development of an ambitious, effective, and legally binding U.N. treaty to end plastic pollution. The Business Coalition has called for global support for reuse policies.

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; and what policy tools can best support reuse systems.

To start, reuse is key to addressing plastic pollution. No single strategy can sufficiently reduce plastic leakage into the oceans. Reducing plastic pollution requires a comprehensive and integrated set of solutions from material redesign, plastic reduction, substitution, and reuse, all the way to improved recycling and disposal systems.

Reuse is an essential component in this mix, and has incredible economic potential. As Senator Merkley said, replacing 20 percent of single-use plastic packaging with reusable materials represents a \$10 billion opportunity. 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, EMF is currently working with reuse partners and experts to show how scaled reuse return systems can perform economically, environmentally, and experientially in comparison to single-use.

No, for what is a reuse or a use return system. Reusing packaging means that the packaging is refilled or used again for the same purpose for which it was conceived. Reusable packaging has been designed to be or has proven it can be reused a minimum number of times. By contrast, single-use packaging is designed to be used just once.

When talking about reuse, it may be helpful to think of business-to-consumer reuse in four different categories: packages refilled at home; refilled on the go; returned from home; or returned on the go.

These systems present countless potential benefits, but there are challenges to implementing reuse models in practice resulting in the need for policy intervention to fully capture the reuse opportunity.

Reuse will be a crucial piece of the solution to reduce plastic pollution, but business as usual cannot get us there. Current commitments will only get us a 7 percent decrease in plastic flow into the ocean by 2040. We need policy intervention to address the barriers to building and scaling the shared infrastructure and systems required to make the economics work and maximize the environmental benefits of reuse.

The Business Coalition for a Global Plastics Treaty has called for policy support to encourage further investment into reuse and refill

systems recommending realistic targets, combined with effective economic incentives, definitions, and metrics to shift the supply chain.

Businesses want a level playing field and they need policy to get there. We need ambitious, binding reuse targets to reach the scale and shared infrastructure needed. We need measures to make the economics work like extended producer responsibility; deposit return schemes, tax breaks, grant funding, et cetera. We need harmonized definitions and design to help ensure we are building efficient, beneficial and scalable systems.

These policies will keep packaging in the economy at its highest value for as long as possible and avoid the production of virgin plastics. It is best if these policies are packaged together at the Federal level and are consistent with the action underway at the global level.

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.

Thank you for your time and I look forward to your questions.  
[The prepared statement of Ms. Meng follows:]



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

**Testimony of Dacie Meng, Ellen MacArthur Foundation**

**Before the Senate Committee on Environment and Public Works,  
Subcommittee on Chemical Safety, Waste Management,  
Environmental Justice, and Regulatory Oversight**

Washington, DC  
July 27, 2023

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.<sup>1</sup> We work with our network of hundreds of businesses, universities, policymakers, cities, and institutions to mobilize systems solutions at scale, globally.<sup>2</sup> 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.<sup>3</sup> We have published (and continue working on) research on the topic, including our early groundbreaking report that examined the circular economy opportunity for plastics<sup>4</sup> and several that have followed on reuse and on other key topics.<sup>5</sup>

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.<sup>6</sup> That vision includes: ensuring that 100% of packaging is reusable, recyclable, or

<sup>1</sup> 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>.

<sup>2</sup> Information about Network members is available on our Network webpage:

<https://ellenmacarthurfoundation.org/network/who-is-in-the-network>.

<sup>3</sup> For more information on the Foundation's work on plastics in a circular economy, see our plastics website:

<https://ellenmacarthurfoundation.org/topics/plastics/overview>.

<sup>4</sup> 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>.

<sup>5</sup> See our plastics projects and publications webpage:

<https://ellenmacarthurfoundation.org/topics/plastics/projects>.

<sup>6</sup> 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.<sup>7</sup> We have also established nationally focused Plastics Pacts around the world working toward our vision.<sup>8</sup>

And, we have recently convened the Business Coalition for a Global Plastics Treaty together with WWF.<sup>9</sup> 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.<sup>10</sup>

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.<sup>11</sup> 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.<sup>12</sup> 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.<sup>13</sup>

<sup>7</sup> Ellen MacArthur Foundation, New Plastics Economy Global Commitment: Commitments, Vision and Definitions (2020), available at <https://emf.thirdlight.com/link/pq2algvgnv1n-utck8/@/preview/1?o> (hereinafter “Global Commitment Vision and Definitions”).

<sup>8</sup> 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>.

<sup>9</sup> For more information about the coalition, please visit: <https://www.businessforplasticstreaty.org/>.

<sup>10</sup> 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-3p5ZEreSleJZEBrUZHnSMIU/Business%20Coalition%20recommendations%20for%20INC2\\_May%202023/final%20%281%29.pdf](https://emf.thirdlight.com/file/24/ZEx-3p5ZEreSleJZEBrUZHnSMIU/Business%20Coalition%20recommendations%20for%20INC2_May%202023/final%20%281%29.pdf) (hereinafter “Business Coalition INC2 Submission”).

<sup>11</sup> 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”).

<sup>12</sup> 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”).

<sup>13</sup> 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.<sup>14</sup>

**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.<sup>15</sup> Reusable packaging has been designed to accomplish (or proves its ability to accomplish) a minimum number of trips or rotations<sup>16</sup> in a system for reuse.<sup>17</sup> By contrast, single-use packaging is designed to be used once.

When talking about reuse, it is helpful to think of business-to-consumer<sup>18</sup> “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).<sup>19</sup>

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.

<sup>14</sup> The conclusions of this work will be finalized soon, and the full modeling results will be published with a thorough technical appendix.

<sup>15</sup> Global Commitment Vision and Definitions.

<sup>16</sup> 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.

<sup>17</sup> 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.

<sup>18</sup> 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*.

<sup>19</sup> 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.<sup>20</sup> 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.”<sup>21</sup>

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. . . .”<sup>22</sup>

**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.

<sup>20</sup> Breaking the Plastic Wave.

<sup>21</sup> Business Coalition INC2 Submission.

<sup>22</sup> 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.

## Senate Committee on Environment and Public Works

Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and  
Regulatory OversightHearing entitled, *“Solutions for Single-Use Waste: Expanding Refill and Reuse  
Infrastructure”*

July 27, 2023

## Questions for the Record for Dacie Meng

**Chairman Carper:****1. How might we successfully implement reuse and refill systems within the federal government itself?**

As you know, the federal government has the power to avoid the use of countless single-use plastic products and to demonstrate the promise of reuse.<sup>1</sup> The federal government is the largest consumer in the world and has significant market power.<sup>2</sup>

The federal government can implement reuse systems in its own buildings and facilities. We were encouraged by the example of the Secretary of the Interior’s Order no. 2407, which required plans for phasing out single-use plastic products by the end of 2032, including through updates to acquisition and procurement policies.<sup>3</sup> Such programs can be replicated and expanded across other agencies to, for example, ensure that people have easy access to clean drinking water to refill their water bottles, single-use bottles are not widely available, and cafeterias and concessions provide reusable foodware like cups, plates, and utensils.

The federal government can also use its purchasing power to increase reuse across the government.<sup>4</sup> Building on the approach in the proposed amendments to the Federal Acquisition

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<sup>1</sup> The responses in this document use the term “reuse” to cover both reuse and refill. More specifically, “reuse” includes four models – (1) refill at home; (2) refill on the go; (3) return from home; and, (4) return on the go. For more on the different types of reuse, see our publication “Reuse – rethinking packaging.” Ellen MacArthur Foundation, Reuse – rethinking packaging (2019), available at <https://ellenmacarthurfoundation.org/reuse-rethinking-packaging>.

<sup>2</sup> Environmental Protection Agency, Selling Greener Products and Services to the Federal Government, <https://www.epa.gov/greenerproducts/selling-greener-products-and-services-federal-government> (last visited August 23, 2023).

<sup>3</sup> Secretary of the Interior, Order No. 3407 re: Department-Wide Approach to Reducing Plastic Pollution (June 2022), available at <https://www.doi.gov/sites/doi.gov/files/elips/documents/so-3407.pdf>.

<sup>4</sup> Additional recommendations on this topic are available from the General Services Administration. See GSA Acquisition Policy Federal Advisory Committee (GAP FAC), Recommendations 2023-1 (Spring 2023), available at <https://www.gsa.gov/system/files/GAP%20FAC%20RECOMMENDATION%20REPORT%202023-01%20%283%29.pdf>.

Regulation,<sup>5</sup> updated procurement policies could establish purchasing criteria or incentives for, among other things:

- Improved bulk purchasing. Bulk purchasing implemented across products to reduce packaging requirements, facilitate refilling of reusable packaging; to possibly include consolidating orders across vendors. Examples range from cafeteria condiments to office cleaning products and other office supplies.
- Alternate delivery methods. Alternate delivery methods for a variety of products to drive down single-use packaging. Examples include: purchasing concentrated or refillable cleaning products; replacing vending machines with fountain-style drink delivery systems and providing reusable cups and dishwashers to support their use; utilizing a return system for beverages, in which case a vendor could be made responsible for collecting the packaging for reuse.
- Improved shipment packaging and systems. Reusable shipping and warehousing materials to limit single-use packaging up the supply chain; reverse logistics programs to, for example, collect back shipping materials for reuse.
- Reusable event supplies. Events hosted by the federal government to provide reusable cups and other serviceware instead of single-use products.
- Packaging disclosures. Increased accounting and disclosure of single-use packaging to prompt vendors to reconsider current packaging systems in place across the supply chain.

**2. Should the global treaty to end plastic pollution include binding targets for reuse and/or refill?**

Yes. For the reasons described below (see response to question number 4 from Senator Carper), reuse is a critical piece of solving the global plastic pollution problem. Individual countries and businesses alone cannot realize the shift to reuse at a global scale without uniform legislation applied consistently across global markets. Scaling reuse requires a globally coordinated approach to create the system and market conditions for supply chain cooperation, infrastructure harmonization, and a level economic playing field.

The global treaty to end plastic pollution provides a unique opportunity to establish these enabling conditions for scaling reuse globally. To do that, the treaty negotiations must cover measures to establish ambitious reuse targets. These should include setting binding quantitative and time-bound reuse targets to accelerate the transition to scaled reuse systems.<sup>6</sup> They can be established by sector in order to mobilize entire value chains but should be established for multiple sectors to reach the scale needed for shared infrastructure among other things. They should include an initial focus on high-leakage and short-lived plastic applications including packaging. And, they should include provisions to minimize adverse impacts. For targets related to reusable packaging placed on the market, we would also need to ensure that the proper systems are in place to enable and encourage reuse in practice.

<sup>5</sup> See Proposed Rule: Federal Acquisition Regulation: Sustainable Procurement, 88 Fed. Reg. 51672 (August 2023), available at <https://www.federalregister.gov/documents/2023/08/03/2023-16012/federal-acquisition-regulation-sustainable-procurement>.

<sup>6</sup> Intersessional work on reuse systems and delivery models would facilitate setting quantitative, binding reuse targets in the treaty.

Mandatory reuse targets are only part of the solution for ensuring reuse scales successfully and we capture its full potential. Leveling the playing field for reuse will also require:

- Measures to make the economics work like extended producer responsibility, deposit return schemes, tax breaks, grant funding, etc. and
- Harmonized definitions, metrics, and design standards (for products and infrastructure) to help ensure we are building efficient, beneficial, and scalable systems.

Together with mandatory reuse targets, these policies will keep packaging in the economy at its highest value for as long as possible and avoid the production of virgin plastics. We are excited about the opportunity to work with the U.S. delegation and other interested stakeholders to ensure that these policies are included in the negotiations.

**3. Please provide three examples of policies that are successfully driving reuse and refill infrastructure today and explain whether those policies could be implemented by the federal government.**

There are several exemplary policies focused on driving reuse that can inform federal policymaking. Much of this activity is still in relatively early stages, but there is much to learn, including the importance of pursuing a suite of complementary policies supporting reuse. Below we detail three examples, but we note that there are many others also worth reviewing.<sup>7</sup>

*France's anti-waste law to transition to a circular economy*

France is a leading voice on reuse legislation. France has adopted a comprehensive anti-waste law to transition to a circular economy<sup>8</sup> and several related measures. The law aims to phase out single-use plastic packaging by 2040 and sets objectives every five years for reduction, reuse, and recycling. France has established a 20% reduction target for 2025, half of which must be achieved through reuse.<sup>9</sup>

These goals are accompanied by a variety of complementary provisions and measures, like a ban on the destruction of unsold non-food goods,<sup>10</sup> ban on the sale of certain single-use plastic

<sup>7</sup> For example, see the single-use plastics law in Chile, which, among other provisions, requires supermarkets and others to sell and accept returnable beverage containers and prohibits certain places offering food from using single-use products. Ministerio del Medio Ambiente, *Entra en vigencia Ley de Plásticos de un solo uso*, <https://mma.gob.cl/entra-en-vigencia-ley-de-plasticos-de-un-solo-uso> (last visited August 24, 2023).

<sup>8</sup> LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire (February 2020), available at <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000041553759/> (hereinafter "France's Anti-Waste Law"). For additional analysis, see Ellen MacArthur Foundation, *France's Antiwaste and Circular Economy Law: eliminating waste and promoting social inclusion* (September 2022), available at [https://emf.thirdlight.com/file/24/kLSzgoPKL2CJxQkLb3XkLQIS7\\_/Case%20Studies%20-%20French%20Anti%20Waste%20Law.pdf](https://emf.thirdlight.com/file/24/kLSzgoPKL2CJxQkLb3XkLQIS7_/Case%20Studies%20-%20French%20Anti%20Waste%20Law.pdf).

<sup>9</sup> Décret n° 2021-517 du 29 avril 2021 relatif aux objectifs de réduction, de réutilisation et de réemploi, et de recyclage des emballages en plastique à usage unique pour la période 2021-2025

(April 2021), available at <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043458675>.

<sup>10</sup> France's Anti-Waste Law, *supra* note 5.



products,<sup>11</sup> and a requirement for buildings open to the public to have water fountains.<sup>12</sup> All together, we understand that France's efforts are already driving investments in reuse infrastructure, serving as a strong example of a national law promoting reuse and circularity that we could incorporate into our domestic legislation.

#### *Extended producer responsibility funding for reuse*

With the growing interest in extended producer responsibility (EPR) for packaging, we should consider how EPR can drive the upstream shifts we need to build a circular economy, particularly for a potential federal EPR bill. There are several examples of laws that are directing funding to reuse organizations and infrastructure. For example, the French anti-waste law mentioned above includes a provision requiring producer responsibility organizations set up by packaging producers to devote at least 2% of the contributions they receive to the development of reuse of packaging.<sup>13</sup> Similarly, the EPR law recently adopted in Oregon also includes funding for reuse.<sup>14</sup> Under the Oregon model, the producer responsibility organizations will be required to pay a fee that the state will use to establish a program to reduce the environmental impacts of covered products, including through waste prevention and reuse.

#### *Seattle's public-private partnership for reuse*

Seattle provides a strong example of how cities can foster reuse infrastructure. ReuseSeattle is a public-private partnership – a City of Seattle initiative led by Seattle Public Utilities and the Office of Economic Development, with implementation supported by outside organizations.<sup>15</sup> ReuseSeattle is working toward making reuse convenient and accessible across the city by creating systems of collection, transportation, washing, and digital infrastructure. To that end, ReuseSeattle has made reuse rebates up to \$500 available for up to 250 businesses looking to switch single-use serviceware to reusables (e.g., through the purchase of reusable cups and food serviceware, bus carts and bins, and borrow-a-cup services).<sup>16</sup> And, ReuseSeattle has established a database identifying registered reuse vendors on their website to support businesses seeking out reuse vendors.<sup>17</sup> These offerings are complemented by other policies in the city, including a requirement that food service businesses use food service packaging and service ware that is reusable, recyclable, or compostable.<sup>18</sup> Federal legislation could fund local initiatives like ReuseSeattle and/or could incorporate strategies similar to those described here.

<sup>11</sup> See, e.g., Décret n° 2023-478 du 20 juin 2023 relatif à l'obligation de présentation à la vente des fruits et légumes frais non transformés sans conditionnement composé pour tout ou partie de matière plastique (June 2023), available at

<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000047704315>

<sup>12</sup> France's Anti-Waste Law, *supra* note 5.

<sup>13</sup> France's Anti-Waste Law, *supra* note 5.

<sup>14</sup> Oregon Senate Bill 582, available at

<https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/SB582>.

<sup>15</sup> ReuseSeattle, ReuseSeattle, <https://reuseseattle.org/> (last visited August 23, 2023).

<sup>16</sup> ReuseSeattle, ReuseSeattle Incentive Program Flyer, <https://reuseseattle.org/wp-content/uploads/2023/05/ReuseSeattleIncentiveProgramFlyer.pdf> (last visited August 23, 2023).

<sup>17</sup> ReuseSeattle, Reusables Service Providers, <https://reuseseattle.org/service-providers/> (last visited August 23, 2023).

<sup>18</sup> Seattle Municipal Code § 21.36.086, available at

[https://library.municode.com/wa/seattle/codes/municipal\\_code?nodeId=TIT21UT\\_SUBTITLE\\_IIISOWA\\_CH21.36](https://library.municode.com/wa/seattle/codes/municipal_code?nodeId=TIT21UT_SUBTITLE_IIISOWA_CH21.36)

**4. Why is it important to consider reuse, in addition to source reduction and recycling, as a component for creating a successful circular economy model?**

We need reuse to solve the plastic pollution problem. It is critical that we build a circular economy through upstream solutions like reuse and source reduction, in addition to downstream solutions like recycling. We know that downstream solutions alone are not sufficient to address the problem of plastic pollution. The most comprehensive modeling on scenarios to reduce ocean leakage suggests that no single strategy can sufficiently reduce annual plastic leakage into the oceans by 2040.<sup>19</sup>

Reuse needs to be part of the solution for several reasons. Moving from single-use to reuse models presents one of the biggest opportunities to reduce plastic pollution. It is estimated that moving to reuse models can provide over 20% reduction in total annual plastic leakage to the ocean by 2040,<sup>20</sup> and reusing just 10% of plastic products could prevent almost half of annual plastic ocean waste.<sup>21</sup> Studies show that the reuse market is a multi-billion dollar economic opportunity,<sup>22</sup> providing benefits to customers, and creating jobs across the value chain.

Beyond the economic and plastic pollution opportunities, reuse can also help achieve complementary environmental goals. When well implemented, reusable packaging can reduce greenhouse gas emissions compared to single-use plastic packaging.<sup>23</sup> Recent modeling focusing on Europe suggests that achieving a 20% reusable packaging target in 2027 in three packaging sectors (takeaways, e-commerce and household products) could result in multiple environmental benefits such as reduced water consumption and greenhouse gas emissions compared to a business-as-usual scenario.<sup>24</sup> Reuse models also reduce the pressure on biodiversity associated with material extraction of virgin materials, processing and disposal.

The economic and environmental success of reuse models depends on several factors like transport distance, number of reuse cycles, and material choice. Therefore, reuse models need to

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SOWACO SUBCHAPTER II SOWACO 21.36.086COREFOSEWARE; see also Seattle Public Utilities, Food Service Packaging Requirements, <https://www.seattle.gov/utilities/your-services/collection-and-disposal/food-and-yard/business-and-commercial-compostables/food-packaging-requirements> (last visited August 23, 2023).

<sup>19</sup> Pew Charitable Trusts and Systemiq, Breaking the Plastic Wave (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”).

<sup>20</sup> Breaking the Plastic Wave, *supra* note 16.

<sup>21</sup> World Economic Forum, Future of Reusable Consumption Models (July 2021), available at [https://www3.weforum.org/docs/WEF\\_IR\\_Future\\_of\\_Reusable\\_Consumption\\_2021.pdf](https://www3.weforum.org/docs/WEF_IR_Future_of_Reusable_Consumption_2021.pdf).

<sup>22</sup> Converting 20% of plastic packaging into reuse models is estimated to be a USD 10 billion business opportunity. Ellen MacArthur Foundation, The New Plastics Economy: Catalysing action (2017), available at <https://ellenmacarthurfoundation.org/the-new-plastics-economy-catalysing-action>.

<sup>23</sup> For example, reuse schemes can decrease life cycle emissions by 65-80% when compared to emissions of single-use plastic products based on lifecycle analyses. See ReLoop platform & ZeroWaste Europe, Reusable Vs Single-use packaging (2020), available at [https://zerowasteurope.eu/wp-content/uploads/2020/12/zwc\\_reloop\\_report\\_reusable-vs-single-use-packaging-a-review-of-environmental-impact\\_en.pdf\\_v2.pdf](https://zerowasteurope.eu/wp-content/uploads/2020/12/zwc_reloop_report_reusable-vs-single-use-packaging-a-review-of-environmental-impact_en.pdf_v2.pdf).

<sup>24</sup> European Environmental Bureau, Realising Reuse (2021), available at <https://eeb.org/reusable-packaging-can-bring-significant-environmental-and-economic-benefits-by-2030-report-finds/>.

be supported by good system design and the right policy framework to capture their benefits in full.

**Senator Whitehouse:**

1. **Virgin plastic is so prevalent because it is much cheaper to produce than recycled plastic. However, market prices do not take into account the many negative externalities caused by continuous production of virgin plastic. My REDUCE Act attempts to solve this issue by placing a 20-cent per pound tax on the sale of virgin plastic resin destined for single use products. How do you believe we can tackle this issue?**

We agree that it is critically important to internalize the negative externalities from the production of virgin plastic, from emissions to impacts on communities. A substantial reduction in plastic production and use through a circular economy approach is crucial. Economic instruments and other policy tools can support the reductions we need to see.

We could internalize the externalities by directly targeting virgin production or by indirectly targeting virgin production to level the playing field for alternatives. There are several approaches that could directly target virgin production, including a tax like what you describe, an overall cap on virgin production, or limits on new production facilities. There are also several ways to indirectly address virgin production, including through policies promoting reuse like binding reuse<sup>25</sup> targets, economic incentives for reuse, and harmonized definitions and design standards. In effect, these strategies would make reusable products and systems more competitive with virgin plastic, driving down the demand for virgin production. Some policies could both directly and indirectly target virgin production – e.g., impose a tax on virgin production and dedicate the funds raised to reuse infrastructure.

No single strategy can sufficiently address plastic pollution and other externalities.<sup>26</sup> We need a comprehensive and integrated set of solutions including upstream, midstream, and downstream solutions to drive down production of virgin plastics (and the accompanying impacts), to eliminate plastic waste in the environment, and to protect public health.

**Senator Sullivan:**

- **Expanding refillable and reusable infrastructure solutions can help empower consumers to fulfill a circular economy that would reduce the burden of plastic waste. However, this solution brings unintended consequences for individuals with limited financial means and transportation access. Alaskans live with a sensitive supply chain every day. My state is 2.5 times larger than Texas, and our goods have to be airlifted, ferried, and trucked along very long routes. Considering the logistical challenge of transporting goods to and around Alaska, how can we build out refillable and reusable infrastructure in rural, hard-to-reach communities?**

<sup>25</sup> See supra note 1 defining “reuse” to include both reuse and refill.

<sup>26</sup> Breaking the Plastic Wave, supra note 16.



As noted in the response above, addressing plastic pollution will require a full set of solutions. Not all tools are appropriate for all types of packaging or all circumstances. Reuse<sup>27</sup> is a tool with great potential, but it may not be appropriate for all communities – e.g., return-on-the-go programs may not be suited for communities without easy access to drop-off locations. That said, some features of reuse could make it well-suited for certain low-income or hard-to-access communities.

For low-income communities, a refill on-the-go model can accommodate customers' needs for small quantities at affordable prices without relying on single-use packaging. We acknowledge that this, of course, requires access to centralized infrastructure and may be more suited for urban environments.

Rural and hard-to-reach communities, on the other hand, may be served by refill-at-home models, which allow users to refill their reusable containers at home with bulk refills delivered to their homes. In hard-to-reach communities, this model could in theory reduce the overall volume of packaging transported and the frequency of deliveries needed.

- a. **We have to be incredibly innovative in Alaska. Take, for example, an engineer from Alaska, Patrick Simpson, who's received EPA funding to start a small business that recycles plastic waste into synthetic lumber. How can businesses be incentivized to reuse and refill where the use of single-use plastic is damaging?**

Reuse offers a strong economic opportunity,<sup>28</sup> but the long-term, macroeconomic opportunity cannot always be captured by individuals in the current uneven playing field. To establish effective systems operated across markets, businesses need investment in shared and standardized infrastructure. Businesses are asking for policy to support the business case. For example, the Business Coalition for a Global Plastics Treaty has called for a coordinated policy approach that 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 models.”<sup>29</sup>

Policy tools to drive this investment and unlock the potential of reuse can include, among others:

- Extended producer responsibility programs that strategically incentivize reuse, e.g., through eco-modulation of fees and investment of fees collected in reuse infrastructure;
- Deposit return schemes incentivizing reuse of returned packaging, e.g., through a declining refund rate for reused products, or facilitating the development of shared reuse infrastructure through the distribution money raised;

<sup>27</sup> See supra note 1 defining “reuse” to include both reuse and refill.

<sup>28</sup> See discussion above in response to question number 4 from Senator Carper for more on the multi-billion dollar opportunity presented by reuse.

<sup>29</sup> Business Coalition for a Global Plastics Treaty, 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 (May 2023), available at [https://emf.thirdlight.com/file/24/ZEX-3p5ZEreSJeJZEBRUZHnSMIU/Business%20Coalition%20recommendations%20for%20INC2\\_May%202023\\_final%20%281%29.pdf](https://emf.thirdlight.com/file/24/ZEX-3p5ZEreSJeJZEBRUZHnSMIU/Business%20Coalition%20recommendations%20for%20INC2_May%202023_final%20%281%29.pdf).

- Tax breaks for businesses investing in reuse systems;
- Funding for reuse scale-up research and innovation;
- Funding for shared reuse infrastructure like collection points, reverse logistics systems, large-scale sorting and washing facilities, and shared standardized packaging, as well as consumer education;
- Procurement policies that require or incentivize reuse;<sup>30</sup> and
- Restrictions on single-use packaging and virgin plastic production.

We are encouraged to see some of these policies taking shape like the inclusion of reuse programs in EPA's Solid Waste Infrastructure For Recycling grants authorized by the Save Our Seas 2.0 Act.<sup>31</sup> We look forward to seeing more activities to incentivize reuse infrastructure.

- **Do you have any thoughts on how to implement bottle deposit programs in a state that has such remote areas that it is not financially or logistically viable to return a bottle for a deposit?**

As described above, some policy tools may be better suited to certain communities or circumstances than others. We understand that it may not be financially or logistically viable to return a bottle for a deposit in some areas. We wonder whether there may be an opportunity to combine the return and reuse infrastructure with recycling infrastructure, so people would only need to sort their bottles alongside their recycling and then would be able to return their bottles when they drop off their recycling. But, we would look to states with more experience on these topics for guidance on the opportunity, if any.

- **Most single-use plastic waste is concentrated in countries lacking the infrastructure to properly manage waste, particularly in Asia. My Save Our Seas 2.0 Act, which became law in 2020, is focused on promoting international cooperation to prevent trash from becoming marine debris in the first place. Do you see reuse and refill infrastructure as a scale-able solution to addressing global plastic pollution, and how do we better promote reuse and refill infrastructure to our global partners?**

Reuse is a scalable solution to addressing global plastic pollution, and it should be included as a mandatory element of the global treaty to end plastic pollution to promote reuse to our global partners. In fact, the treaty has a vital role to play in scaling reuse – including measures to enable harmonized product design and infrastructure.

We know that reuse is a scalable solution because we have seen as much with countless reuse programs over many years – e.g., milkman deliveries and collection of reusable packaging. Our team at the Ellen MacArthur Foundation, along with key partners and experts in the space, is also developing a modern vision for scaling returnable packaging systems. This work combines futures visualization with analytical modeling to bring to life how a scaled reuse return system of

<sup>30</sup> For more on the opportunities related to procurement, see response to question number 1 from Senator Carper.

<sup>31</sup> Environmental Protection Agency, Solid Waste Infrastructure for Recycling Grant Program, <https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grant-program> (last visited August 23, 2023).

the future can compare economically, environmentally, and experientially with single use.<sup>32</sup> The conclusions of this work should be finalized later this year, and the full modeling results will be published with a thorough technical appendix. I will be glad to share the report with your office when it is available.

To promote reuse to our global partners, we see a key opportunity in the negotiation of the global treaty to end plastic pollution. Through this instrument, we can impose binding obligations to set targets for reuse, accompanied by investments in capacity building and other support for infrastructure development around the world. For further detail on how we recommend including reuse in the global treaty, please see my response to Senator Carper's question above and the Ellen MacArthur Foundation's publication on the topic.<sup>33</sup>

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<sup>32</sup> The modeling analysis compares four types of single-use packaging applications to their return on-the-go alternatives, including beverage, personal care, dry food, and wet food. Overall economic and environmental performance is assessed based on a wide range of variables covering scale, return rates, standardization of packaging, and collaboration in the context of shared infrastructure.

<sup>33</sup> Ellen MacArthur Foundation, *From Single-Use to Reuse: A Priority for the UN Treaty* (2023), available at <https://cmf.thirdlight.com/link/cpau0agrpwq3-z99ozi/@/preview/1?o>.

Senator MERKLEY. Thank you. Welcome back from maternity leave and congratulations. You said it was your second son?

Ms. MENG. Yes.

Senator MERKLEY. That is just awesome. The best part of life is raising those kids.

We are going to turn next to Clemence Schmid, who serves as General Manager at Loop Global. We look forward to your testimony.

**STATEMENT OF CLEMENCE SCHMID,  
GENERAL MANAGER, LOOP GLOBAL**

Ms. SCHMID. Thank you, Chairman Merkley and subcommittee members, for the opportunity to speak at this hearing.

I am Clemence Schmid, General Manager of Loop, a global reuse platform launched by TerraCycle. As background, TerraCycle, headquartered in Trenton, New Jersey, is on a mission to eliminate the idea of waste. We employ over 500 people providing national recycling, recycled content and reuse services in 20 countries for 20 years.

We run national platforms to collect and recycle, how to recycle products and packages ranging from flexible food packaging to personal protective equipment, toothbrushes to pill blister packs, and even cigarette butts and dirty diapers. TerraCycle manages the largest contact lens and eye care recycling program in the United States, and is the world's leading recycler of coffee capsules and beauty waste to just name a few.

TerraCycle launched Loop in 2019. Loop enables brands and retailers to shift from single-use packaging systems to reusable ones in the most convenient way possible. As a result, we have partnered with the leading retailers in the United States, France and Japan from Walmart to Carrefour as well as 200 leading consumer goods companies from Procter and Gamble to Nestle.

In focusing on the three most important stakeholders to transition from disposable to reusable consumption, consumers, brands and retailers, the primary goal of Loop has been to enable the transition to reuse in the least disruptive way possible.

For consumers, the shopping experience is the same. Simply buy your everyday product at your preferred retailer. There is no requirement to clean or refill oneself. The only new concept is a fully refundable deposit attached to each container at purchase. The deposit is then reimbursed in full upon the return of the empty package at any participating location regardless of where it was purchased. As you can see here, the goal is to make a reusable purchase feel like a disposable one.

For brands, Loop is able to integrate any disposable product from baby food to motor oil to peanut butter, shampoo or laundry detergent with the goal of driving the least amount of change to existing supply chains as possible. In fact the only change to enable reuse with Loop was to shift from disposable containers to reusable ones.

For retailers, everything stays the same as with disposable product distribution. The only change is to enable the Loop return bin at the front of their store.

Loop acts as a central platform steward and is operationally the waste management function of reuse. We collect back the empty

use container, sort, store and clean them and return deposits. Our objective is make reuse as convenient and affordable as single-use.

Reuse has to be a part of our future. Reuse is better for the environment. This has been shown multiple times in different studies like third party-reviewed life cycle assessments from both the private and public sector.

Reuse creates more jobs. It creates significantly more domestic jobs than disposal or even recycling. Reuse avoids the negative impact of disposable plastic production, a form of pollution that permanently affects disadvantaged and minority communities in the United States.

Reuse is financially viable. It has run at scale in the United States until the 1950's and to date runs at scale in Canada with beer all the way to Germany with most beverages as well as in the business-to-business sector with secondary and tertiary packaging.

By treating packaging as an asset versus the cost of good salt, Loop's platform enables manufacturers to innovate and create better packaging. In the process, manufacturers become financially motivated to make their packages as long lasting as possible.

Reuse is proven with consumers, brands and retailers. The key to unleashing the full environmental and economic opportunity is simply to scale, more product available in more stores and more return points.

Scaling reuse requires investment from private actors. To invest, the business needs certainty. We believe the government can support this in two ways.

Support through legislation. For example, we are very supportive of reuse being a part of Senator Merkley's national bottle bill and would recommend not to limit it to bottle only.

Providing public funding to scale reuse funding should be focused on the infrastructure creation and the reuse platform operators. Now is the moment to act. Delaying action could stall the measurable progress that has been made toward a more sustainable future and set us back decades.

With existing consumer demand and voluntary action underway, government support will be the catalyst to turn reuse into a full-scale national reality.

I urge you to actively support reuse through legislation and investment. I appreciate the opportunity to provide testimony and would be pleased to address any questions.

Thank you.

[The prepared statement of Ms. Schmid follows:]

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Written Statement of  
Clemence Schmid  
General Manager, Loop Global  
TerraCycle Inc

To the  
Senate Environment and Public Works  
Subcommittee hearing on Chemical Safety, Waste Management, Environmental Justice, and Regulatory  
Oversight  
July 27, 2023

#### INTRODUCTION

Thank you, Chairman Merkley and subcommittee members, for the opportunity to speak at this subcommittee hearing.

I am Clemence Schmid, General Manager of Loop Global - the reuse platform launched by TerraCycle Inc. - and pleased to present my testimony from a business standpoint on the efficacy of reusable products and infrastructure as innovative solutions for waste reduction.

I will also address the critical role of governments in supporting the transition from single-use to reuse consumption models.

I joined Loop in 2018 and successfully led the global launch of the platform, across three continents, multiple categories, and channels. I am a passionate advocate for driving the transition to a circular economy: an economic system that aims to eliminate waste and continuously reuses resources.

Prior to joining Loop and TerraCycle, I spent 15 years working in the fast-moving consumer goods industry, durables, and business-to-business, in companies including Procter & Gamble, Gillette, 3M and more. There, I gained significant expertise in consumer behavior and habit change, business management, and financial modeling. I have led global and US-based teams in marketing, general management, innovation, and sustainability.

As you will hear today, there are many reuse and refill models. My testimony specifically addresses the question of reusable products and infrastructure in a pre-fill reuse system. Loop is uniquely able to comment based on five years of real-world experience operating such a system, where consumers buy products already in reusable packaging (no self-filling required), and then return the empty package at a designated collection point, where it is collected, cleaned, and refilled to begin the cycle again.

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#### BACKGROUND ON OUR ORGANIZATION:

TerraCycle is a successful US-based, for-profit company that is on a mission to Eliminate the Idea of Waste®. TerraCycle's journey started over 20 years ago in Trenton, NJ, and we are now a global leader with programs running nationally in over 20 countries. At the heart of TerraCycle's profitable expansion are innovative sustainability solutions that align environmental and business priorities. We are best known for programs that collect and recycle hard-to-recycle products and packages from flexible plastics to personal protective equipment (PPE), toothbrushes, pill blister packs, and even cigarette butts, and we have been able to scale these to meet business and consumer demand. For example, TerraCycle supports the largest contact lens and eye care recycling program in the United States, and is the world's leading personal and beauty care recycler. The majority of TerraCycle programs are funded by business partners who drive positive return on investment (ROI) from their programs. Today TerraCycle is the proud partner of 40,000 customers, from large multinationals like P&G and Unilever, to big box retailers like Staples and Walmart, to start-ups and smaller businesses.

Loop, our reuse platform, is an initiative that furthers TerraCycle's mission to Eliminate the Idea of Waste® by preventing the creation of waste at the source. Launched by TerraCycle in 2019, Loop is a pre-fill reuse platform that enables brands and retailers to shift from a single-use, linear supply chain to a reusable, circular system. Loop acts similarly to a Deposit Return System and is able to integrate the widest range of packaging and products from baby food to motor oil and everything in between (other food and beverage items, personal care, or homecare). On the Loop platform, Brand manufacturers fill their product(s) in reusable packaging that consumers acquire for the price of its contents plus a fully refundable deposit that will be reimbursed to them upon return of the empty package in any Loop collection point (location agnostic, regardless of where it was originally purchased). The package is collected, sorted, and cleaned within the Loop ecosystem, and then sent back to the original manufacturer to be refilled and sold to another consumer. As an example, Haagen Dazs replaced the coated paper carton (which is not recyclable in most municipalities) with a beautiful reusable stainless-steel container, which can be cleaned and refilled multiple times.

Our objective in creating and scaling Loop is to emulate the virtues that single-use products have brought to our modern lives (namely, convenience and affordability) while solving for the unintended consequences of disposable lifestyles: overflowing garbage cans on street corners, littered streets, polluted waterways, and many more symptoms of the waste crisis. At scale, Loop's "buy anywhere, return anywhere" ecosystem is as convenient as single-use, without the waste.

At its outset, Loop was focused on gathering in-market learnings to prove market readiness. The system launched as an eCommerce platform across five countries, including the United States. This learning phase was completed within the first year of launch within each country, and we have now fully integrated the reverse supply chain within existing retailers both in-store and online. The United States deployment in-store started in Oregon with Kroger's Fred Meyer. I would like to acknowledge Senator Merkley's contribution in bringing Loop's first United States launch to Oregon. More recently, Loop has launched in Washington, D.C., and Virginia with Ahold Delhaize USA, and with Walmart in Arkansas.



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We are also scaling the Loop platform in France and Japan, where our partners are steadily increasing the number of participating products and stores.

In addition to our operating role with over two hundred consumer product manufacturers and retailers, Loop and TerraCycle are often sought as industry experts. We actively participate in reuse and recycling multi-stakeholder initiatives and working groups at a national and international level via organizations like Ellen MacArthur Foundation, World Wildlife Fund, World Economic Forum, and with governmental bodies. For example, we are currently working closely with the U.S. State Department to strengthen reuse input into the United Nations Global Treaty on Plastic Pollution.

#### REUSE IS A VIABLE ALTERNATIVE TO SINGLE-USE:

Reuse is not a new business concept: when milk was delivered via a milkman, companies reused and refilled glass milk bottles. These glass bottles were a company asset. In the 1950's, as plastic gained in popularity, consumers shifted towards convenient, lightweight, single use plastic packaging. Packaging shifted from a business-owned asset to part of the consumer's product cost, and packaging became a cost of goods (COGS) item. Manufacturers are now pressured to keep prices low, and reduce COGS as much as possible.

By treating packaging as a valuable asset and adding a deposit system to ensure return of these assets, the Loop platform enables manufacturers to innovate and create better packaging. This packaging then significantly improves consumer experience, prevents waste, and drives value creation for the brand.

Compared to a linear, single-use economy that constantly delocalizes industries in the quest of lower costs, reuse has the potential to "re-industrialize" the United States by shifting current overseas packaging production to local supply chains and facilities. In the US, the reuse sector is estimated to provide more jobs per ton of discarded material than landfilling, incineration or even recycling<sup>1</sup>.

Replacing just 20% of single use plastic packaging with reusable alternatives is estimated by some sources to offer a \$10B+ economic opportunity<sup>2</sup>

Further, reuse avoids the negative impacts of plastic production and pollution on predominantly disadvantaged and minority communities in the United States.

<sup>1</sup> Institute for Local Self Reliance: <https://www.wastedive.com/news/zero-waste-jobs-environmental-justice-reuse-refill/637839/>

<sup>2</sup> Upstream: <https://upstream.solutions.org/reuse-vs-single-use-economics>



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**OVER THE LAST FOUR YEARS LOOP AND OUR PARTNERS HAVE PROVEN THE SYSTEM, GATHERED THE NECESSARY LEARNINGS AND IDENTIFIED THE SUCCESS DRIVERS:**

Reuse is a proven, "better for the environment" solution:

The UN has stated that reuse is "the most scalable solution to reduce plastic waste at source."<sup>3</sup>

Third party verified Life Cycle Assessments (LCA's) have demonstrated that reuse helps reduce Greenhouse Gas (GHG) emissions, water usage, and waste generation versus disposal in our landfills or incinerators and even versus recycling. Reusable bottles can save up to 47% GHG and 45% water usage<sup>4</sup>

There is market demand for Reuse:

Through years of consumer research and from our operational in-market experience, we know that consumers want reusable products, understand deposit systems, and want to participate in reuse systems. Loop is proven to drive sales: when executed well, the reuse Shelf Keeping Unit (SKU) achieves up to 60% of the total unit sold of its single use equivalent. Reuse is also driving brand and store preference with up to 94% and 80% of American consumers declaring higher likelihood to choose a brand or a store because of the Loop offering.

Consumers' return is also proven with mature systems like Germany beverage (98% return rate) as well as in Loop, where we have observed up to 80% return rate with over 98% of containers being returned undamaged. We are expecting Loop's return rate to continue to steadily grow as time in market and availability increase.

Reuse is already operational and at scale today:

Reuse operations exist at scale in several industries, such as beverages (including beer) and secondary or tertiary packaging such as plastic pallets and crates, propane tanks, gas cylinder like SodaStream or water jugs globally and in the United States.

Over the last four years, Loop has built a reverse infrastructure leveraging the technical expertise of industry leaders like Tosca, the US's largest Reusable Plastic Containers (RPCs) supplier and Europe's largest reusable pallet supplier, leveraging their expertise of reusing and cleaning secondary packaging or Ecolab, a world's leading provider of science-based solutions, data-driven insights and world-class service to advance food safety, maintain clean and safe environment and optimize water and energy use. Those partnerships enabled Loop to validate hundreds of SKUs for reuse, meeting brands' high QA/QC requirements for products as sensitive as baby food. From food and beverage consumables, including frozen foods, to personal and home care products, we have proven our ability to handle the reverse logistics and deposit management required to make reuse infrastructure work. Our operations have been audited by our various partners like Procter & Gamble, Nestle, Unilever and more to match their standards.

<sup>3</sup> United Nations Environment Program 2023: <https://www.unep.org/resources/turning-off-top-end-plastic-pollution-create-circular-economy>

<sup>4</sup> BMF: <https://ellenmacarthurfoundation.org/circular-examples/a-reusable-drinks-bottle-design-for-multiple-brands-universal-bottle>

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**WE NEED TO UNLOCK THE FULL ECONOMIC AND ENVIRONMENTAL POTENTIAL OF REUSE BY JOINING SOUND BUSINESS STRATEGY WITH GOVERNMENT ACTION:**

We have identified the key drivers that make Reuse a profitable business proposition:

- **Durable packaging design plays a pivotal role in establishing a profitable business model for reuse.** An important challenge facing reuse is that manufacturers have built their supply chains and manufacturing facilities around single use products. A successful design will drive consumer preference and lower operational costs, striking the right balance between durability (i.e., the number of rotations the packages can withstand) and the appropriate deposit amount (which safeguards the packaging owner against asset loss). Loop supports our partners by identifying efficient and lower cost options for reusable packaging which may include modifying packaging that is already in their portfolio, or sourcing “off the shelf” durable containers that could be repurposed as packaging. It also provides design guidelines as a framework for brand manufacturers to identify the right durable packaging that drives profitability and environmental benefits.
- **A centralized and flexible private system operator is necessary to enable the mutualization of the reverse logistics infrastructure.** For reuse to compete with single use on affordability and convenience, it is critical to have a sortation, cleaning, and return system that can handle the widest possible range of products. This “mutual infrastructure” is the quickest way to lower costs for all participants, while also simplifying the consumer return experience through one single system. We would warn against developing individual systems for specific products or industries, which will end up not being viable in the long term.
- **Reuse needs to grow in scale.** Loop pilots have proven that consumer demand exists for reuse, and that we are able to stand up a functional reuse ecosystem. Loop also partnered with McKinsey & Company to confirm the business proposition: at scale reuse can drive up to 10% more profit for the value chain. Driving more volume into the system is what will create positive environmental and economic impact which is only possible by adding more products in reusable packaging and increasing availability of distribution and return points.

Initial capital investment is needed to achieve this scale and economy-wide transformation. Making substantial infrastructure investments is only attractive for businesses if they can expect long-term volume to flow through the system and are certain that reuse is the United States’ direction. We believe the government can help demonstrate this at both the federal and state levels:

- **Provide a legal framework that confirms reuse needs to be part of our economy.** Loop is supportive of Reuse being part of Senator Merkley’s “National Bottle Bill” and would recommend not to limit it to Bottles.
- **Develop guidelines that promote reuse and foster more voluntary actions until the legal framework comes into effect.** Loop would be happy to partner with the Environmental Protection Agency (EPA) and other government agencies and share the guidelines it already developed as a starting point.

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- **Provide public funding to co-fund the development of reverse infrastructure** and the necessary education to explode the market demand via supporting operators. The government could even create reuse incentives to encourage the use of reusable options.
- **"Lead by example"** to expedite adaptation and encourage the private sector to follow suit. This could look like introducing reuse into government procurement policies and rolling out reuse initiatives within government properties and in operations.

To conclude, now is the moment to embrace reuse models: the private sector has conducted all the necessary pilots to prove the concepts and there is global momentum at a legislative level to propel reuse forward. Delaying action could stall the measurable progress that has already been made towards a more sustainable future, potentially setting us back decades into the harmful "throw-away" system that continues to contribute carbon emissions and worsen the waste crisis. With existing market demand and voluntary actions underway, government support can be the catalyst to turn reuse into a full-scale reality. Therefore, I urge policymakers to actively support reuse through legislation, investment, education and launching internal initiatives.

I appreciate the opportunity to provide this testimony to the subcommittee and would be pleased to address any questions.

A handwritten signature in black ink that reads "Schmid".

Clemence Schmid,  
 General Manager Loop Global

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**Senate Committee on Environment and Public Works**  
**Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight**  
**Hearing entitled, “Solutions for Single-Use Waste: Expanding Refill and Reuse Infrastructure”**  
**July 27, 2023**  
**Questions for the Record for Clemence Schmid**

**Chairman Carper:**

- 1. How can the federal government learn from the success of private brands in implementing reuse and refill infrastructure, and how might we successfully implement reuse and refill systems within the federal government itself?**

The federal government has an opportunity to be a demand engine for reuse services and products. A key learning from Loop’s work with private brands and retailers over the last five years is that generating incremental volume is the key driver for scaling reuse systems and deriving their environmental and economic benefits. Loop’s experience is proof that reuse can work within the federal government itself, and achieving scale must be the focus for implementation of any reuse system.

Reuse innovators need scale to generate volume and system efficiency, which cannot be achieved with only pilots. Therefore, we recommend that instead of launching small-scale pilots in agency silos, the federal government should implement large-scale reuse systems across facilities and departments (ex. multiple cafeterias in government buildings). This would create large-volume demand, enable scale, drive user participation, and attain useful data that can be leveraged across agencies.

- 2. Should the global treaty to end plastic pollution include binding targets for reuse and/or refill?**

Loop believes that the treaty should include binding targets for reuse to ensure that governments, industries, and organizations are held accountable for their commitments. Without enforceable targets, there will likely be a lack of effort and urgency in implementing reuse and refill systems. Furthermore, binding targets enable effective measurements of progress with clear benchmarks to assess whether the intended outcomes are being achieved or if adjustments are necessary.

The draft Global Plastics Treaty will have a two-part structure: 1) outlining the necessary actions and measures, and 2) specifying the approach for execution and implementation. Targets should be set at the country level, with more aggressive targets in higher income countries. The Treaty should define an adequate timeline for countries to adopt their targets depending on their existing infrastructure and ability to invest in new reuse/refill infrastructure. There should also be consideration for the right means to implement through funding support for the countries that cannot afford infrastructure.

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We are already seeing a wave of reuse targets set by countries and global corporations, for example:

- The French Loi AGECE circular economy law has set a target that 5% of products sold must be reusable and 10% reusable by 2027, and an overall 50% reduction of single-use plastic bottles by 2030. The Décret 3R also mandates a 20 % reduction in single-use plastic by 2025, half of which must be achieved by reuse.
- Coca-Cola and PepsiCo announced industry-first targets to achieve 25% and 20% reusable packaging by 2030, respectively, as a share of their total plastic packaging portfolios.

By including binding reuse targets, the Treaty can help harmonize these fragmented voluntary efforts and drive reuse adoption across countries and industries.

**3. Please provide three examples of policies that are successfully driving reuse and refill infrastructure today and explain whether those policies could be implemented by the federal government.**

We believe the United States federal government has a unique opportunity to develop cohesive federal policies that include reuse and further our global leadership in the fight to address plastic pollution and achieve our climate goals, while fueling domestic job creation and economic growth.

A national set of rules and policy framework would help companies overcome the challenges of state-by-state fragmented legislation and lower the barriers to entry for companies implementing reuse and refill systems and infrastructure in their domestic and global supply chains. While we encourage and applaud the existing voluntary actions and government efforts to develop a national strategy, passing robust legislation is the best way for the federal government to drive reuse at scale.

Below we have provided examples of policies as well as government support which are contributing to the success of Loop and reuse systems in general:

1. The European Commission's new proposal for a Packaging and Packaging Waste Regulation (PPWR) includes ambitious reuse targets, and France and Germany are leading the way in implementing regulations.

France is doing this via policies that both legislate and provide funding on reuse:

- **Legislation:**
  - i. France has set ambitious reuse targets of 5% by 2023 and 10% by 2027<sup>1</sup>
  - ii. France's Anti-plastic packaging bill requires retailers with a storefront larger than 400 sq.meters (4300 sq.ft) to dedicate 20% of their space to food refill stations by 2030<sup>2</sup>

<sup>1</sup> Décret n° 2022-507 du 8 avril 2022 relatif à la proportion minimale d'emballages réemployés à mettre sur le marché annuellement - Légifrance ([legifrance.gouv.fr](https://www.legifrance.gouv.fr))

<sup>2</sup> LOI n° 2021-1104 du 22 août 2021 portant lutte contre le dérèglement climatique et renforcement de la résilience face à ses effets (1) - Légifrance ([legifrance.gouv.fr](https://www.legifrance.gouv.fr))



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○ **Funding:**

- i. The Anti-waste for a Circular Economy Law (Loi AGECL - Anti Gaspillage et pour une Economie Circulaire) specifies mobilizing the development of a nearly €50 million/year fund (approximately \$54M USD) for reuse solutions<sup>3</sup>
  - ii. Eco-organizations implementing the packaging Extended Producer Responsibility (EPR) scheme are allocating EPR fees to fund reuse infrastructure so that producers can fulfill their reuse obligations
2. The Government of Japan, as well as specific prefectures, have championed reuse and encouraged rapid adoption at retail and across cities by providing funding support and subsidizing the cost of reuse and refill infrastructure. In addition to receiving multiple government grants, Loop Japan was recognized by the Ministry of the Environment as a service contributing to the nation's goal of CO2 reduction and signed an agreement with Nishinomiya City, Hyogo Prefecture. As a result of this strong government support at the national and regional levels, Loop has expanded our operations more rapidly in Japan than in any other market.
  3. Several emerging state level policy schemes in the United States include funding provisions and incentives for reuse/refill, for example:
    - The *Plastic Pollution and Recycling Modernization Act (SB 582)* in Oregon includes a Waste Prevention and Reuse Program which will fund infrastructure through the Producer Responsibility Organizations' budget. We encourage any future EPR legislation to include funding for reuse in addition to recycling.
    - Several states (such as California) have proposed legislation to expand the scope of collection and definition of "bottles" for their DRS system. Loop is supportive of including reuse (versus just recycling) into DRS schemes and would recommend expanding the system's scope to a broader set of packaging formats and product types.

In general, we encourage the federal government to put into place policies that are national in scope. This is a more cost-effective approach because it eliminates the need for region-specific adaptations and enables streamlined production, distribution, and collection processes.

**4. Why is it important to consider reuse, in addition to source reduction and recycling, as a component for creating a successful circular economy model?**

There is no "silver bullet" approach to solving the waste crisis - all measures, from reduction to reuse to recycling, will play a role. But to most effectively transition to an environmentally and economically optimized circular economy model, the waste hierarchy (1. Reduce 2. Reuse 3. Recycle) must be taken into account.

First and foremost, reducing our overall consumption is the best way to eliminate waste and cut costs. Then, for the products we do consume, reuse is prioritized as it serves to extend the lifespan of items in

<sup>3</sup> AGECL, Climat et Résilience | Ministères Écologie Énergie Territoires ([ecologie.gouv.fr](http://ecologie.gouv.fr))

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their current form to minimize waste. Recycling addresses the conversion of discarded materials to ensure that resources remain circulating within the economy versus landfilling or incinerating them.

Each of these approaches are complementary and essential to a holistic circular economy approach. For example, Loop reusable containers are designed to be recycled back into themselves once they can no longer be reused. This innovation underscores the synergy between reuse, source reduction and recycling, where packaging is first reused, then recycled and remanufactured using recycled content, then reused again.

Beyond its environmental benefits, reuse is a critical component in a circular economy model because it fosters economic opportunities through job creation and diversification in various sectors, drives business innovation and domestic manufacturing, and bolsters supply chain resilience (through reduced reliance on finite resources, fluctuating commodity prices, and geopolitical factors).

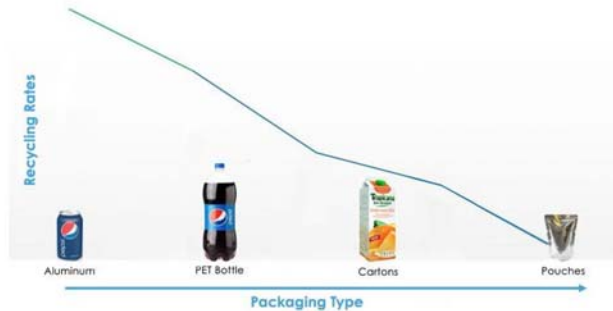
#### Senator Whitehouse:

1. **Given that currently less than 10% of plastic is actually recycled, what can the federal government do to better expose recycling's failures and promote more effective recycling processes?**

Recycling's apparent shortcomings stem from a lack of understanding on how it works. There is a misconception that recycling functions like a public service similar to education or the military. In reality, recycling is a profit-driven enterprise, governed by a central business equation: if the cost of collection and processing of a material is less than the resulting material is worth, then an item will be recycled. However, if the inverse is true, then an item will not be recycled. This is why simple, desirable materials that have strong end markets (e.g. PET bottles and aluminum cans) are generally recycled, whereas complex materials which are costly to collect and process are generally not recycled (e.g. cosmetics, diapers, sports equipment, etc.). TerraCycle is able to collect and recycle these hard-to-recycle materials because we partner with stakeholders who voluntarily fund the business equation to enable recycling.

The biggest trend in packaging and product design is lightweighting materials in order to reduce the cost of goods and minimize environmental impacts. However, this in turn makes the items less profitable to recycle. *Figure 1* below depicts the correlation between packaging type and its recycling rate. The changing nature of waste streams, particularly the proliferation of flexible plastic packaging, has greatly impacted the ability to profitably collect and recycle materials.

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**Figure 1:** Lightweighting materials can reduce recycling rates (source: TerraCycle)

The existence of recycling deserts in the United States (i.e. communities where recycling services do not exist) is evidence that recycling will only occur when it is profitable to do so. The Recycling Partnership estimates that 40% of American communities, especially low-income and rural communities, do not have access to basic recycling services today because these municipalities cannot afford to recycle, and no other funding options exist.

The business equation of recycling is challenged in two ways:

1. End markets for recycled material are directly impacted by market fluctuations (i.e. the cost of oil), which means recycled plastics are not always cost competitive compared to virgin plastic materials. For example, a 2019 report from S&P Global Platts, revealed that recycled plastic costs approximately \$70 USD/ton more compared to virgin plastic<sup>4</sup> This volatility in end markets can disrupt recyclers' ability to maintain a profitable business equation, which impacts municipal recycling programs.
2. Collection and processing costs are impacted by the rise in complex and lower-value product and packaging formats, paired with consumer confusion and misinformation about recyclability. There has been a notable increase in the number of different recycling-related claims/logos/badges on products and packages. For example, in today's market you can find claims like "How to Recycle" "Recyclable" "Recycle Ready" "Recycled content", "Compostable" etc., as well as symbols like the chasing arrows and plastic resin identification codes. These messages all lead to "wishcycling", where citizens put non-recyclable items into their blue bins with the expectation that these items will be recycled. Ultimately this behavior

<sup>4</sup> [War on plastic waste faces setback as cost of recycled material soars | Plastics | The Guardian](#)



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negatively impacts recycling rates, because inaccurate source separation and high-contamination drive up the cost of collection, sortation, and processing, making the recycling business equation not viable.

**We offer the below recommendations to promote more effective recycling processes:**

- **Claims should reflect reality vs. theory:** Legislation like SB-343 in California and the upcoming revised FTC Green Guide (see TerraCycle's comment [here](#)) are crucial for ensuring claims accurately reflect the reality of the system so that consumers can make informed purchasing and disposal decisions that result in sustainable end of life management.
- **Fund the recycling business equation:** Subsidies (similar to in other sectors like agricultural commodities) would support the economics and provide more supply chain stability for recyclers. This is particularly important when the cost to collect and transform the waste is greater than the material sales. Funding can also be provided through EPR and DRS schemes, public-private partnerships, and grants, and voluntary producer responsibility programs (ex. brand-sponsored TerraCycle programs).
- **Educate citizens:** Studies have demonstrated that people want to recycle, but they don't always understand how to do it. *The Center for Sustainable Behavior & Impact* found that approximately 75% of Americans don't recall receiving communications on their recycling programs but those who did, report higher confidence and stronger participation behaviors<sup>5</sup>. We know from our 20 years of experience running recycling programs in 20 countries, that when people are provided the right information, they can effectively participate in programs. Consistent communication and a variety of outreach tactics are essential to ensure that behavioral changes are effectively ingrained. For example, Ontario's Blue Box regulation includes a requirement for producers/PROs to implement a promotion and education program to outline how consumers can participate and what happens to collected waste.

**Senator Sullivan:**

1. **Most single-use plastic waste is concentrated in countries lacking the infrastructure to properly manage waste, particularly in Asia. My Save Our Seas 2.0 Act, which became law in 2020, is focused on promoting international cooperation to prevent trash from becoming marine debris in the first place.**

**Do you see reuse and refill infrastructure as a scale-able solution to addressing global plastic pollution, and how do we better promote reuse and refill infrastructure to our global partners?**

<sup>5</sup> [Knowledge Report | The Keys to Accelerating Recycling Best Practices \(recyclingpartnership.org\)](#)

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Yes, reuse and refill infrastructure present a highly scalable solution to prevent plastic pollution, particularly in regions with inadequate waste management infrastructure.

As previously mentioned, reuse keeps products circulating in the economy, preventing them from ever becoming trash or marine debris. This brings myriad environmental, social, and financial benefits for local communities by reducing the burden of plastic pollution, creating safe and clean environments, and spurring local innovation, entrepreneurship, and job growth.

To better promote reuse and refill infrastructure to global partners, we recommend the below actions:

- Knowledge sharing with global partners to provide practical insights into reuse/refill implementation.
- Reuse targets should be clearly defined and supported by countries like the US in the Global Plastics Treaty. In addition, this work can form the basis of bilateral agreements and partnerships to collaborate on intergovernmental reuse and refill strategies.
- Fund reuse innovation in partnership with local governments.
- Join the EU in establishing federal regulations that enable the national development of a reuse ecosystem. Waste prevention and reduction in high-income countries will help reduce the volume of waste exports to lower-income countries that lack adequate waste management infrastructure.

Senator MERKLEY. Thank you very much for bringing your expertise on this model to the panel for discussion and education. We appreciate it.

We are going to now turn to Tim Debus. Welcome.

**STATEMENT OF TIM DEBUS, PRESIDENT AND  
CEO, REUSABLE PACKAGING ASSOCIATION**

Mr. DEBUS. Thank you, Chairman Merkley, Ranking Member Mullin, and members of the subcommittee for the opportunity to share insights on reusable packaging and the important role of reuse infrastructures for not only environmental benefit, but also for economic value creation and social wellbeing.

My name is Tim Debus and I represent the non-profit, global trade organization for the reusable transport packaging industry. The Reusable Packaging Association, or RPA, consists of businesses that supply, use, and provide services to supply chain packaging products like pallets, bulk bins, containers, and trays, for their continuous use in a managed system featuring the packaging's recovery, maintenance, and return for their intended purpose.

Today, RPA member companies are collectively involved in handling or servicing billions of reusable transport movements each year for commercial goods worldwide. Still, overall, reusable packaging is the minority share in the supply chain.

I want to emphasize three points on reusable packaging as part of the solution for single-use waste. First, reuse is not about the material or product, but the system. No packaging can be considered reusable unless it can be collected, returned, and prepared cost-effectively for another use.

We need to be systems-thinkers when it comes to solving complex environmental problems. This is the crux of reusable packaging in which collaboration and coordination within operating systems lead to eliminating solid waste and pollution.

Also, reusable packaging is material neutral, typically made from plastics, wood, aluminum, or glass. The key is product design for durability, not disposability, using safe and recyclable materials, and having the system in place to ensure repeated use and end-of-life recycling.

Plastic-based reusable packaging can be very effective in a managed system where product utility is extended and plastic material is valued. In my written testimony, I cite several real-world examples of how RPA member companies are keeping plastics in circulation and out of the environment.

My second point is that reuse systems are really about getting and generating new economic growth and value. If we only consider reusable packing in response to environmental problems or sustainability quotas, then we are missing the big picture opportunity.

Reusable products can be designed with feature-rich properties that optimize performance in user experience and embed technologies for smart data capturing outputs. These properties can save money in transportation and warehousing, reduce food damage and waste, offer ergonomic designs for worker safety, perform with automated or robotic handling systems and most excitingly, bring tech-enabled visibility to supply chains.

Reuse also builds resiliency in business operations by being available and already available for use, avoiding volatile raw material pricing and supply constraints that can interfere with the endless manufacturing of single-use products. A national strategy that incentivizes reusable packaging systems can have far-reaching economic impacts. With reuse, we can achieve both economic and environmental prosperity.

My third point is that there are many Federal policy opportunities to support reuse infrastructures, but we need to prioritize reuse and broaden the material scope. Less than 2 years ago, the Bipartisan Infrastructure Law heavily invested to transform municipal solid waste management and recycling. Now, Congress has the opportunity to prioritize game-changing investments in reuse systems, striking the right balance on complementary pieces to the puzzle, reuse for waste prevention, and recycling for waste management.

A national strategy in advancing reusable and refillable packaging systems should prevent waste of all material types, not just plastics. We should institute consistency across waste streams to avoid fragmented efforts in our source reduction initiatives and change behaviors and culture for the responsible use of all resources.

A final comment is that is lesser known but is very important to our industry, is the need to strengthen enforcement of crime laws and prosecutions pertaining to the theft of stolen reusable packaging assets. We make great products with valued materials and far too often, they are getting stolen, diminishing the reuse potential.

We appreciate the time to be here today and I look forward to any questions that you may have.

[The prepared statement of Mr. Debus follows:]



## WRITTEN TESTIMONY

Tim Debus, President & CEO, Reusable Packaging Association

U.S. Senate Environment & Public Works Committee  
 Subcommittee on Chemical Safety, Waste Management,  
 Environmental Justice, and Regulatory Oversight

HEARING: "Solutions for Single-Use Waste: Expanding Refill and Reuse Infrastructure"  
 July 27, 2023

Thank you, Chairman Merkley, Ranking Member Mullin, and members of the subcommittee for the opportunity to share insights on reusable packaging and the important role of reuse infrastructures for not only solid waste reduction, pollution prevention, resource conservation, and other environmental benefits, but also for economic value creation and social well-being.

I represent the non-profit global trade organization for the reusable transport packaging industry. The [Reusable Packaging Association](https://reusables.org) (RPA) consists of member companies that supply, use, and provide services to supply chain packaging products such as pallets, bulk bins, containers, and racks for their continuous use in a managed system featuring the packaging's recovery, maintenance, and return for their intended purpose. RPA was established twenty-four years ago in 1999 to promote reusable packaging systems for the distribution of goods.

It is estimated that [94%](#) of industrial and consumer goods in the United States travel on a pallet at some point in the process from manufacture to point of sale or use. Our focus is to encourage the continuous reuse of that pallet and other packaging products carrying the cargo. Today, RPA member companies are collectively involved in handling or servicing billions of reusable transport packaging movements each year for commercial goods worldwide. Still, overall, reusable packaging is the minority share in the supply chain versus single use packaging like cardboard boxes, corrugated bins, and plastic shrink wrap over pallet loads.

I want to emphasize three points on reusable packaging as part of the solution for single-use waste:

**1. Reuse is not about the material or product, but rather the system in which durable packaging is reused.**

No packaging can be considered reusable unless it can be collected, returned, and prepared cost-effectively for another use. Problem-solving our environmental concerns should be grounded in systems-thinking where processes, infrastructures, and operations are aligned for holistic results without unintended consequences. This is the crux of reusable packaging in which collaboration and coordination within systems lead to waste and pollution prevention.



Reusable packaging is material neutral, made from plastic, wood, aluminum, glass, or even a novel composite of materials. The key is product design for durability, not disposability, using safe and recyclable materials, and having the system in place to ensure repeated use, complete recovery, and end-of-life recycling.

Rightfully so, there is an increasing focus on a global crisis with plastic waste and pollution. Expanding source-reducing reusable packaging models in both the supply chain and with consumer products is a critical part of the solution to address this crisis. This includes plastic-based reusable packaging in a managed system where product utility is extended and plastic material is valued.

Reusable packaging companies in the supply chain continue to demonstrate success in the responsible management of plastics. Here are a few real-world examples of how RPA manufacturing members are keeping plastics in circulation and out of the environment.

- Companies like [ORBIS Corporation](#), headquartered outside Milwaukee, Wisconsin, and [Rehrig Pacific](#) in Los Angeles, California, have buy-back programs and offer to take back 100% of customer reusable plastic packaging to recycle and reprocess into new products.
- In 2022, [Monoflo](#), based in Winchester, Virginia, brought back over 12 million pounds of plastic packaging that was recycled and re-manufactured into new products.
- [Cabka](#), with a manufacturing plant in St. Louis, Missouri, produces reusable plastic pallets and bulk bins using an average of 86% recycled plastic resin content.
- Last year, the electric vehicle company [Rivian](#) with supplier [Schaefer Plastics](#) in Charlotte, North Carolina, won RPA's Excellence Award by using returnable totes and bins made from 50% Ocean Bound Plastic and 50% recycled post-consumer resin material.

## 2. Reuse systems generate economic value and growth while cutting off the incessant consumption of natural resources.

This is the central principle of a circular economy. If governments and businesses are only exploring reusable packaging in response to environmental problems or sustainability quotas, then the big picture opportunity with reuse and circularity is being missed. Designing products for durability and systems for lasting use means that we can invest and create packaging properties for optimized performance, add features for greater user experience, and embed technologies for smart, data-capturing outputs.





For example, reusable packaging can help reduce food waste that costs U.S. taxpayers over [\\$400 billion](#) each year. Reusable containers are designed with ventilation patterns to maximize airflow for temperature control in which the ventilation holes do not hinder the packaging's strength and stability for load carrying. This extends perishable food freshness and shelf life and offers superior protection of the commodity in its rigorous supply chain journey. In converting their packaging of fresh eggs from single use corrugated boxes to reusable containers, a major U.S. retailer [reported](#) a significant reduction in damage rates, "preventing 37 million eggs from being thrown out in the first year" of the program.

Another example of new economic value creation comes from reusable packaging that is equipped with communication and sensor technologies enabling their instant identification, condition monitoring, and location tracking. This digital recordkeeping and real-time tracking of food products can aid compliance to [food traceability requirements](#) of the Food Safety Modernization Act (FSMA). Furthermore, smart and connected reusable packaging can bring visibility to supply chains, enhance inventory management of both the packaging and commercial goods, and ensure trust and quality among trading partners and consumers.

A final example of economic benefits is that reusable products are already in inventory and ready for use – no new manufacturing required – and thus reuse builds resiliency in business operations by avoiding volatile raw material pricing and supply constraints that trigger market disruptions, which we witnessed extensively during the Covid-19 pandemic. This supports the Biden Administration's [Executive Order 14017](#) calling for "resilient, diverse, and secure supply chains to ensure our economic prosperity and national security."

In short, a national strategy that incentivizes reusable packaging systems can have far-reaching economic gains by preventing waste, transforming to a digital supply chain, and building a circular and resilient economy. With reuse, we can achieve both economic and environmental prosperity.

**3. There are many federal policy opportunities to support reuse infrastructures, but we need to prioritize reuse and broaden the material scope.**

Federal legislation as recent as the 2021 Bipartisan Infrastructure Law has been heavily focused on improving recycling of single use packaging, providing [\\$350 million](#) for investment to transform municipal solid waste management and recycling. Now, Congress has the opportunity to prioritize transformative and impactful investments in reuse systems, striking the right balance on complementary pieces to the puzzle: reuse for waste prevention, and recycling for waste management.





Investments may be in the form of grants or subsidized low-interest loans that provide access to needed capital for entrepreneurs and startup businesses to develop and scale the operational resources for successful reuse or refill models. Funding support may enable enterprises and communities to manufacture a pool of durable reusable assets, build transportation and logistics hubs, or purchase equipment for automated handling or cleaning of the packaging, for example.

However, the building of reuse and refill infrastructures should not be exclusive to affect only one material type, plastics. Rather, reuse systems should be deployed for products made from any material in which its waste can be prevented and its value preserved. There are needed improvements in preventing other material waste and pollution such as the 32 percent of paper and paperboard and the 75 percent of glass that [does not get recycled or composted](#). A national strategy for source-reducing reuse and refill should encompass all material types to institute consistency in our waste prevention goals and to strengthen behaviors and culture for the responsible use of all resources, not just plastics. An approach specific to a single material type may fragment efforts and reduce overall effectiveness of an intended circular economy for all.

Absent of a cohesive national approach, the door has been open for states to enact their own legislation favoring source-reducing activities and results. Four states now have a form of extended producer responsibility (EPR) laws in place for packaging, with [California](#) most recently incentivizing reuse systems by shifting the financial burden of waste management from local taxpayers to packaging producers and excluding reusable or refillable packaging from the law's "covered material." As states adopt unique approaches to encourage reuse through EPR programs, the federal government has an opportunity, if not obligation, to bring harmony across state lines and ensure packaging rules are consistent for interstate commerce.

Federal agencies can also look for ways to clear hurdles for reusable packaging systems, modernizing longstanding policies from generations past. The U.S. Environmental Protection Agency (EPA) has started this approach. EPA's recently published "[Draft National Strategy to Prevent Plastic Pollution](#)" followed the Agency's *National Recycling Strategy* and recognized that "innovative systems should be expanded or developed to ensure that existing plastic products are reused as long as possible."

Also, the U.S. Food & Drug Administration (FDA) raises safety concerns with the use of post-consumer recycled (PCR) materials in food-contact articles and offers [guidance](#) on the use of recycled plastics in food packaging. "FDA considers each proposed use of recycled plastic on a case-by-case basis and issues informal advice as to whether the recycling process is expected to produce PCR plastic of suitable purity for food-contact applications." Updated



scientific study and regulatory direction on the use of recycled plastics in packaging applications like food contact could provide industry with more ways to turn recycled plastic material into reusable plastic packaging.

Moreover, the U.S. Department of Agriculture (USDA) is evaluating how the export of specialty crops can meet proposed packaging sustainability requirements from trading partners such as the European Commission's "[Proposal for a revision of EU legislation on Packaging and Packaging Waste](#)," which calls for establishing specific targets for reusable packaging. A national strategy that elevates reuse system operations and scale would support efforts by U.S. exporters to comply with changing import conditions in trade markets.

A final policy area to consider is strengthening organized retail crime laws and local enforcement and prosecution pertaining to the theft of stolen reusable packaging assets. Reusable plastic packaging is made with high-quality resin in both virgin and recycled form that is free from contamination, making the market value of the raw material a premium for resale. Wooden pallets are another type of sustainable packaging asset that, due to their operational role and supply chain constraints, are frequently stolen and sold into the black market. An example of the criminal activity is [reported](#) by RPA, and corroborated to be a significant problem by the [American Bakers Association](#). It is challenging and costly to industry to keep products in the reuse system when stolen assets diminish the reuse potential, and law enforcement overlook the property and value of reusable packaging versus single use packaging destined for landfill or recycling.

Thank you again for the invitation and consideration of our testimony. RPA is a resource on reusable packaging and our members are experts in the design and management of reuse systems for the supply chain. We look forward to working with the U.S. Senate Environment & Public Works Committee in using public policy to advance the economic, environmental, and social promise of reusable packaging systems.

Sincerely,

A handwritten signature in black ink that reads "Tim Debus". The signature is fluid and cursive, with the first and last names being clearly legible.

Tim Debus  
President & CEO  
Reusable Packaging Association



August 24, 2023

United States Senate  
Committee on Environment and Public Works  
Subcommittee on Chemical Safety, Waste Management  
Environmental Justice, and Regulatory Oversight  
410 Dirksen Senate Office Building  
Washington, D.C. 20510

**RE: Response to Hearing Questions for the Record**  
**"Solutions for Single-Use Waste: Expanding Refill and Reuse Infrastructure"**  
**July 27, 2023**

Dear Chairman Merkley and Ranking Member Mullin:

Thank you for the opportunity to provide testimony at the above-mentioned hearing on the topic of reusable and refillable packaging solutions to address the problems associated with single-use waste. I am responding to subsequent questions from committee members with additional information and perspectives for the record.

Question [Senator Whitehouse]: "During your testimony, you said that shifting to reuse infrastructure requires investing in changes to the processes by which companies operate, such as purchasing new capital or streamlining business methods. How can the federal government support these process changes to encourage reuse and refill systems?"

**Answer:** The reuse of products in a system of continuous purpose requires a transformation in design and operations where assets are valued by all handling parties, processes are in place for the collection and return of the asset, and incentives and accountabilities are established for participation by all stakeholders. To achieve this shift from single-use waste management to reusable waste prevention, and thus transition from a linear to a circular economy, new infrastructures are needed in the form of service centers, reverse logistics, and automation and technology equipment to spur the successful commercial adoption and scale of reuse systems.

It is important to emphasize that there are market-driven forces inherent with reuse programs that propel innovations and cost-competitive efficiencies for successful reuse models. Examples include designing for product durability to maximize the number of uses and consequently reduce the cost per use over time, partnering with third-party service providers to increase pooled product volume and decrease operating costs per unit, and incentivizing customers to return assets to minimize replacement costs and retain possession of product and material value. The federal government's role should serve to stimulate systems change away from generations of throwaway entrenchment in our economy and society to a new generation of resource preservation and value creation in the way we make, use, and manage the end of product utility. Through policies of harmonization and startup investment support, the federal government plays an important part in jump-starting the intrinsic market forces of reuse.



Here are recommended policy concepts the federal government can use in legislation and regulatory actions to support reuse and refill enterprises:

- A national extended producer responsibility (EPR) initiative covering single-use packaging can incentivize the market to pursue source-reducing solutions, provide a funding mechanism for waste prevention measures and education, and establish a framework for standardizing key EPR principles and program elements across states where such laws exist.
- Empowering businesses to institute a deposit return system (DRS) with trading partners and consumers can provide an impactful financial incentive for the handling party to maintain and return the reusable or refillable product through designed channels.
- Corporations can be offered federal tax advantages tied to their investment, deployment, and operation of reusable or refillable packaging systems. In addition, corporate tax incentives can be offered to packaging producers who utilize recycled content in the manufacture of reusable or refillable products, stimulating the market flow and upcycling of recycled materials that currently are landfilled, incinerated, or exported.
- State sales and use tax schemes have discrepancies in the treatment of the sale and lease of reusable, returnable, or refillable packaging. The federal government can support state cooperative and standard-setting organizations to bring consistency in the exemption of state and local taxes for market transactions involving either the packaging's empty or packed/filled condition, especially when the same packaging product is repeatedly used for the same purpose.
- Grants and low-to-no interest loans for qualifying commercial enterprises can be instrumental in enabling the purchase or lease of reusable asset inventories, machinery or equipment, facilities, or other funding needs for physical structures and operations of a reuse or refill system. For example, the 2021 Bipartisan Infrastructure Investment and Jobs Act provides \$350 million towards solid waste infrastructure for recycling and education and outreach grants, and similar can be appropriated for investment in reuse infrastructure development and education. Access to capital will be especially useful as reuse systems involve small business operators and hold great potential for job creation and environmental improvement in distressed communities.
- Organized crime in the theft of reusable packaging products, particularly at retail outlets, for the resale of raw material is a major economic problem and deterrent to market adoption and expansion. Local laws, enforcement actions, prosecution rates, and education for combatting organized crime vary significantly across the country. A national bill that strengthens the federal response to organized crime and provides new tools, resources, and awareness to local officials would be a momentous act for the success of reusable products that are also highly valued in the market by criminal networks.





The Reusable Packaging Association is ready to contribute our industry expertise to the further development of these and other federal government initiatives to ensure that policies are rooted in proven reuse models operating under real-world market conditions.

**Question 1 [Senator Sullivan]:** “Expanding refillable and reusable infrastructure solutions can help empower consumers to fulfill a circular economy that would reduce the burden of plastic waste. However, this solution brings unintended consequences for individuals with limited financial means and transportation access. Alaskans live with a sensitive supply chain every day. My state is 2.5 times larger than Texas, and our goods have to be airlifted, ferried, and trucked along very long routes. Considering the logistical challenge of transporting goods to and around Alaska, how can we build out refillable and reusable infrastructure in rural, hard-to-reach communities?”

**Answer:** Generally, successful reuse is dependent on a volume threshold (scale) needed to drive down variable operating costs on a per unit basis. This means enough product to fill trucks or shipping containers, to pay labor for sufficient and steady work outputs, and to run equipment frequently enough to achieve payback on capital and operating expenses. Rural communities with product volume limitations or longer distances requiring higher freight charges can challenge the economic viability of reuse models. Businesses can pursue multiple solutions to help overcome these obstacles, such as product designs that maximize unit loads and collaborations on services using shared operating environments for scale efficiencies. Also, an imbalance often exists between incoming and outgoing goods that can turn an empty or “less-than-truckload” (LTL) backhaul shipment into a full truckload opportunity.

Extending reuse models to more remote areas with lower concentrated populations may require a gradual, scale build-up plan. Implementing and optimizing reuse in other nearby regions first may be the right stepwise approach before gaining cost-effective access to neighboring remote communities. Geographic complexities with reuse systems are not insurmountable but tackling them may require a different sequence of reuse development and a longer timeline. The key is not to discount reuse when one situation is more problematic than others. Building the “tree trunk” first in higher product volume regions can set the foundation for extending reuse and refill “branches” to more rural, hard-to-reach communities.

**Question 1a [Senator Sullivan]:** “We have to be incredibly innovative in Alaska. Take, for example, an engineer from Alaska, Patrick Simpson, who’s received EPA funding to start a small business that recycles plastic waste into synthetic lumber. How can businesses be incentivized to reuse and refill where the use of single-use plastic is damaging?”

**Answer:** Reusable packaging systems save money and create new economic values, and this proposition gives businesses reasons to design, develop, and deploy reuse systems. However, these reasons may not be apparent to companies focused on short-term objectives and immediate shareholder returns. Realization of the reuse financial opportunity may require time to yield the investment payback and ensuing cost-efficiencies. Therefore, public policy initiatives with supporting incentives during the initial investment and scale-up of the reuse or refill operation



are most critical. These incentives may involve grants, low-interest loans, access to capital for equipment procurement, favorable tax positions, funding for training and education, and other mechanisms to encourage culture and behavior accountability for the proper handling of the reusable asset.

Question 1b [Senator Sullivan]: “How does reusable packaging like pallets and storage containers compare to their traditional counterparts when traveling thousands of miles to reach remote communities?”

**Answer:** Reusable packaging products like pallets and storage containers are designed and manufactured with durability as a principal attribute, including the ability to withstand and maintain performance in harsh handling and environmental conditions. Therefore, when comparing against single or light use products in which lowest cost is a paramount objective that can compromise product strength and integrity, reusable products are ideal performers during long-distance journeys in and out of remote communities. For example, reusable product characteristics often include features such as ergonomic design and load stability that assist in worker health and safety where powered or automated handling equipment may not be available. Furthermore, the ability for remote communities to reuse the product for alternative or secondary applications, rather than needing to dispose of the product, is an additional benefit.

Question 2 [Senator Sullivan]: “Do you have any thoughts on how to implement bottle deposit programs in a state that has such remote areas that it is not financially or logistically viable to return a bottle for a deposit?”

**Answer:** Remote areas typically have geographically convenient locations for households to consolidate disposables or recyclables for waste management, and such locations can also be used to stage reusable packaging for their return. Also, consolidation centers can include drop off points frequented by locals, such as at the town’s grocery store, gas station, or a central municipality building. Over time, the product quantities are enough to leverage reverse logistics cost-effectively. Revenue from returned deposits could be shared by the community to offset town expenses or to fund new projects. Or leveraging technology, deposits can be returned to individuals upon their drop off, such as by scanning credits into their account, or simply measuring by weight to calculate bottle quantities and refund amounts. Creditors or financial holders of the deposit can extend the return time requirements for remote area participation.

Question 3 [Senator Sullivan]: “Most single-use plastic waste is concentrated in countries lacking the infrastructure to properly manage waste, particularly in Asia. My Save Our Seas 2.0 Act, which became law in 2020, is focused on promoting international cooperation to prevent trash from becoming marine debris in the first place. Do you see reuse and refill infrastructure as a scale-able solution to addressing global plastic pollution, and how do we better promote reuse and refill infrastructure to our global partners?”

**Answer:** Yes, reuse and refill systems can help solve the global plastic pollution crisis including lowering the susceptibility of U.S. material waste exports to Asia ending up as marine debris and ocean contamination. First and foremost, reuse is a form of source reduction or waste



prevention, decreasing solid waste generation involved in international trade. Less waste means less excess scrap material available for export. Second, reusable products can be manufactured with waste material and therefore stimulate market demand and consumption of recycled materials. Grow the reuse market and correspondingly grow the amount of recycled material that stays in U.S. manufacturing. Third, global trade with reusable packaging is ripe for development, which would eliminate passing onto other countries the packaging disposal obligations. Working with U.S. federal agencies involved in global trade, organizations like the Reusable Packaging Association and its member companies can assist in the study, testing, and implementation of reuse systems for U.S. exports and returned imports. Trading partners, like the European Union and their rapid advancements in circular economy laws and proposed requirements for packaging reuse and refill, would presumably be a willing collaborator in co-promoting reuse infrastructures.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Debus". The signature is fluid and cursive, with a long horizontal stroke at the end.

Tim Debus  
President & CEO  
Reusable Packaging Association



Senator MERKLEY. Thank you all. We are going to dive into 5-minute periods.

Ms. Meng, I think your team is involved in the international discussion because plastics in oceans, for example, is not just an American challenge but a global challenge. I think the Foundation convened the Business Coalition for Global Plastics Treaty.

What is really the core goal of that? Is it to set targets or is the goal to have requirements that each nation basically says yes, we are going to do X, Y, Z to accomplish those goals?

Ms. MENG. If I understand your question, it is about the global U.N. negotiations around the Global Plastics Treaty and whether the Business Coalition will be looking at nationally determined contributions or national action plans where countries are deciding what they are doing or if there will be kind of mandatory components to the International Treaty.

From EMF's perspective, and I believe also the Business Coalition's perspective, we need binding reuse targets on the topic of reuse in particular but binding targets in the treaty itself. Rather than having countries self-determining what those targets will be, of course, they will be implemented by the individual countries.

Senator MERKLEY. Right now, I believe the U.S. is pushing to not have binding targets and set up, if you will, kind of a happy talk about what could possibly be achieved. That will not get us there.

Ms. MENG. I agree.

Senator MERKLEY. Ms. Schmid, I am picturing, for example, the plastic jug that I have with liquid laundry detergent. You spoke about fully refundable deposits. In Oregon, we have a deposit on bottles, a 10-cent deposit. It has resulted in about 90 percent return rate.

Is the concept extending that model to everything else, shampoo bottles, laundry detergent bottles, so on and so forth?

Ms. SCHMID. The system is about bringing the value into the package. We know deposit is a very good way to do it without burdening the citizen. Yes, it is about bringing a deposit on everything.

Senator MERKLEY. We have a system in Oregon where you throw everything into a bag. Then the bag is tossed into a tray at a warehouse where a computer takes a picture of it and immediately evaluates how much of those things are recyclable. It is an amazing system to watch in action and works really well.

If that type of program was extended to other plastic bottles of all kinds, do you see that as workable? Has any State undertaken to really expand? It is really set up for lots of things that look like a soda bottle. Other plastic containers are maybe much larger and may be different in shape. Can the same basic system be expanded?

Ms. SCHMID. That is about building the infrastructure that is tailored for reuse as opposed to recycling as we have. In reuse, every container is sorted individually. This is what Loop has been demonstrating not only in the U.S. but also in Europe and in Japan. The technology would be close to what you described, but would be a step up in order to be able to isolate packaging, shape, material and content.

Senator MERKLEY. I have these bottles. Currently some of them are reused through that system I described; some are reused like glass bottles. All the plastic ones are essentially ground up for recycling which means different types of plastic have to be sorted and what, how much can be rebuilt from them.

You are really, if I understand, you are saying the best solution would be for the laundry detergent bottle to be able to be refilled and reused, rather than ground up to recreate a new product?

Ms. SCHMID. Yes, absolutely. It is much better to reuse product that is existing than having to transform it even through recycling.

Senator MERKLEY. Say that bottle arrives at a central warehouse with other recycled plastics, how do we get that bottle back to the manufacturer to be refilled and restocked on the shelf? Is that really a practical strategy?

Ms. SCHMID. It is happening today in the United States and in other countries. That is what Loop is doing.

The way we operate is, to the point you are describing, we are bringing all of the bottles to a central location where they are being sorted, stored, cleaned and being sent back to each of the manufacturers.

Senator MERKLEY. The manufacturer does not have to worry about any of the complexities of the cleaning. When you have a big container of that particular bottle, you can ship it back to the manufacturer and they throw it back into their production loop?

Ms. SCHMID. Absolutely correct.

Senator MERKLEY. My 5 minutes are up. I will turn to Senator Mullin.

Senator MULLIN. Thank you, Chairman. Once again, thank you to the witnesses for being here. I will start with Mr. Debus.

In your testimony, and by the way, your voice carries quite well. I was listening to you and I thought maybe you should have a voiceover job too. I was impressed by that. It reminded me of my colleague from Oklahoma, James Lankford. He has one of those voices, too. Not much of a face, but a good voice. I am kidding. He is a very good friend of mine.

In your testimony, you stated reusable packaging companies in the supply chain continue to demonstrate success in responsible management of plastics. How can reusable packing support upcycling and recycled plastic content?

Mr. DEBUS. There is a tremendous amount of great activity taking place in the market. RPA member manufacturing companies as well are taking back 100 percent of their products from the user community in order to recycle and reprocess into new product manufacturing. It is part of that whole circle system, the closed loop, if you will, of bringing back their products. They are of value so they can use them and regrind and recycle material into other products.

They also really look to put high recycled content rates into their manufactured products. One of our member companies has an average of over 80 percent of recycled content in their pallets and their bullpens of plastic-based products. They are achieving full circularity in terms of utilizing plastic products, but then getting those products back and continuing to use that material when it is time for its recycling in its intended reuse.

For upcycling, it is basically taking the waste material of recycled resin and putting it back into useful products. If you look at the EPA waste hierarchy pyramid, it is going from the lower part of the pyramid to going up from recycling to source reduction of reuse.

Or in the circular economy technical cycle, it is going from the outer loop of recycling to the inner loop of preferred activity. It is really an upcycling process of taking the plastic material and putting it into useful and valuable products that can go from recycling to reuse or waste management to waste prevention and allow for tremendous value associated with the continued life of that product.

Senator MULLIN. How prevalent is reusable packaging in a supply chain right now in different or various markets?

Mr. DEBUS. Reusable packaging for the supply chain, they are the workhorses of commerce. There is an estimate of all the industrial and consumer products that move in this Country, over 90 percent on a pallet, for example. They are behind the scenes but are ubiquitous in the economies and markets all around us. It does range pretty considerably between vertical markets.

The automotive industry, for example, is a big user of reusable packaging. They have tighter loops between parts to assembly and they definitely have that continuous program in terms of distributing products for their use.

The retail industry is where we have a lot of work that is needed. Retail could definitely use some additional penetration or adoption associated with reusable packaging. There is great variability associated with the market adoption of reusable packaging for the supply chain.

Senator MULLIN. When we start talking about reusable, which is a great concept, the Chairman brought up the fact that milk deliveries used to be done that way, I understand that. Every time you touch a product, there are labor costs. Cost is associated with anything that we do. It has to be economically reasonable for us to be able to do that. When we start talking about reusable, you realize that the most cost in every product out there is labor.

How do we combine those two because each time you touch that product, every time you touch this bottle, touch a reusable product, there are costs associated with that. How do you merge those? We have labor costs going through the roof in the United States, which is good. I am not saying that is a bad thing but it also comes with a cost.

How do you make that efficient for the consumers? Ultimately that is who is buying the product. Do any of you want to take that on? That is a hard one, right?

Ms. SCHMID. I am happy to kick off. It is a great question.

There is cost of labor in production of single-use packaging today also, so they are not limited to only reuse. I think you are touching on a very good point, where you have proof in business modeling exercise. We talked about businesses which are scale and are profitable on the reusable side versus single-use. That is because you are also making savings on reusing your assets as many times as you can.

Mr. DEBUS. I was going to say this is where scale or value becomes critical because with value, you are able to drive down the efficiencies at certain touch points, filling up trucks with full loads when they are being transported say from point of collection to point of maintenance or back to the packing lines, for example. When we talk about scaling reuse, it really is about having the volume efficiencies to be able to optimize the touch points, drive costs down each step of the way.

The unique thing about reusable packaging is that it really brings the supply chain or consumers together with brands, because you all care now about the packaging. The packaging has value to it today, whereas today, before with single-use, you basically passed that packaging down and absolved yourself of no longer having accountability or responsibility for it.

With reusable packaging, the touchpoint is everyone is benefiting from the reusable packaging properties that are designed to be able to work within each of those steps along the supply chain.

It really requires coordination and working in partnership among those who touch the product to be able to optimize those savings as well. That is where that system thinking comes into play, is to be able to really generate the biggest economic and environmental outcome associated with reuse.

Senator MULLIN. Thank you. I went over my time. I apologize for that.

Senator MERKLEY. Thank you.

Senator WHITEHOUSE.

Senator WHITEHOUSE. Thank you, Chairman Merkley. Thank you to our Ranking Member for continuing to focus on the issue of plastics because it is an unnatural substance and does not biodegrade. It just breaks down into smaller and smaller pieces.

We are seeing it increasingly in things like women's breast milk, in things like the contents of a baby's diaper, in things like raindrops falling from the sky in Colorado. Focusing on preventing this and also understanding what the potential harms are of all that microplastic and all that plastic waste I think is a very valuable use of the committee's and subcommittee's time.

My plaudits to Senator Merkley for whom this is a great cause and passion.

Ms. Schmid, Senator Sullivan and I have done a couple of plastics bills, Save Our Seas and Save Our Seas 2.0, and we are in the process of working on Save Our Seas 3.0 right now. One of the areas on which I expect we will likely focus is the area of recycling and how spectacularly unsuccessful ordinary recycling presently is with less than 10 percent of what you put in your blue bin actually ending up recycling, with less than 2 percent of recycled content in new plastics.

Trying to figure out how to make recycling work I think is going to be a very important piece of this. I would love to have your advice on what you think the best things are that the Federal Government could do to promote more effective recycling and to eliminate sham recycling.

If you have a quick response, I would welcome it now but I would also encourage you to take that back as a question for the record and give a more fulsome response if you would care to.

Ms. SCHMID. Thank you, Senator Whitehouse, for the question. It is a topic that would require a bit more sustained response so I will take it back.

Senator WHITEHOUSE. That would be fine.

In your sector of the economy, Mr. Debus, are there incentives or other things the government could do to encourage more reuse? In particular, can we get rid of peanuts, those damned little foam things?

Mr. DEBUS. Right, make reusable peanuts? That is a nice idea. We should talk after the hearing.

No question about it, the one thing we have to look at is that reuse can be very complex in terms of the requirements of that whole system to work. Many times it is an investment. Companies are putting capital forward to produce a pool of reusable assets or are changing their processes internally and it requires additional manpower or streamlining operations in order to make it work. It is an investment in process change.

Senator WHITEHOUSE. Do me a favor and make some recommendations for us, if you would, on how we can support those process changes because I think it is a win-win situation if you can get over the initial hurdle of the investment required to make the process changes.

Mr. DEBUS. Yes. Thank you.

Senator WHITEHOUSE. Ms. Meng, welcome. Thank you for being here.

The other bill I am working on is called the REDUCE Act. That would put a fee on virgin plastic that is designated for single-use plastic products. At the moment, one of the things that is holding back recycling in that area is it is cheaper to make it new than it is to get out of recycling.

It is very hard to convince economically motivated entities like corporations to do things that are against their economic interests. It is a policy choice we have to make to put recycled plastic and new manufactured plastic on the same footing. That is the definition of what economists would call a negative externality, that by virtue of using the new plastic, you are adding more plastic to the system making life more dangerous, adding more waste to the oceans, adding more waste to the system and putting more of a burden on people.

If there is no charge for that, you are letting people get away with something that economists would say they should not be allowed to get away with. If you are a pure market economist, you would want to address this problem. What is MacArthur's advice in this area?

Ms. MENG. Thank you for that question and excellent thoughts on the topic.

I think you are entirely correct that we need to be internalizing these externalities and bringing ourselves to a level playing field. A fee on virgin plastics does not mean it refers to single-use plastics. I think there is a logical way to do that. There are countless tools that we can use, but the reality is that we need to be doing something to level the playing field.

Senator WHITEHOUSE. Take a look at the REDUCE Act and get back to us with any comments or thoughts you might have, if you do not mind.

Ms. MENG. Absolutely.

Senator WHITEHOUSE. Terrific. Thank you.

Mr. Chairman, thank you very much for this. Again, I think a lot of American corporations have developed a partial market economy business model as to free market when it comes to their pricing and selling their product but passing on to the public and socializing the externalities that they may cause, that just is not market theory. The selective use of market theory has caused a lot of harm whether in carbon emissions, plastic waste or across the board. Thank you for continuing your focus in this area.

Senator MERKLEY. Thank you very much. We are looking forward to Save Our Seas.

Senator WHITEHOUSE. Save Our Seas 3.0.

Senator MERKLEY. Save Our Seas 3.0, with bipartisan collaboration. I know those of us who live on the coast, you are doing that with Senator Sullivan, right? I know we hear a lot about Alaska's concerns about the Pacific gyre and the amount of plastic waste that washes up.

Senator WHITEHOUSE. We pick it up on our shores with garbage bags. They have to pick that up on their shores with front-end loaders and dumpsters because of the Pacific flow of plastic waste.

Senator MERKLEY. Absolutely. Thank you.

I think it is an interesting point about the economics involved. My impression, going back to when Oregon first implemented recycling of bottles, and all the bottles were glass, is that those who delivered the product were happy to have the bottles washed and reused because it was cheaper than buying new bottles because it takes a lot of energy to create a glass bottle melting.

It was the folks who made the bottles who, at that point, were extremely resistant because obviously they would sell less bottles if the existing bottles were reused.

With plastics, the economics often are different in that it can be cheaper, as my colleague pointed out, to make a new one than to recycle an existing piece. It is the externalities of the impact of that plastic downstream that are not taken into account.

I wanted to ask you, Ms. Meng, as the Foundation has worked with partners to implement larger scale reuse and refill, are there like a top three, here are the biggest obstacles you have encountered?

Ms. MENG. That is an excellent question. I will look to the rest of the panel also for their experience.

I do think that the challenge we see from folks, is we have had businesses asking for a level playing field, because the need for shared infrastructure at scale, kind of standardized infrastructure, is crucial.

In an individual company, it is a real challenge to build out that infrastructure to establish sufficient collection points or access points for consumers. They are looking for policy intervention to really help bring folks together to collaborate to get the shared infrastructure at scale but they need to make it work economically. I think that is the big challenge we are hearing.

Senator MERKLEY. At scale it just gets a lot cheaper.

Ms. MENG. Absolutely.

Senator MERKLEY. Ms. Schmid, as we think about plastic bottles being reused, is there a consumer challenge? Consumers get very used, they want their oranges to look orange and their apples with no bruises. They are kind of used to that kind of perfect product on the shelf.

Do we find with reused plastic bottles that consumers go, why does this bottle have scratches on it? Are consumers accepting and are the manufacturers happy with the consumer response of reused plastic bottles?

Ms. SCHMID. Thank you for the question.

Reusable packagings are going to rotate several times. That is something, from our own experience, we are seeing consumers really willing to accept. It is also in the hands of the manufacturer to design the right durable package that is meeting their consumer needs.

Then we have a whole industry that has very strong experience in designing product and packaging that delights consumers on a daily basis. I am fully confident, based on the work we have seen already on the platform to date, we are able to deliver against those needs.

Senator MERKLEY. Let me ask you the same question I asked Ms. Meng. As you work on this project, what are the top three challenges you are encountering?

Ms. SCHMID. I would say there is only one challenge. The challenge is scale. We talked about it previously in talking about labor costs. Costs will be viable once there are sufficient units to flow through the system.

What is required is really a system that is competitive versus single-use, also in the number of units that flow through the system.

Senator MERKLEY. Thank you.

Mr. Debus, I was picturing these plastic pallets. I am more familiar with wooden pallets. I am also familiar with how those wooden pallets break apart, degrade and so forth. Are the plastic pallets a more durable product? Is that part of why they have found acceptance?

Mr. DEBUS. They can be, for sure. Many of them are designed to last for many years and hundreds of uses. There could be some durability properties that plastic pallets offer that wood does not.

We are seeing some great advancements, though, in wood pallet suppliers performing reuse capabilities such as offering inventory management programs and working directly with customers on a managed pool of wood products and wood pallets. They can take back, repair and put them in place.

We are seeing some reuse models even get into the wood pallet industry as well. Several of our members are wood pallet supplier and pooler companies.

Senator MERKLEY. I have so many additional questions but I am out of time. I have another hearing that has just started. Our chair of Environment and Public Works has arrived. I am going to turn the hearing over to you. If you like, continue to go as long as you want.



The hearing is yours. If you do not mind, I will leave.

Chairman CARPER.

[Presiding.] Do the Lord's work. When I finish my questions, should I gavel out?

Senator MERKLEY. Yes.

Chairman CARPER. Ms. Meng, how are you?

Ms. MENG. Doing well, thank you.

Chairman CARPER. It is nice to see you.

Sometimes we hear from critics of the circular economy movement that our reliance on plastic and other single-use items has become so ubiquitous that the only policy solution is to improve our ability to recycle these products.

While this is certainly one element of achieving circularity, it overlooks two of the most important tools in our toolbox. One of those is reduction and the other is reuse.

I believe that achieving circularity in our economy hinges upon our taking an all-of-the-above approach when addressing consumption and waste management practices. I am inspired by the role that reuse and refill infrastructure could play, can play in that transition.

My question for you, ma'am, would be why is it important to consider policy options beyond just recycling as we work to create circularity within our economy? The second half of my question is, can you share an example with us of a reuse policy that has been effective in reducing overall waste? Do you want me to repeat those questions?

Ms. MENG. No, I have notes, excellent questions, and I am glad to answer them.

On the question of why we need to be looking beyond recycling, we see that kind of recycling is inadequate, both in practice and in theory. There is not enough that we can do with recycling due to products that are not easy to recycle like flexible packaging, and actual systems in place that are not meeting our needs with recycling. We have to look beyond recycling for solutions.

Frankly, some of the solutions outside of recycling are more appropriate for different types of products, are more suited to the products. Looking upstream is what EMF thinks is critical to meeting the challenges we face.

When we think about looking upstream, we see the great opportunity that is there. We see if you replace 20 percent of plastic packaging with reusable packaging, it is a \$10 billion opportunity. If you replace 10 percent of the plastic packaging on the market, you can keep 50 percent of plastics out of the ocean annually.

There is a huge opportunity both economically and environmentally. We need to be aware of all our options when thinking about tackling those challenges.

On your question about whether there are reuse policies that we can point to—

Senator CARPER. A good example or two, if you will, on reduction or reuse policy.

Ms. MENG. Reuse policy that is effective, we have a number of policies that are in the early stages that are really great on reuse that we are really excited about like reuse targets that we are see-

ing currently negotiated in the EU up and running in France in the near term.

When we think about what we have seen proven time and time again, I think bottle bills are a classic example that we look to across the U.S. States that we have seen really do drive return rates. If we are incorporating reuse into those systems, we are in a position to be getting packaging back to be reused very efficiently and effectively.

Senator CARPER. Thank you.

Clemence, who are you named after?

Ms. SCHMID. It is a French name.

Senator CARPER. I thought so. Bienvenue, welcome.

Ms. Schmid, you mentioned in your testimony that the United Nations views reuse, and I think this is a quote, "the most scalable solution to reduce plastic waste at its sources."

How has Loop been able to partner with other businesses such as Walmart in order to promote reusable packaging? That is one question. A followup would be, how can the Federal Government work alongside the private sector companies to scale reuse and refill infrastructure and technology?

Ms. SCHMID. Thank you, Senator Carper, for the questions.

Loop works with brand manufacturers and retailers to transition from a disposable system into a reusable system in the least disruptive way. It is really about handling for that supply chain the reverse logistic in a way that disrupts the existing and very efficient supply chain in the least possible way, working with, you named them, Walmart but also over 200 brand manufacturers including Proctor and Gamble and Nestle.

We are develop reusable packages that are being enjoyed by consumers. Upon return, Loop is collecting them back, sorting, storing and cleaning them. We also reimburse the deposit.

Senator CARPER. How do you collect them back?

Ms. SCHMID. We collect back them from the store where they are being currently returned by consumers or any other location that has a Loop return point.

Senator CARPER. Thank you.

Ms. SCHMID. Do you want me to address the question on the economics?

Senator CARPER. Please, if you would.

Ms. SCHMID. What is really important in the Loop system is that the package is an asset to the brand manufacturer as opposed to the cost of goods sold. In making the package an asset, you enable the manufacturer to innovate and create a fundamentally better package and a better consumer experience.

This is what, as a brand manufacturer or producer, you are really striving to be able to delight consumers. That is what they are able to do much better on a reusable package than on a single-use package.

Senator CARPER. Any idea where that idea came from? That is a very clever idea.

Ms. SCHMID. The idea for a reusable package?

Senator CARPER. Yes. Has that been around for a while?

Ms. SCHMID. I do not think that is a new idea. I think we call it the milkman.

[Laughter.]

Senator CARPER. When I was in grade school, my colleagues and I were out on the playground playing. The other kids started talking about who they were named after. They asked who I was named after and I didn't know.

That night when I went home, at supper, I said to my dad, who am I named after? We do not have any Toms in our family. He said speak to the milkman. He said, son, you are named after the milkman. That was when we actually had milkmen. We had a milkman named Tom. We moved a lot then but we always had the same milkman, so who knows. I like milk, I know that.

Ms. SCHMID. I will ask if our milkman was named Tom also.

[Laughter.]

Senator CARPER. Clemence, I have another question if you do not mind, dealing with lessons learned. I often like to say in life we need to find out what works and do more of that. For recycling, we often look to our State or local initiatives that are successfully promoting circularity.

My home State of Delaware recently passed a law that would ban food establishments from using single-use, polystyrene containers and other plastic items like coffee stirrers. While we are still waiting for our Governor to sign this bill into law, I look forward to the lessons that we gain from this Delaware law and similar legislation.

I also believe we can learn from the international community, from countries beyond our borders, including France, about successful reuse and refill policies.

My next question of you, Mademoiselle, is having worked to launch Loop globally across three continents, is that right, what lessons can we learn from the international community as well as from States and municipalities, when it comes to reusable or refillable products and infrastructure?

Ms. SCHMID. Thank you for this very important question.

The first learning is there is a market demand for reuse. Consumers are ready and are already experiencing it in many sectors. There is a need to scale and we see this across all the markets.

The second learning I would bring to the committee, as you rightly pointed out, is some countries have already taken the forefront of working policies together with the business in order to foster and propel reuse.

In my home country of France, which is clearly leading the way, and also in Europe, we have seen reuse targets and reuse mandates coming through legislation which have fostered the creation of the reverse infrastructure and we are seeing the market developing extremely fast.

I would summarize in making sure this government passes legislation to support reuse.

Senator CARPER. Thank you.

Mr. Debus, what are some of the lessons learned from your work at the Reusable Packaging Association that might help us achieve a more circular economy? How can we encourage other industries to pursue policies like incorporating reusable shipping supplies which are both good for business and I think are good for the environment?

Mr. DEBUS. Very much so. Thank you.

The biggest lesson in seeing reusable systems in action is that they create tremendous opportunity and value within the supply chain infrastructures and the participating parties. There is a lot of discovery that takes place.

When you are incorporating a reusable packaging system, you have to know every step of the way where that package is being handled. That opens the eyes for a lot of businesses to see other improvement areas that can take place, whether it is in their shipping or the warehouse, whether it is in the stores and stocking merchandise for a point-of-sale.

There are a lot of opportunities that come up with reusable packaging that people discover and it becomes an "aha" moment of wait, if we can do this, then this leads to other benefits.

That is the biggest takeaway that I have seen, especially being in the field, that reuse breeds a level of performance that companies do not turn away from once they establish that system. They do not go back to a single-use model because they are generating benefits throughout the whole system. They are saving money and providing a better experience for those handling the items. There is not a lot of turning back.

I think as far as cultivating reuse systems, as I mentioned earlier, it is an investment so how can policy help with investments for the return, the payback that takes place maybe a year or two down the line?

A lot of our companies are looking at the immediate reporting, second quarter and how do we achieve efficiencies today. Sometimes that investment in reuse can take a year or two for the payback or return. Anything now, whether tax breaks, or grants, or things that can help generate the financial investment in reuse models would be very valuable.

Senator CARPER. One last question for Dacie Meng. I believe the reuse and refill infrastructure presents a promising alternative to single-use plastics. My guess is you do too.

In the Environmental Protection Agency's draft strategy to address plastic pollution, the agency describes how the Federal Government should use its power of acquisition and procurement to promote sustainable supply chains for materials that are used in Federal buildings.

Ms. Meng, do you believe that our Federal Government could successfully implement reuse and refill infrastructure in some of our Federal buildings? What are some of the best examples of single-use products that could be replaced by reuse and refill infrastructure?

Ms. MENG. That is a wonderful question. Thank you. The EPA's Plastics Strategy is a really exciting development. I think this is a key piece of the work we need to be doing on reuse.

I will point you first to GSA which has an advisory committee that published a kind of road map exactly on this topic for different pilots than can be conducted both by procurement officers and facility-specific pilots.

When we think about what are some of the actions the Federal Government can take and what products can be transitioned to

reuse, the obvious ideas are drinking fountains as a replacement, building the infrastructure for reusable water or water bottles.

Then we can look to the food service areas such as cafeterias and other things that may be replaced with reusable food ware, if that is not already in place.

I will continue to think on that and get back to you with a few additional ideas.

Senator CARPER. Good. You may have a chance to do that. We are going to be submitting questions to each of you from our colleagues who are not here and some who are here. We call them questions for the record, or QFRs.

We will ask that Senators to submit the questions for the record through close of business on Thursday, August 10th. We will compile those questions and send them to you and ask you to reply to us by Thursday, August 24th.

In closing, let me thank you all. Merci beaucoup. I thank each of you for appearing today and your testimony, but really for what you do with your lives. I hope your work provides you with great satisfaction. Mine certainly does for me.

As a point of clarification, Senators will be allowed to submit questions for the record through the close of business on Thursday, August 10th. Again, we will ask you all to respond by Thursday, August 24th.

I do not know how they say this in French but we have a saying here that when something is over, we say, that is a wrap. We are grateful to all of you.

One of my favorite people, favorite leaders, if you will, from other countries is the leader of France. President and Mrs. Biden hosted a State Dinner for French President Macron about a year or two ago. I had the opportunity to chat with him a bit there.

He had spoken to a joint session of the Congress about 2 years ago. I got to shake hands with him and chat with him briefly before he spoke. In his address that day to the joint session of Congress, he said these words, "This is the only planet we are going to have. There is no planet B. This is the only one."

I told him at the State dinner that I have quoted him many times in saying that. I have never given him credit for the quote. He said, "We have a special name in France for people like you who steal our material without attribution." We had a good laugh.

Keep up the good work. You are doing great things for our planet, the only one we are going to have. Take care.

With that, we are adjourned.

[Whereupon, at 10:51 a.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows:]



Senator Merkley, Subcommittee Majority Chair  
 Senator Mullin, Subcommittee Minority Chair

Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight  
 Environment and Public Works Committee

410 Dirksen Senate Office Building  
 Washington, DC 20510

July 27, 2023

Dear Senators,

Closed Loop Partners (CLP) was established nearly ten years ago to build an ecosystem that connects entrepreneurs, industry experts, leading corporations, municipalities, and financial institutions and is dedicated to accelerating the transition to the circular economy. CLP is comprised of three key business segments: an investment firm, an innovation research center, and an operating group.

After nearly a decade of hard work and progress toward creating a waste-free world, Closed Loop Partners has seen unprecedented growth and is proud to stand alongside our 65+ investments to advance circular solutions, and to operate the largest privately held recycling company in North America.

There is still much work to be done to achieve a truly circular economy. It will take the collective effort of business and policy leaders to create the infrastructure and incentives to drive significant, meaningful change.

Innovation plays a key role in advancing circularity – both in mitigating unintended consequences of new solutions and addressing current bottlenecks in today's linear systems. Closed Loop Partners' Center for the Circular Economy drives collaborative partnerships and groundbreaking insights to tackle the toughest material challenges, such as reuse and refill, and we are pleased to contribute our thoughts and research to the work underway by the U.S. Senate's Environment and Public Works Subcommittee on Chemical Safety, Waste Management, Environmental Justice and Regulatory Oversight's hearing.

We submit these comments to emphasize the important role reuse plays in creating a waste-free world and the need for public policies that support Corporate and NGO efforts in this space. In the United States, we are at a tipping point of an urgent waste and climate crisis. After decades of relying on a take-make-waste system, the economic, environmental, and social consequences have become clear, and we need a better way forward — one that considers materials as resources, not waste. Reuse models play an important role in this shift, and we need to support the scaling of accessible, convenient solutions for a circular economy.

If done right, reuse models can not only help us achieve our goal of reducing plastic waste but can also strengthen local economies and create new jobs.

In our work, we bring together global companies and innovators to collaboratively create more circular systems for Americans. We have conducted extensive on-the-ground testing of innovative reuse systems to see what works, and what doesn't. We have learned that:

- There is high consumer interest for reuse solutions that are convenient, accessible, safe, and hygienic.
- Effective cross-branding communication and education are foundational to increase people's understanding of a net new behavior – returning items for reuse, and to shape the cultural norm.

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Continuation 2

- The ideal reuse operation for durables like packaging would leverage shared infrastructure for collection, distribution, and cleaning to increase efficiencies and reduce costs.
- With the right low-impact material selection, efficient operations, high return rates for reusable packaging, and the eventual end-of-life recovery of decommissioned reusable packaging, reuse delivers better environmental results than single-use packaging.

We envision a world where reuse solutions are economically sound, environmentally responsible, and inclusive of all communities. To get there, we need to work collectively to identify a successful path forward for a national cultural shift toward a new way of buying our goods, dining, and transporting our purchases, that doesn't rely on single-use plastic that is used once and then thrown away.

Public policy can help fund and catalyze innovation in this burgeoning area to cement America's leadership position, to improve consumer communications to spur adoption of reuse, and to grow infrastructure that makes reusing valuable materials and products the commonsense norm – so that reuse is as convenient, economical and accessible as single-use alternatives. Thoughtfully constructed Extended Producer Responsibility (EPR) legislation is one policy lever to help ensure the hidden costs of single-use packaging are more visible.

Unprecedented collaboration across public and private sectors—from corporations to waste-management operators, innovators, policymakers, and NGO's—is key to roll out successful reuse programs. Rigorously validating and measuring impact are the first steps to scaling.

We are grateful that you have brought forward this topic for a Senate subcommittee hearing and are happy to make ourselves available to provide detailed information on what needs to be true for reuse systems in the United States to succeed.

Sincerely,

Ron Conen  
CEO, Closed Loop Partners

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

Majority

Senator Jeff Merkley (Chair)  
Senator Bernie Sanders  
Senator Sheldon Whitehouse  
Senator Ed Markey  
Senator John Fetterman

Minority

Senator Markwayne Mullin  
Senator John Boozman  
Senator Roger Wicker  
Senator Dan Sullivan

Chairman Tom Carper, ex officio  
Ranking Member Shelley Moore Capito



August 23, 2023

The Honorable Jeff Merkley, Chair  
U.S. Senate Subcommittee on Chemical Safety,  
Waste Management, Environmental Justice, and  
Regulatory Oversight  
Washington, D.C. 20510

The Honorable Markwayne Mullin, Ranking Member  
U.S. Senate Subcommittee on Chemical Safety,  
Waste Management, Environmental Justice, and  
Regulatory Oversight  
Washington, D.C. 20510


Dear Chair Merkley and Ranking Member Mullin:

I am writing to share our 2023 Mercari Reuse Report and hope you will find its findings useful as the Subcommittee continues its important work on issues related to reuse and the circular economy.

Mercari, Inc., a Delaware corporation ("Mercari") is an online marketplace that connects millions of people across the U.S. to shop and sell almost anything. The findings from our 2023 Reuse Report show a promising future for resale, as more consumers are looking beyond simply saving money and becoming increasingly more conscious of the impact their shopping habits have on the planet. We all have items of value that we don't use, never used, or simply outgrew, and our data show that these items amount to over \$560 billion worth of unused items in the U.S., or over \$4,000 per household. At Mercari, our goal is to make exchanging these items and unlocking that value even easier for American families.

Resale and the overall expansion of secondhand shopping has enormous potential for reducing waste while extending the lifecycle of a wide range of consumer products. As you consider policy proposals for enhancing the circular economy, we also urge you to work with your colleagues to address policies that are inhibiting Americans from reselling pre-owned items, such as the unreasonably low \$600 threshold for IRS Form 1099-K reporting. We have heard firsthand from our users the negative impacts and confusion this policy has created. Adjusting the threshold to a more appropriate level will eliminate a serious burden for millions of Americans, the majority of whom do not incur any tax liability for selling pre-owned goods.

Thank you for your attention to these critical issues and we hope you find the Mercari 2023 Reuse Report helpful.

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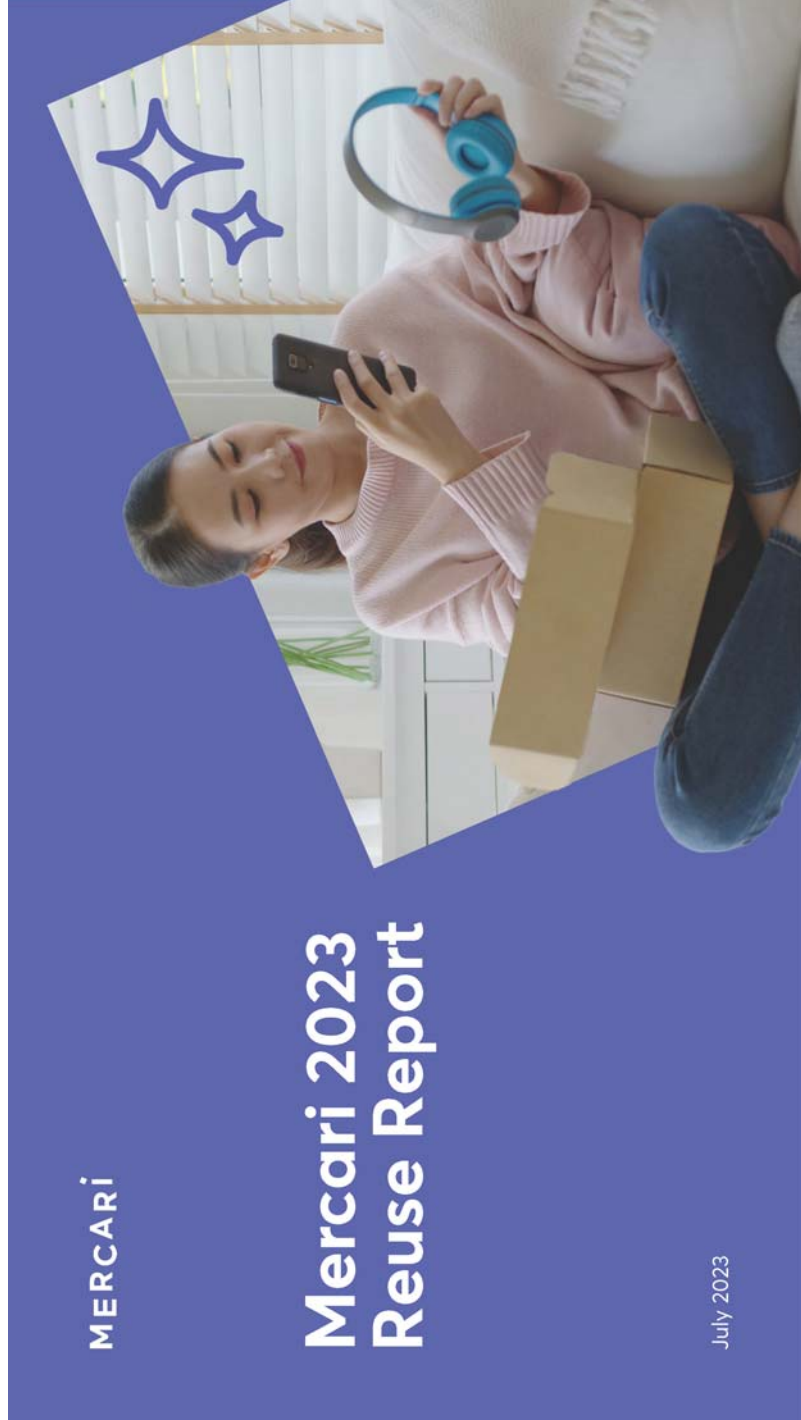
Sincerely,

MERCARI, INC.

John Lagerling  
President and Chief Executive Officer  
and Interim Chief Financial Officer

cc: The Honorable Tom Carper, Chair  
U.S. Senate Committee on Environment and Public Works

The Honorable Shelly Moore Capito, Ranking Member  
U.S. Senate Committee on Environment and Public Works



## Mercari 2023 Reuse Report Foreword

We're experiencing a resale revolution - and it's fundamentally changing the way Americans shop. In fact, Mercari expects the resale market to reach \$325 billion by 2031, growing 54% faster than the broader retail sector. As Americans feel the effects of the current macroeconomic environment, it's no surprise that more people are turning to resale.

The 2023 Mercari Reuse Report highlights the paradigm shift happening in retail - beyond saving money, consumers are increasingly more conscious of the impact their shopping habits have on the planet. And, this behavior is contributing to major growth in the resale ecosystem. In the last 12 months, 82% of Americans purchased at least one secondhand item and 89% are planning to purchase a secondhand item in the coming year.

In this report, we dive deeper into the state of the resale market across household categories, reflect on the evolution of secondhand shopping, and share our predictions on what we believe the next 10 years could look like.

For information on this report, and Mercari, please contact us at [press-usa@mercari.com](mailto:press-usa@mercari.com)

From sold-out tumblers and sought-after gaming consoles to designer bags and collectible trading cards, resale is an incredibly powerful way to discover trends, find inspiration, connect with others over shared interests, and extend the life of millions of items. No matter your reason for shopping or selling secondhand, Mercari exists to help facilitate these interactions, experiences, and exchanges in a seamless and meaningful way.

Findings from our 2023 Reuse Report show a promising future for resale, as more consumers across generations are realizing the vast benefits of the secondhand economy. We hope you're inspired to start or continue your resale journey with us.



**John Lagerling**  
Mercari US CEO

**MERCARI**

01

## Market Analysis & Forecasts

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## The Reuse Report

# The resale market: at a glance

### US secondhand market forecast to reach \$325B by 2031.

- Amid the economic downturn and cost of living pressures, US consumers are turning to resale to save money. Resale and reuse are becoming the norm – 56% of Americans say shopping secondhand is now a lifestyle choice for them.
- In 2022, Americans spent \$174.1B on secondhand goods. This is up nearly 8.6%, or \$13.7B, since 2021. The scale of this market is often underestimated because it spans a wide variety of categories beyond apparel.
- In the last 12 months, almost 82% of Americans purchased a secondhand item. 89% of millennials shopped resale with Gen Z not far behind at 83%.
- In 2023, resale is projected to reach \$188.5B, an 8% YoY growth. According to our survey, 89.2% of Americans expect to purchase a secondhand item in the next 12 months with almost 60% citing inflation as a reason.

Source: GlobalData Market Analysis and Forecasts, GlobalData Consumer Survey

### 202% expected growth rate for online resale; 55.6% of resale volume in 2022.

- By 2025, the US secondhand market is projected to be worth \$226B, and it's estimated to reach \$325B by 2031.
- This market is expected to grow 86.7% between 2022 and 2031, significantly outpacing the 35.9% growth anticipated for the (non-secondhand) retail sector.
- Digitization of resale and online expansion continues to drive the market. From a category perspective, Kidswear was the fastest-growing online resale category in 2022, with a 39% increase annually.
- By 2031, the online channel is set to account for 55.6% of the total resale market. This is a projected growth of 141% over the ten-year forecast period (2022 to 2031).

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## The Reuse Report

# Resale is forecast to reach \$325B

Total value of the resale market for each year  
United States, \$ billions



Last year, the resale market was worth \$174.1B. By 2025, it is estimated to grow to \$226B, and by 2031, it is on track to reach \$325B. This makes resale one of the fastest growing channels for consumer spending.

The growth rate is projected to be 257% from 2015 to 2031 and 87% from 2022 to 2031.

The 87% growth in resale over the 2022 to 2031 period is 2.4x that of the growth anticipated for the retail (non-secondhand) sector.

Source: GlobalData Market Analysis and Forecasts

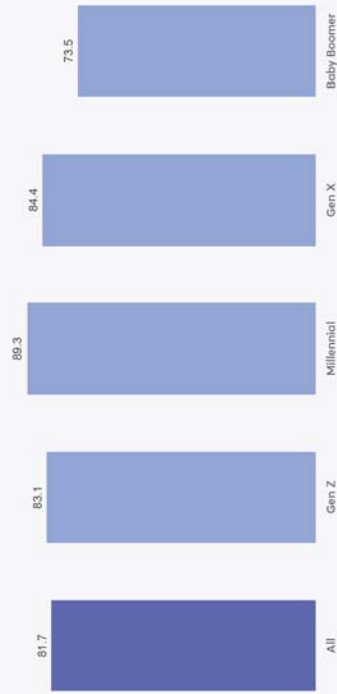
**MERCARI**



## The Reuse Report

# 82% of Americans purchased secondhand items

Consumers who have purchased at least one secondhand item in the last 12 months  
United States, % of consumers overall and by age group



81.7% of US adults purchased secondhand items in the past 12 months. That projects to 212.1 million Americans participating in the secondhand economy.

Millennials do the most secondhand shopping, followed closely by Gen X and Gen Z.

Books were the most-purchased secondhand category, purchased by more than half (58%) of US resale consumers.

Source: GlobalData Consumer Survey

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## The Reuse Report

# Resale continues to grow quickly

Total value of the resale market by year  
United States, \$ billions



The total US resale market reached \$174B in 2022, almost doubling since 2015.

The resale market is projected to reach \$325B by 2031, growing 86.7% from 2022.

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Source: GlobalData Market Analysis and Forecasts

## The Reuse Report

# Resale growth expected to consistently outpace that of retail

Annual growth rate for resale and retail spending  
United States, % growth

Secondhand spending grew almost 15% in 2021 as  
offline recovered from 2020 lockdowns.



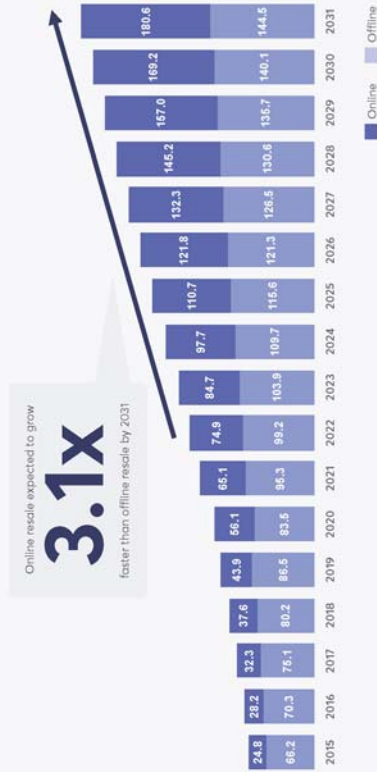
Source: GlobalData Market Analysis and Forecasts

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# The Reuse Report

## Online resale expected to grow 3.1x faster than offline resale between 2022 and 2031

Total yearly resale market value split by online and offline United States, \$ billions



By 2026, online is estimated to account for the majority of resale.

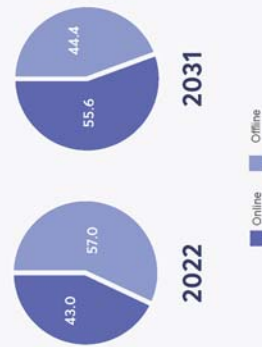
The online channel continues to outperform, growing 15.1% in 2022. Growth in the offline channel slowed to 4.1% in 2022, down 10 ppts from 2021.

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Source: GlobalData Market Analysis and Forecasts

## The Reuse Report Online resale forecast to expand

Proportion of secondhand sales online and offline  
United States



**+141%**  
Total online growth  
From 2022-2031

**+45.6%**  
Total offline growth  
From 2022-2031

Online is powering most of the growth of resale, and currently contributes 43% of the resale market.

By 2031, it's projected to expand to 55.6% of the market – a growth rate of 141%. Offline is only expected to grow to 45.6%.

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Source: GlobalData Market Analysis and Forecasts

## The Reuse Report 2022 resale categories by value

Resale category map for 2022  
United States, figures represent \$ billions of sales for each category

<b>Apparel: \$38.5B</b> <ul style="list-style-type: none"> <li>Womenswear : \$22.4B</li> <li>Footwear : \$5.5B</li> <li>Menswear : \$4.4B</li> <li>Accessory : \$4.3B</li> <li>Kidswear : \$1.9B</li> </ul>	<b>Electronics: \$34.3B</b> <ul style="list-style-type: none"> <li>Computing : \$12.0B</li> <li>Other Electronics : \$10.6B</li> <li>Communications : \$9.4B</li> <li>Appliances : \$2.2B</li> </ul>	<b>Home: \$21.2B</b> <ul style="list-style-type: none"> <li>Furniture : \$7.2B</li> <li>Housewares : \$7.1B</li> <li>Home Improvement : \$6.9B</li> </ul>
<b>Leisure: \$15.8B</b> <ul style="list-style-type: none"> <li>Collectibles : \$4.8B</li> <li>Books : \$3.5B</li> <li>Musical Instruments : \$2.1B</li> <li>Arts and Crafts : \$2.0B</li> <li>Sporting Goods : \$2.0B</li> <li>Toys and Games : \$1.4B</li> </ul>	<b>Automotive: \$7.4B</b> <ul style="list-style-type: none"> <li>Parts and Accessories : \$7.4B</li> </ul>	<b>Other: \$57.0B</b> <ul style="list-style-type: none"> <li>Other : \$52.5B</li> <li>Beauty : \$3.0B</li> <li>Kids and Baby Gear : \$1.4B</li> <li>Pet Products : \$0.1B</li> </ul>

Source: GlobalData Market Analysis and Forecasts



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## The Reuse Report

# Fastest growing resale categories in 2022

Growth of spending on resale categories in 2022  
United States, % growth



Kidswear was the fastest-growing resale category in 2022, with a 19.2% increase annually. Menswear came in second at 14.5%.

Source: GlobalData Market Analysis and Forecasts

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# Categories expected to grow most by 2031

Growth of spending on resale categories between 2022 and 2031  
United States, % growth



Source: GlobalData Market Analysis and Forecasts

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02

## Current Consumer Sentiments

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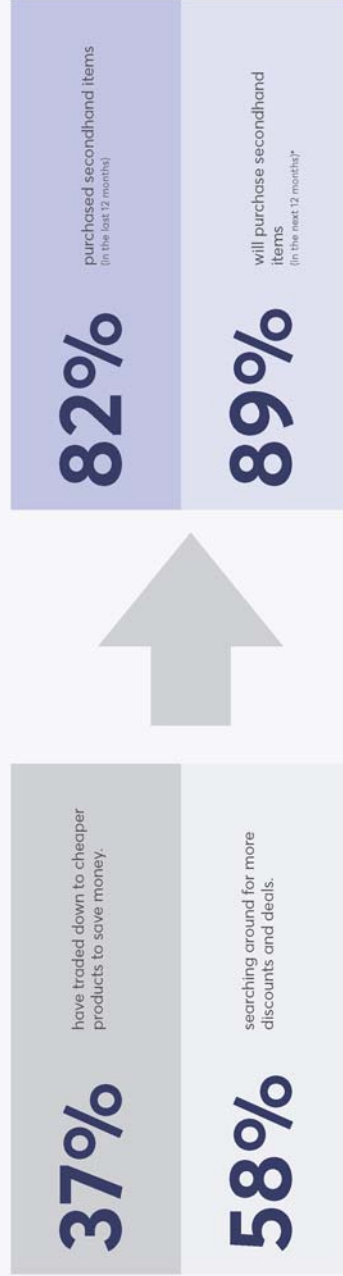
The Reuse Report  
**Americans are feeling the impact of ongoing economic uncertainty**



Source: GlobalData Consumer Survey

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The Reuse Report  
**...and have changed spending habits, turning to resale**



Source: GlobalData Consumer Survey  
\*projection based on respondents indicating "very likely" or "somewhat likely"

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03

Resale Supply

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## The Reuse Report

# Resale supply: at a glance

American households are currently sitting on \$560B worth of unused products.

- There are 21.1B unused items in American homes (161 items per household), valued at \$559.8B.
- Books make up the largest proportion of unused items, averaging 34.1 items per household. Footwear follows, at 28.6 items per household, followed by Womenswear at 27.7 items. These categories are expected to drive significant resale growth in the forecast period, particularly online, indicating opportunity for Americans to monetize unused items on digital platforms.

2.9B products fit for sale were either thrown away or recycled last year.

- Last year, consumers disposed of 13.7B usable items, and spent \$5B on disposal of those items.
- About 2.6B items were donated and another 2.6B were sold on online sites. 2.3B items were given away.
- 2.9B products fit for sale were either thrown away or recycled. In monetary terms, 2.9B items equates to \$76.3B worth of discarded items that are fit for reuse.

Source: GlobalData Market Analysis and Forecasts, GlobalData Consumer Survey

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The Reuse Report  
**American households are sitting on 21.1B unused items worth \$560B**



Source: GlobalData Market Analysis  
 Numbers refer to the total number of unused items across American households and per American household. Includes only the categories covered in this report. Values are estimated dollar value of the products. Numbers are for 2022.

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# Unused items are in high demand online

Currently, how many unused items do you have for each of the following?  
United States, average number of items per household

Some of the largest categories of unused items are also the categories estimated to grow the fastest in online secondhand sales between 2022 and 2031.



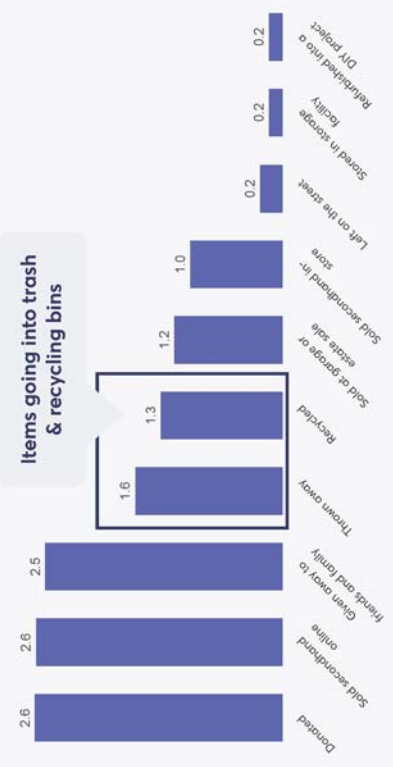
Source: GlobalData Consumer Survey  
References all respondents who have unused items.

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The Reuse Report

# Item disposal represents income opportunity

What happened to unused items in 2022?  
United States, billions of items



# 13.7 billion

Total number of items disposed of in 2022

In 2022, 20.9% (2.9B) of usable items were thrown away or recycled.

In monetary terms, this equates to \$76.3B worth of discarded items that would have otherwise been fit for sale.

Source: GlobalData Market Analysis  
Numbers refer to the total number of unused items that were disposed of in various ways in 2022. Includes only the categories covered in this report.

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# 04

## Secondhand Motivations

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## The Reuse Report

# Secondhand motivations: at a glance

### 82% of Americans purchased a secondhand item in the last 12 months.

- In the last 12 months, 212.1 million US adults bought at least one secondhand item – that's 81.7% of adults. This is a significant increase from the 196.6 million US consumers who bought resale in the year prior, reflecting the continuing growth of the market.
- Younger shoppers are the most likely to buy secondhand, with 89.3% of Millennials purchasing at least one item in the last 12 months, the highest percentage across generations.
- Why secondhand? According to our survey, 72% said because it saves them money, followed by desire for vintage at 34.3% and finding things unavailable elsewhere at 28.3%.
- Online is the most-used channel when buying secondhand – 56.3% of resale consumers shop this way.
- More people are estimated to shop resale in the next 12 months – nearly 90% of US consumers say they're likely to purchase secondhand.

Source: GlobalData Market Analysis and Forecasts, GlobalData Consumer Survey

### Almost 50% of Americans sold a secondhand item in the last 12 months.

- In the last 12 months, 123 million Americans sold unused items. That's 47.4% of the adult US population.
- The top three reasons to sell secondhand: to make extra money, declutter, and get rid of items quickly. A quarter of Gen Z and Millennial sellers participate because they love the sense of community, as compared to only 19.7% of secondhand sellers.
- In the next 12 months, three in four US consumers indicated likelihood to resell an item. Clothing, electronics, and shoes top the list of items consumers expect to sell.
- 53% of consumers expect to sell more items secondhand as a response to inflation.

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# Reasons to shop resale vary across generations and demographics

What are your primary reasons for buying secondhand items?  
United States, % of consumers overall and by age group

	All consumers	Gen Z	Millennial	Gen X	Baby Boomer
To save money	71.9	61.4	60.6	77.6	85.2
To find Vintage Items	34.3	33.5	31.4	34.5	38.4
A way to find something unavailable elsewhere	28.3	23.0	27.7	29.5	31.7
A way to discover new items - like a treasure hunt	25.8	27.7	24.4	25.7	26.4
To reduce my environmental impact	21.1	26.4	22.6	19.5	18.9
A way to find popular or trending items	15.5	21.8	19.1	15.2	7.7

Majority of consumers turn to secondhand to save money.

Younger resale consumers are motivated by sustainability.

Gen Z shoppers seek to find trending items secondhand.

Below overall percentage Above or equal to overall percentage

Source: GlobalData Consumer Survey  
Percentages may sum to more than 100% as respondents could select multiple responses.

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The Reuse Report

# Making money and decluttering are top reasons consumers sell secondhand

What are your primary reasons for selling secondhand items?  
United States, % of consumers overall and by age group

	All consumers	Gen Z	Millennial	Gen X	Baby Boomer
To make extra money	57.6	46.1	50.5	61.9	79.5
Cleaning & decluttering	49.3	38.9	44.4	50.4	69.5
Allows me to get rid of things quickly	32.0	31.1	25.4	33.5	44.2
I enjoy it	30.5	28.5	33.3	28.9	28.8
To reduce my environmental impact	19.7	21.7	22.8	18.7	12.7
I love the community	19.7	24.4	25.1	20.3	3.4
To buy something I couldn't otherwise afford	16.9	18.9	19.4	19.0	7.2

Gen Z and Millennial cohorts express the most affinity for the secondhand community of sellers.

Below overall percentage Above or equal to overall percentage

Source: GlobalData Consumer Survey  
Percentages may sum to more than 100% as respondents could select multiple responses.

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05

## Mercari Shopper Trends

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## The Reuse Report Popular brands by category

 Women's	 Men's Activewear	 Kids'wear	 Electronics	 Toys & games	 Home	 Trading Cards
Victoria's Secret / PINK	Nike	Carter's	Nintendo	Funko	Rae Dunn	Pokemon
Coach	Adidas	Crocs	Apple	Squishmallows	Bath & Body Works	Panini
Free People	Reebok	Kate Quinn	Sony	Mattel	Starbucks	Topps
Michael Kors	Under Armour	Cat & Jack	Microsoft	LEGO	Le Creuset	Wizards of the Coast
Lululemon Athletica	The North Face	Little Sleepies	PlayStation	Hasbro	Stanley	Konami

Source: 2022 Mercari Brand Data

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06

## A Look Ahead

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**Reasons why consumers intend to buy more secondhand items in the next 12 months...**



Source: GlobalData Consumer Survey

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## The Reuse Report

### What else can we expect in the next 12 months?



**31%**

of Gen Z consumers expect to increase shopping budget, compared to 19% of consumers overall



**48%**

of Millennial consumers expect to shop more online, compared to 37% of consumers overall



**1 in 3**

Gen Z shoppers expect to buy more secondhand items and spend more time on online resale platforms



**31%**

of Gen Z and Millennial shoppers plan to spend more on sustainable brands

Source: GlobalData Consumer Survey

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Details

## Definitions & Methodology

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# The Reuse Report

## Definitions

The following product and category definitions apply:

- Retail**  
Retail includes all consumer product segments food, household goods, beverages, homecare, furniture, home improvement, electronics, apparel, health, beauty, sports, games, leisure and hobbies, entertainment, and other various products. Digital products, such as individual music downloads and e-books, are also included. The following are excluded: business to business sales, wholesale trade, gasoline, automotive vehicles (note accessories are included), foodservice, household services such as plumbing and installation, medical devices, pharmaceuticals, pet supplies, toys, and sporting goods. Retail sales are measured by the total amount of sales made to consumers spent on the products through all channels and all retailers.
- Resale / second-hand**  
Resale refers to goods used or not used, other having first been owned by another consumer can be sold directly or via third party resellers. Includes all channels: charities, yard sales, peer-to-peer marketplaces, resale firms, auction sites, classified adverts, etc. The sale of first-hand products via these channels is not included. Resale includes sales of refurbished items or secondhand items sold by traditional, first-hand retailers - such as open-box items in electronics.
- Apparel**  
Includes all types of apparel across all segments: **mattresses**, **winterwear** and **kidswear**, which are also broken down separately. **Footwear** and **accessories** are broken down separately.
- Automotive parts**  
Includes all automotive parts, accessories and sundries such as automotive cleaning and lubricants; excludes all vehicles.
- Electronics**  
Includes all consumer electronics from appliances to computing to audio visual. Electronics is broken down into: **computing**, which is laptops and desktops plus peripherals and computing accessories; **communications** which includes smartphones and other electronic communication devices; **appliances** which includes both large and small home appliances; and other electronics which contains all other electrical devices.
- Housewares**  
Includes all housewares, excluding home improvement and home electronics such as televisions, excludes floorcoverings. Excludes furniture which is broken down separately.
- Home improvement**  
Includes all home improvement materials, accessories and other home improvement products; excludes appliances and general housewares/furniture.
- Sporting goods**  
Includes all sporting equipment, sporting accessories, exercise equipment including bikes; excludes automotive transportation and sporting apparel.
- Furniture**  
Includes all types of furniture for the home from beds to tables, sofas, chairs, etc. Mattresses are included in furniture, but soft textiles such as curtains and decorative accessories are included in homewares.

- Beauty products**  
All beauty products including cosmetics, skin care, body care, hair care, beauty accessories and aids, non-electric tools. Electronics such as hairdryers and straighteners are under electronics.
- Toys and games**  
All toys and games including soft toys, board games, building blocks; includes adult games.
- Collectibles**  
Consumer collectibles such as sports cards, stamps, currency and coins, decorative collectibles, art and animation characters, comics, etc.
- Kids and baby gear**  
Includes all baby and kids' products, excluding apparel. Includes cribs, cots, pushchairs, changing stations, diapers, baby sunnies, etc. Excludes toys which are under the toys and games category.
- Pet products**  
Including pet toys, pet food, pet health; excludes the sale of live pets and vet services.
- Arts and crafts**  
Arts and crafts materials such as paper, fabrics, beads, yarn, threads, paints etc. Also includes arts and crafts tools such as knitting needles, paintbrushes, glue gun, etc.
- Books**  
All books; includes comics and magazines; excludes ebooks.
- Musical instruments and accessories**  
Includes all musical instruments such as guitars, drums, flutes, etc. Includes all accessories such as music stands, spectrum, metronomes, etc. Sheet music is included.
- Other**  
Contains a mix of resale products, including food, beverages, alcohol such as wines and spirits, household consumables, small non-toy vehicles and toys, and other products that do not fit into any of the other categories. Includes travel accessories, stationery, packaging materials and sundries, health/wellness products and health aids, paper products like greeting cards, non-collectible magazines, seasonal products such as Christmas trees and lights.
- Online sales**  
This means a transaction that is made online - i.e. payment for the product is made online regardless of the other channels used during the shopping journey. For example, a product paid for online and collected in store is counted as an online sale.
- Offline sales**  
This means a transaction that is made in a physical store or via some other non-online channel. For stores, payment for the product is made in a store regardless of the other channels used during the shopping journey - for example, a product paid for in store and then delivered to a customer's home is counted as an offline sale. Other offline channels include mail order, telephone and television shopping. These form a relatively small element of most markets.

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## The Reuse Report Methodology

### GlobalData Market Analysis and Forecasts

To calculate the market numbers GlobalData considered the following information:

- GlobalData's consumer panel, which tracks the shopping behaviors and buying habits of a representative sample of over 100,000 consumers
- This consumer data was supplemented by further consumer research to assess views and opinions on a variety of resale buying and selling
  - Data provided by individual retailers (both secondhand and non-secondhand) which breaks down sales and volume overall and by category
  - Secondary data from company reports and financials.

All the data are built into GlobalData's model of consumer spending which allows calculation of the various metrics on a national level. Retail analysts carry out several checks on this model to ensure its accuracy and validity. This includes checking against data from individual retailers, official government data, industry data and other sources.

Where provided, forecast data is modelled using a three-step process:

1. Cross-correlation auto regression of inputs over time
2. Bayesian techniques refine to single-most robust forecast
3. Cross-correlation auto regression and Bayesian refinement for the final output

Inputs for the forecasting model include standard economic and social variables as well as specific data from consumer research, retailer predictions and retail metrics such as store numbers.

### GlobalData Consumer Survey

Consumer statistics are based on a February 2023 survey of 2,500 US respondents over 18, specifically assessing secondhand buying & selling behavior. Sample is nationally representative in terms of gender, age bracket, income level, and region.

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## The Reuse Report About Mercari

Our platform connects millions of people across the US to shop and sell items no longer being used. Mercari is constantly innovating to make exchanges easier, from at-home authentication to improvements in online payments and shipping. Mercari has more than 50 million downloads in the US and 350,000 new listings every day, empowering the next generation to transform the way they shop.

Mercari can be downloaded on app stores or accessed online through [www.mercari.com](http://www.mercari.com).

### Forward-looking Statements

This release contains forward-looking statements. Forward-looking statements include all statements that are not historical facts. The words "will", "estimate", "forecast", "anticipate", "expect", "predict", "plan", "project" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and assumptions. Except as required by law, Mercari has no obligation to update any of these forward-looking statements to conform these statements to actual results or revised expectations.

For information on this report, and Mercari, please contact us at  
[press-usa@mercari.com](mailto:press-usa@mercari.com).

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## The Reuse Report About GlobalData

GlobalData is a global research agency and consulting firm. Within the firm's retail division, their work focuses on all aspects of retailing and consumer behavior, which they deliver through a variety of different reports and their interactive Intelligence Centre. They also undertake custom research and consulting work for clients.

GlobalData is headquartered in New York and London with offices across the world. Their analysts and researchers work to understand the latest trends and developments in retailing across developed and emerging markets. They also have a global panel of consumers which they use to undertake consumer surveys and to gauge and assess sentiment and views on various retail issues.

GlobalData works with many of the world's leading retailers, FMCG groups, property firms and those in the financial sector to help them maximize success through developing a thorough understanding of the retail sector and its likely future performance.

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