



## **Examining Solutions to Address Beverage Container Waste**

### **Written Testimony of Steve Alexander, Association of Plastic Recyclers**

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

**Washington, DC  
September 28, 2023**

Good morning, Chairman Merkley, Ranking Member Mullin, and Members of the Subcommittee.

My name is Steve Alexander, and I am President and CEO of the [Association of Plastic Recyclers - APR](#). Thank you for inviting me to participate in today's hearing.

APR is very encouraged by the significant and growing levels of engagement by members of this committee as well as by federal agencies including the Environmental Protection Agency, Federal Trade Commission, Department of Energy, Department of Agriculture, Department of Commerce, State Department, Office of the United States Trade Representative, National Science Foundation, and others to improve recycling.

APR is the voice of plastic recyclers. We are the boots on the ground dedicated to making recycling work every day across the United States. APR also owns Resource Recycling magazine, the largest independent media publication on recycling, which is based in Chairman Merkley's home state of Portland, Oregon. Resource Recycling organizes the largest national conference focused solely on recycling.

The membership of APR includes independent recycling companies of all sizes that process numerous plastic resins, as well as consumer product companies, plastic resin producers, packaging producers, equipment manufacturers, testing laboratories, organizations, and others committed to the success of plastics recycling. In short, APR members are the entirety of the plastics recycling industry from design to collection to recovery to remanufacturing.

Plastics recycling is a central solution to ending plastic pollution, strengthening domestic supply chains, supporting U.S. manufacturing, and reducing climate pollution. The federal government plays a central role in facilitating greater action and coordination among states to improve and expand recycling. It is critical for the committee to understand that there are functioning domestic markets for recycled content in the most widely used types of consumer plastic packaging, and there is an unprecedented level of regulatory and voluntary initiatives underway to scale up plastic recycling in the coming years as a solution to reduce plastic waste and pollution.

## **Americans want to recycle and believe recycling helps the environment.**

Consumer surveys consistently find that Americans value recycling and believe recycling is good for the environment:

- [76% of residents want to recycle more plastics.](#)<sup>1</sup>
- [80% of households believe recycling has a positive impact.](#)<sup>2</sup>
- [75% of Americans think recycling is the best thing to do for the environment.](#)<sup>3</sup>
- [Recycling is the most common action Americans are taking on climate change and they are willing to do more.](#) 71% of Americans already recycle and an additional 16% want to do so in the future.<sup>4</sup>

Recycling plastics reduces the need to use fossil fuels to make new plastics, and using recycled materials to make new products is one of the best ways to reduce the environmental impacts of products. [Recycling PET and HDPE plastics can save 75% to 88% of the energy used to make virgin plastics and can reduce GHG emissions by 70%.](#)<sup>5</sup> Recycling plastics also reduces air and water pollution compared to virgin production.

## **Current State of Plastics Recycling**

### **Plastics recycling is working every day and plastics are recycled in the U.S.**

The U.S. has functioning recycling markets for the most widely used consumer plastic packaging. In 2021, [over five billion pounds of post-consumer plastics](#)<sup>6</sup> were recovered for recycling from U.S. sources. That is five billion pounds of post-consumer plastic that did not end up in a landfill or the ocean, and was instead processed and made into new products, products with a lower carbon footprint than those made with virgin materials. The amount of plastics being recycled held steady in 2021 despite a global pandemic and related lockdowns, showing market resiliency and the importance of recycled plastics as a feedstock for U.S. manufacturing.

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<sup>1</sup> World Wildlife Fund, *Public Opinion Surrounding Plastic Consumption and Waste Management of Consumer Packaging: 2022 Update*, at 9 (Jun. 6, 2022), <https://www.worldwildlife.org/publications/public-opinion-surrounding-plastic-consumption-and-waste-management-of-consumer-packaging-2022-update>.

<sup>2</sup> The Recycling Partnership, *Recycling Behavior: Behavior Center*, <https://recyclingpartnership.org/behavior-change/> (last visited Apr. 23, 2023).

<sup>3</sup> Shelton Grp, *Old Dogs, New Tricks*, <https://sheltongrp.com/work/old-dogs-new-tricks> (last visited Apr. 23, 2023).

<sup>4</sup> Jeva Lange, *Americans Overwhelmingly Want U.S. to Do More on Climate Change, Heatmap Poll Finds*, Heatmap (Mar. 23, 2023), <https://heatmap.news/politics/americans-overwhelmingly-want-u-s-to-do-more-on-climate-change-heatmap-poll-finds>.

<sup>5</sup> Association of Plastic Recyclers. "LIFE CYCLE IMPACTS FOR POST CONSUMER RECYCLED RESINS: PET, HDPE, AND PP." Association of Plastic Recyclers, APR\KC182711, Franklin Associates, A Division of Eastern Research Group (ERG), Dec. 2018, [plasticsrecycling.org/images/library/2018-APR-LCI-report.pdf](https://plasticsrecycling.org/images/library/2018-APR-LCI-report.pdf).

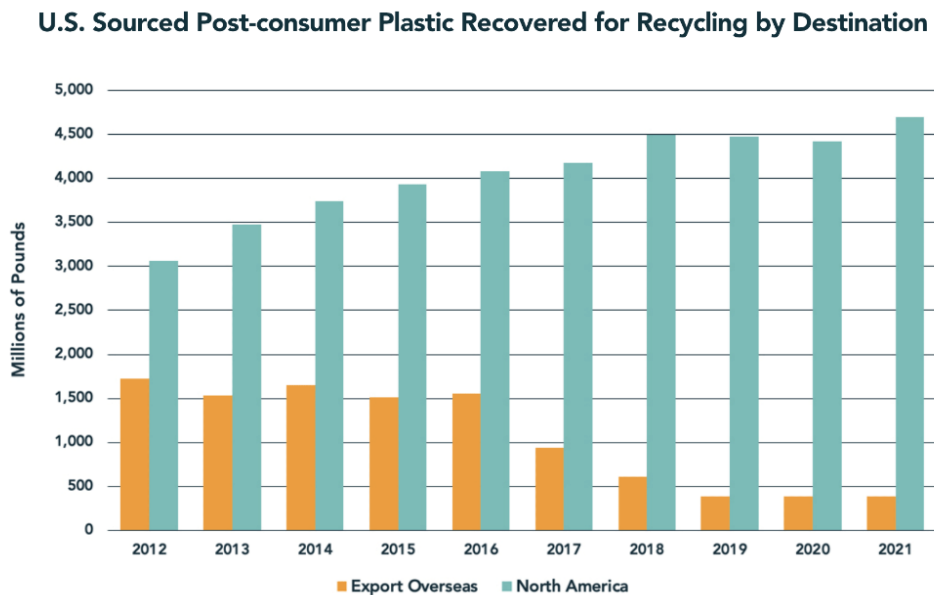
<sup>6</sup> Circularity in Action, *2021 U.S. Post-consumer Plastic Recycling Data Dashboard*, <https://circularityinaction.com/2021PlasticRecyclingData> (last visited Apr. 23, 2023).

Figure 1. [2021 post-consumer plastics recycling rates from U.S. sources](#)<sup>7</sup>

<b>5.1</b> <b>Billion lbs.</b> Bottles, Non-bottle Rigid Plastics, Film and Other Plastics (excluding foam)	<b>PET Bottles</b> <b>1,931.5</b> Millions of pounds	<b>HDPE Bottles</b> <b>927.2</b> Millions of pounds	<b>PP &amp; Other Bottles</b> <b>28.1</b> Millions of pounds
	<b>Non-bottle Rigid</b> <b>1,071.0</b> Millions of pounds	<b>Film</b> <b>1,106.2</b> Millions of pounds	<b>Other Plastics (excluding foam)</b> <b>20.2</b> Millions of pounds

[Over 92% of the post-consumer plastics recovered from U.S. sources are recycled in North America today](#) compared to just 60% in 2010.<sup>8</sup> Less than 8% of plastics are exported, and the [Basel Convention amendments](#) have reduced trade in contaminated or under-processed plastic waste.<sup>9</sup> This progress toward domestic recycling reinforces that the U.S. is not dependent on foreign recyclers in order to recycle domestic supply of recyclable plastics. Further, the market has reinvested in domestic processing of plastics following the China National Sword ban on plastic imports.

Figure 2. [Over 92% of plastics were recycled in North America in 2021](#) compared to just 60% in 2010<sup>10</sup>.



<sup>7</sup> Circularity in Action, 2021 U.S. Post-consumer Plastic Recycling Data Dashboard, <https://circularityinaction.com/2021PlasticRecyclingData> (last visited Apr. 23, 2023).

<sup>8</sup> *Id.*

<sup>9</sup> Basel Convention, <http://www.basel.int/> (last visited Apr. 23, 2023).

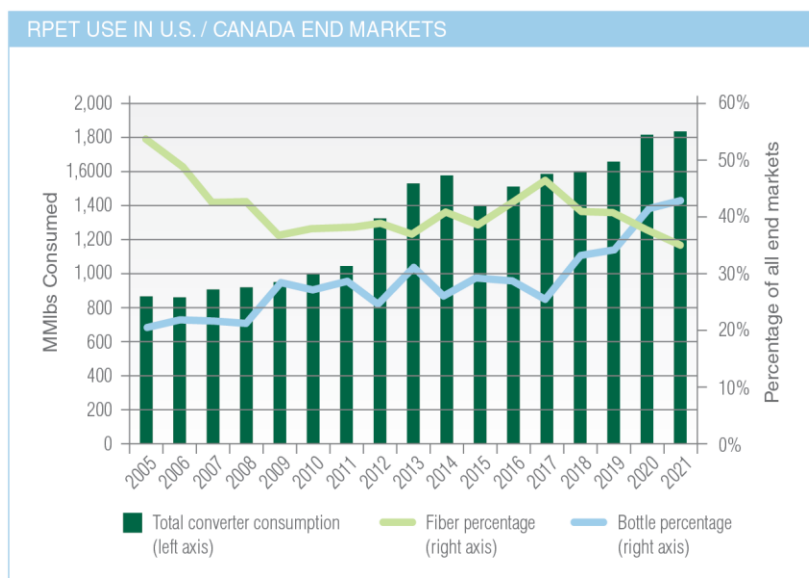
<sup>10</sup> Circularity in Action, 2021 U.S. Post-consumer Plastic Recycling Data Dashboard, <https://circularityinaction.com/2021PlasticRecyclingData> (last visited Apr. 23, 2023).

## Recycled plastics are made back into packaging.

2021 marked an important milestone for plastics recycling because [more plastic bottles were recycled back into new bottles than into other product categories like carpet and polyester clothing](#).<sup>11</sup> This is the latest in an important shift over the past few years toward more bottle-to-bottle recycling, a trend that is expected to grow even more in the coming years. The shift toward more bottle-to-bottle recycling is driven by increasing sustainability commitments from consumer goods companies to buy recycled PET and increasing regulations across the U.S. requiring recycled content in beverage containers. For HDPE, the other most commonly recycled plastic, [it is estimated that 40% of HDPE bottles are recycled back into packaging](#).<sup>12</sup>

The strong shift toward recycling more plastics back into plastic packaging is a significant recognition of recycled plastics as part of the domestic supply chain and an important feedstock for U.S. manufacturing. The following chart shows the growth in PET recycling and the shift toward more recycling into beverage containers.

Figure 6. [More beverage containers are now recycled into new bottles](#) than any other uses.<sup>13</sup>



Source: NAPCOR 2021 PET Recycling Report

## Most of what is correctly put in curbside bins gets recycled.

<sup>11</sup> NAPCOR, *NAPCOR'S 2021 Pet Recycling Report Shows Largest Amount of Postconsumer Pet Ever Collected in U.S.*, <https://napcor.com/news/2021-pet-recycling-report/> (last visited Apr. 23, 2023).

<sup>12</sup> Ocean Conservancy & Resource Recycling Systems (RSS), *Recommendations for Recycled Content: Requirements for Plastic Goods and Packaging* (Feb. 2022), [https://oceanconservancy.org/wp-content/uploads/2022/02/RRS\\_OceanConReport\\_Feb2022\\_Final.pdf](https://oceanconservancy.org/wp-content/uploads/2022/02/RRS_OceanConReport_Feb2022_Final.pdf).

<sup>13</sup> Resource Recycling, *Data Corner: PET bottle recovery rate* (last updated Apr. 4, 2023), <https://resource-recycling.com/recycling/2023/02/28/data-corner-pet-bottle-recovery-rate/>.

Plastics are used in myriad applications. As a result, “plastics recycling” refers to a wide range of processes for different products.

An inaccurate claim often reported by the media is that only 5-10% of plastics are recycled. That is not correct. Two important numbers – the amount of plastic collected for recycling, and the amount of plastic recycled after it is collected – are often inaccurately conflated.

About 10% of plastics produced today are currently collected for recycling. That number is impacted by the fact that [more than 55% of all plastics are used in non-packaging applications](#) such as medical devices, car parts, clothing, electronics, and more, and these products are not part of the curbside recycling system.<sup>14</sup>

But when plastics are collected, they are recycled. The majority – [80% - of rigid consumer plastic packaging is made of 3 types of resins](#): water and soda bottles - PET plastic, laundry detergent jugs - HDPE plastic, and yogurt tubs - PP plastic.<sup>15</sup> Right now, the U.S. recycles those plastics [at a rate of 19.8%](#).<sup>16</sup> Over [70% of the PET and HDPE containers](#) that people put into their curbside bin are sorted, processed, and effectively recycled today.<sup>17</sup>

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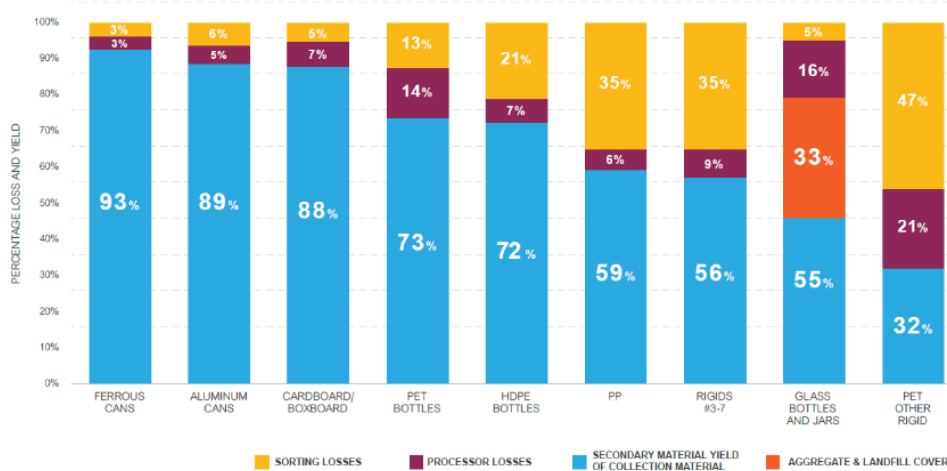
<sup>14</sup> Thomas Hundertmark et al., *Accelerating plastic recovery in the United States*, McKinsey & Company (Dec. 20, 2019), <https://www.mckinsey.com/industries/chemicals/our-insights/accelerating-plastic-recovery-in-the-united-states>.

<sup>15</sup> EPA, *Advancing Sustainable Materials Management: 2018 Tables and Figures* (Dec. 2020), [https://www.epa.gov/sites/default/files/2021-01/documents/2018\\_tables\\_and\\_figures\\_dec\\_2020\\_fnl\\_508.pdf](https://www.epa.gov/sites/default/files/2021-01/documents/2018_tables_and_figures_dec_2020_fnl_508.pdf).

<sup>16</sup> The Association of Plastic Recyclers, 2022. <https://plasticsrecycling.org/images/library/APR-Report-Recommit-Reimagine-and-Rework-Recycling-2022-8-9.pdf>

<sup>17</sup> Eunomia and Ball Corporation, 2021. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ball.com/getattachment/37f5f87f-d462-44c5-913f-d3075754741a/50-States-of-Recycling-Eunomia-Report-Final-Published-March-30-2021-UPDATED-v2.pdf>

Figure 3: Processing yields of recyclables for collected materials<sup>18</sup>



Just like other manufacturing processes, there are some inefficiencies and process losses in recycling—even aluminum cans are not processed at 100%. Recycling rates of collected materials are less than 100% because of factors like liquid included in bottles, the labels that cannot be recycled, and from losses in the sorting process. Many of these issues can be solved by improved packaging design and investments in improved sorting technologies.

Even though these rates are less than 100%, they are substantially different than the claims of only 5-8% recycling. The misrepresentation of recycling rates for consumer-facing packaging undermines consumer trust and is detrimental to recycling of all materials in residential recycling programs.

**We can recycle more plastics today with better collection programs.**

Recyclers today have the [existing capacity to process 50% more PET, HDPE, and PP](#).<sup>19</sup> Recycling operations across the U.S. are running at less than 100% capacity because of the limited supply of materials. What is needed is greater consumer access to recycling and more consumer participation in recycling.

<sup>18</sup> *Id.*

<sup>19</sup> Ocean Conservancy & Resource Recycling Systems (RSS), Recommendations for Recycled Content: Requirements for Plastic Goods and Packaging (Feb. 2022), [https://oceanconservancy.org/wp-content/uploads/2022/02/RRS\\_OceanConReport\\_Feb2022\\_Final.pdf](https://oceanconservancy.org/wp-content/uploads/2022/02/RRS_OceanConReport_Feb2022_Final.pdf).

Figure 4. [Recyclers have capacity to process more PET, HDPE, and PP<sup>20</sup> if consumers recycle more.](#)



**There is record high demand for recycled plastics. Recycling growth is needed to support U.S. manufacturing and supply chain.**

As discussed above, there is record high global demand for recycled PET and HDPE plastic to be made into new bottles. The U.S. is at great risk of losing trade capacity because of a shortage of recycled plastics. It is [estimated the recycling rate for PET will need to nearly triple by 2025](#) to meet the projected demand generated from new regulations and corporate commitments.<sup>21</sup> [Similar growth rates are needed for high density polyethylene \(HDPE\) plastics](#) to reach goals of 50% recycled content by 2030.<sup>22</sup>

U.S. plastics recyclers are already having to turn to importing plastics from other countries because of a lack of supply. Investments in U.S. recycling will promote greater domestic supply chains that support U.S. manufacturing and reduce imports from foreign markets. In addition, the European Union and Canada, both major U.S. trading partners, are pursuing regulations to require plastic packaging to be recyclable and to contain minimum levels of recycled plastic

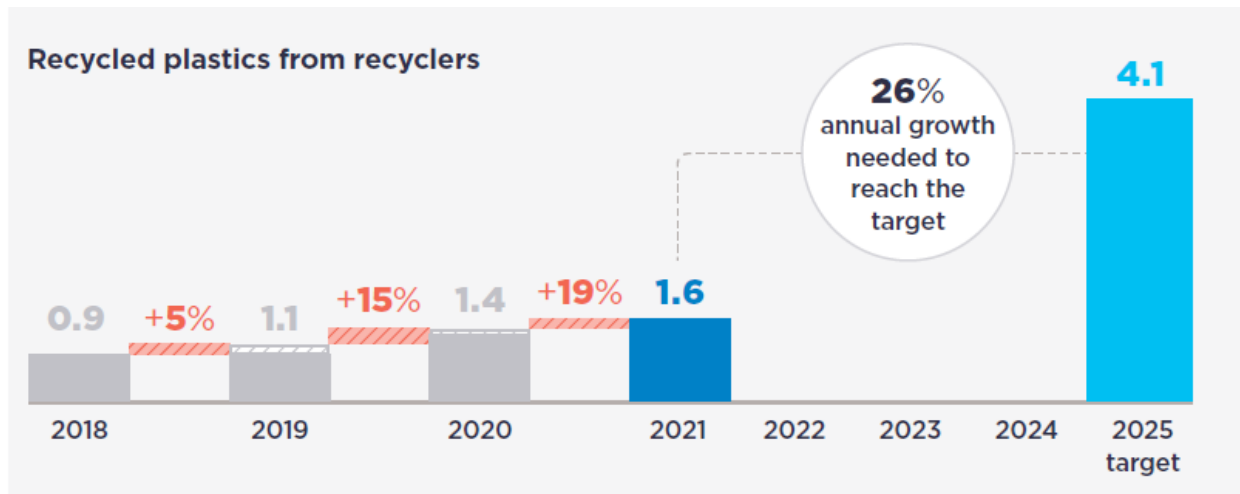
<sup>20</sup> Ocean Conservancy & Resource Recycling Systems (RSS), Recommendations for Recycled Content: Requirements for Plastic Goods and Packaging (Feb. 2022), [https://oceanconservancy.org/wp-content/uploads/2022/02/RSS\\_OceanConReport\\_Feb2022\\_Final.pdf](https://oceanconservancy.org/wp-content/uploads/2022/02/RSS_OceanConReport_Feb2022_Final.pdf).

<sup>21</sup> Ellen MacArthur Foundation, *The Global Commitment 2022: Overview*, <https://ellenmacarthurfoundation.org/global-commitment-2022/overview> (last visited Apr. 23, 2023).

<sup>22</sup> Recycling Today, *Aligning PCR supply with demand: “Exponential growth” in supply will be needed to meet recycled-content targets* (Mar. 11, 2022), <https://www.recyclingtoday.com/news/recycled-plastic-supply-demand-mismatched/>.

content. The U.S. needs a stronger recycling system to meet the trade requirements coming into effect by 2025 and 2030.

Figure 5. [Projected demand for recycled PET](#) exceeds current supply, showing the need to grow recycling collection programs and consumer participation in programs.<sup>23</sup>



### Investment is needed in recycling for all materials.

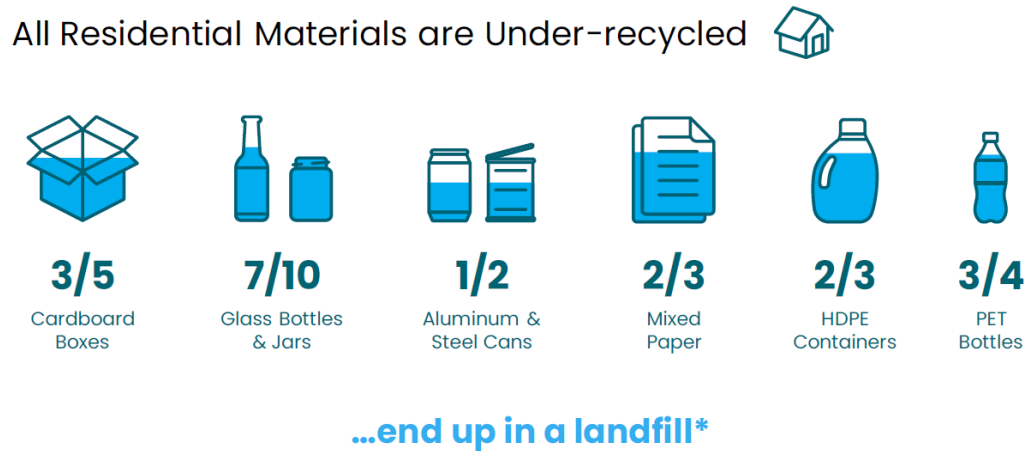
The U.S. lags behind other nations in recycling all common packaging formats. [Data show only half of aluminum cans are recycled from households and three out of every five cardboard boxes are thrown away by households.](#)<sup>24</sup> This underscores the need to invest in recycling infrastructure and policies that target all recyclables. In addition, communities and states primarily make decisions about recycling based on the entire stream of materials, not by a product type. Investments in all recycling reflects how the system operates as a whole at the community level.

<sup>23</sup> Ellen MacArthur Foundation, *The Global Commitment 2022: Overview*, <https://ellenmacarthurfoundation.org/global-commitment-2022/overview> (last visited Apr. 23, 2023).

<sup>24</sup> The Recycling Partnership, 2022. "It's Time to Come to our System Senses." <https://recyclingpartnership.org/its-time-to-come-to-our-system-senses/>



Figure 7. Policies and investments are needed to increase recycling for all packaging, not just plastics.



### Solutions to Accelerate Plastics Recycling.

While we need to collect more plastics from consumers, the responsibility cannot – and should not – fall on consumers alone. We need robust public policies at the state and federal levels to grow and sustain recycling. Plastics recycling is a complex interconnected system and there is no silver bullet fix. Instead, we need a comprehensive suite of tools at every link of the plastic recycling chain. APR recommends the following actions with the greatest positive impact:

1. **Adopt national design for recyclability standards.** Good recycling starts with good product design and plastic packaging must be designed to be easily recycled by consumers. Design standards should be set at a federal level because packaging is sold across state borders, and conflicting state laws on labeling and design are burdening companies with excess reporting and regulatory uncertainty. The [APR Design® Guide for Plastics Recyclability](#) is the leading technical assessment of recyclability and has been used by dozens of major consumer goods companies and packaging suppliers such as Nestle, PepsiCo, Unilever, Coca-Cola, KraftHeinz, and Colgate-Palmolive, as well as codified in [California regulations](#).
2. **Drive policies to increase collection of recyclable plastics by making recycling more convenient and accessible.** Plastics recycling can be improved immediately with greater consumer access to recycling and more consumer participation in recycling. The proposed [Recycling Infrastructure and Accessibility Act of 2023](#) and the [EPA SWIFR grants funded through the Bipartisan Infrastructure Law](#) are solid initiatives to build infrastructure and aid in capital costs, but policy is needed to complement these programs and address the operating costs of recycling. Specifically, Extended Producer Responsibility (EPR) for packaging and printed paper is the [only proven policy to provide sufficient, ongoing, and dedicated funding to increase recycling](#) and the only policy to improve recycling for all packaging types. Four states (California, Colorado, Maine, and Oregon) are currently

implementing EPR policies and national support is needed to spur greater adoption across all states, as well as to develop a federal framework for EPR to streamline and harmonize state-based programs. Bottle deposit programs are also an effective policy to increase recycling rates specifically for beverage containers.

3. **Adopt national labeling standards.** Recycling needs to be easy for consumers. Right now, Americans are confused about what to recycle. Clear, consistent labeling standards would increase household participation in recycling and make it easier for companies to comply with one standard. This would also eliminate the conflicting state laws and provide regulatory certainty for consumer goods companies who need to label primarily for national markets, not state by state.
4. **Set national recycled content standards.** Using recycled plastics to make new products and packaging is [one of the most effective ways to reduce the environmental impact of the packaging](#). APR was the first organization to call for mandatory recycled content standards nearly 20 years ago. State and federal policies to drive minimum recycled content standards help to build and stabilize recycled markets, level the competitive playing field, and provide an environment for end market investment, innovation, and growth. This, in turn, can support the expansion and stability of community recycling programs. Recycled content rates should be set at a national level, rather than state level, because they apply to the entire U.S. market, allow companies to more effectively reach targets through their entire supply chain, and minimize reporting and compliance requirements. The European Union and Canada are both in the process of setting recycled content standards; alignment with these goals will ensure U.S. competitiveness is a global marketplace. Effective goals should target both food-grade and non-food-grade plastic packaging and products, with targets set by resin and product types to reflect the many different uses of plastics.
5. **Buy more recycled plastics through government procurement.** The [2020 GAO report](#) identifies the economic barriers facing U.S. recycling, and the role of the U.S. government in stimulating market demand through the EPA procurement guidelines and through the Department of Commerce. The U.S. government has tremendous purchasing power to drive greater use of post-consumer recycled content in new plastic products and packaging. In addition, federal procurement standards can be a model for local and state procurement, as well as private sector corporations. The federal Executive Order to purchase recycled content paper, signed under President Clinton, proved to stabilize market demand, drive investments in recycled paper facilities, and dispel misleading information about lower quality of recycled materials. The U.S. government must lead in developing and implementing stronger procurement guidelines and programs to expand the use of recycled plastic content in both packaging and durable goods.
6. **Develop a data-driven national plan inclusive of existing agency work.** A data-driven approach is needed to prioritize actions to improve recycling and reduce waste based on measurable impacts. This should include all concurrent federal agency actions, including

the EPA National Recycling Strategy and Draft Strategy to End Plastic Pollution, potential national action plans under the UNEP global treaty negotiations, current EPA grant funding, and other national agency initiatives. One example of a strong data-driven analysis is the [PEW Charitable Trust's "Breaking the Plastic Wave,"](#) which qualifies the impacts of global action steps, similar to what is needed for the U.S. to prioritize actions. The [U.S. Department of Energy \(DOE\) Strategy for Plastics Innovation](#) is a strong model for setting clear and quantitative goals and priority action steps. The U.S. national strategy should also identify the roles and opportunities for each federal agency as well as public and private stakeholders. [The U.S. Plastics Pact Roadmap](#) is a model for setting clear targets and identifying roles for key stakeholder groups.

7. **Develop strategies to increase circularity and manage non-packaging plastic products.** As discussed above, more than 55% of plastics are used in construction, transportation, medical equipment, technology and other applications. Increased recycling of these materials will increase the amount of recycled content available to offset the need for new fossil-based plastic production. While plastic packaging receives the most attention, much work is needed to implement strategies to address textiles, carpets, automotive parts, construction materials, and other non-packaging applications to increase the circularity of all plastics.

### **Moving Forward**

APR appreciates the opportunity to participate in this hearing. We are grateful to the subcommittee for taking the time to hear from recyclers who are every day seeking to protect a clean, healthy environment and grow U.S. manufacturing.

APR looks forward to continued engagement with the subcommittee, with Congress, and with the many federal agencies who are working to accelerate recycling as an essential part of a national and global strategy to end plastic pollution. APR staff are available at your convenience to discuss these comments and share further technical, regulatory, and policy information.