

EXAMINING SOLUTIONS TO ADDRESS BEVERAGE CONTAINER WASTE

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

SEPTEMBER 28, 2023

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS

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EXAMINING SOLUTIONS TO ADDRESS BEVERAGE CONTAINER WASTE

THURSDAY, SEPTEMBER 28, 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 9:59 a.m. in room 406, Dirksen Senate Office Building, 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 today's hearing here in the Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight subcommittee on establishing a national deposit return system for beverage containers.

In my home State of Oregon, a man named Richard Chambers went out for a walk on the beach one morning in 1968. He was pretty disturbed seeing the beach littered with empty bottles. So Mr. Chambers called up his State legislator, Paul Hanneman, and brought him down to the beach to see the accumulated mess. That moment was the beginning of what became Oregon's Bottle Bill, the first statewide bottle recycling legislation in the Country.

When the bill was up for debate in the legislature in 1971, folks said that, it was pretty intensive opposition, but the legislators decided to give it a try. Thank goodness they succeeded. Thanks to that Bottle Bill in Oregon and the modifications that have been made over the years, Oregon regulatory has a bottle return between 80 and 90 percent. Most recently, in 2022, it hit an 88.5 percent redemption.

Oregon is now one of 10 States, red and blue, with a deposit return system that allows citizens to recycle used containers. But 40 out of 50 states do not have deposit return for beverage containers. Without a deposit return system, there are much lower rates of recycling, much higher rates of litter.

Here are a few numbers. For plastic bottles, States without deposit return have a recycling rate of 17 percent versus States that do have a deposit return system at 57 percent, a 40 percent difference. For aluminum cans, the distinction is 41 percent difference, between 36 and 77 percent. For glass bottles, 44 percent difference between 22 percent and 66 percent.

So a nationwide deposit return program could have a lot of benefits. The Container Recycling Institute, represented here today by Susan Collins, one of our witnesses, estimates that a national container deposit return system could create 100,000 jobs.

Meanwhile, we spend a lot of money across the Country on litter cleanup, \$11.5 billion a year, most of it paid by businesses. So there is a potential significant savings for business and for government.

Recycling also reduces global warming gases. A national deposit return system, if it had a rate of close to 90 percent, it would save about 11.2 million tons of greenhouse gas emissions, or to translate that, that is like taking 2.4 million cars off the road.

But to do all of this, we need a lot of partnership and cooperation. We need to dive into the complexities of the different chemicals that make up bottles, understand what the different paths are. So there is a lot of work to be done to envision a system that could work nationally. And I have noticed a lot more interest as more States have had recycling systems, as more attention is given to the challenge of plastics. Certainly, there is more consideration that perhaps a national system rather than 50 different systems might make a lot of sense. That is what we are here to explore today.

I will now turn to our Ranking Member and introduce our witnesses after his opening statement.

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

Senator MULLIN. Thank you, Mr. Chairman. Thank you to all the witnesses for attending this hearing.

Just to let you know, I am unfortunately going to have to make an opening statement and then I have to run to another hearing. I am going to try to come back but I do not know how that is going to work out, so I apologize. I do have questions that I will submit for the record before I leave, though.

But anyway, thank you so much. I mean no disrespect by having to leave. It is a little busy right now. This whole thing about a shutdown or something, I do not know what that is all about.

But I would like to start by once again thanking our witnesses here, including Steve Alexander, from the Association of Plastic Recycling. Thank you for taking the time. We appreciate your being here with us today.

As we have seen in America as well as in other countries, a one-size-fits-all Federal mandate is not always the best economical solution for everyone, especially in smaller businesses. Take Germany, for example, which everyone knows to be the poster child, along with South Korea, for recycling rates. In 2022, according to the German Brewers Association, private brewers across Germany participated in a bottle-back program, experiencing extreme shortage of beer bottles. Not because of a lack of bottles, but because of the lack of incentives for customers to return the empty bottles due to multiple other factors.

What a lot of people do not consider is that a forced refillable incentive can result in an unintended hassle and tax on consumers, especially in rural and underserved communities. Bottle bills also

have a negative impact on local municipalities, because plastic bottles are often the most valuable commodity streams that municipalities' recyclers use to fund their operations, resulting in a revenue loss and effectiveness of local curbside recycling programs.

If we push for legislation that imposes a one-size-fits-all approach, we will lose the opportunity to successfully increase America's recycling rates and harm local municipalities and rural States while doing it. One focus should be aimed at addressing accessibility, awareness, ensuring reliable, affordable availability of post-consumer material for the recycling industry in a cost-effective manner.

With that, I yield back.

Senator MERKLEY. Thank you very much, Senator Mullin.

Can you please go make sure we do not have a shutdown? Thank you.

[Laughter.]

Senator MERKLEY. We are fortunate to be joined by three witnesses today who will share their expertise with many benefits of these systems.

We are joined by Jules Bailey, Chief Executive Office and President of the Oregon Beverage Recycling Cooperative, which operates Oregon State's beverage container recycling system.

Joining us also is Susan Collins, President of the Container Recycling Institute, which seeks to make North America a global model for the collection and recycling of packaging materials, and compiles a whole lot of statistics of use to those trying to understand the various options and their success in designing systems of reuse or recycle.

Also with us today is Steve Alexander, President and CEO of the Association of Plastic Recyclers, a trade organization whose members span the entire recycling process from design to collection and recovery to remanufacturing.

Thank you for joining us all today. We will turn first to Susan Collins.

STATEMENT OF SUSAN COLLINS, PRESIDENT, CONTAINER RECYCLING INSTITUTE

Ms. COLLINS. Thank you, Chair Merkley.

The Container Recycling Institute (CRI) appreciates the opportunity to provide comments on solutions to address beverage container waste in the United States. CRI is a nonprofit organization and leading authority on the economic and environmental impacts of used beverage containers and other consumer product packaging.

I will start with an overview. The inability to effectively recycle beverage containers in most U.S. States is increasingly contributing to our plastic pollution, marine debris and climate crises. However, we know that one solution works, deposit return systems or DRS, which enable consumers to return empty bottles and cans to a redemption location and receive back the deposit they paid upon purchase.

Decades of data show that these systems are the single most effective solution to increase container recycling rates, reduce associated litter and marine debris, lower energy use, avoid greenhouse gas emissions, decrease waste collection and landfilling costs, and

provide more high-quality scrap manufacturers need to make new products. A national deposit return system (DRS) would maximize the recycling of beverage containers, support economic growth, and create new domestic manufacturing jobs.

Next, I will describe the multiple problems we are trying to solve. Sales of packaged beverages continue to grow at a rate that outpaces population growth, with the lion's share coming from bottled water. In the last 25 years, plastic water bottle sales have grown almost tenfold from 8 billion to 86 billion per year nationwide. Meanwhile, recycling rates have remained stagnant, resulting in increasing amounts of beverage container waste, now nearly 13 million tons per year.

Containers wasted rather than recycled must be replaced with more virgin materials, which results in greater energy use and carbon emissions. Littered containers also harm our marine life and pollute our soil. As the Senator said, Keep America Beautiful has estimated litter cleanup costs at more than \$11 billion annually.

But the scrap value of beverage container materials wasted each year would be worth more than \$2 billion if we recycled them instead. The tonnage of aluminum cans alone wasted in 2019 is enough to rebuild the entire 2021 U.S. fleet of commercial aircraft 17 times over. The amount of energy required to replace the number of beverage containers wasted annually is enough to power 3 million households.

The good news is that there is a solution to these problems, and that is a national DRS. Here is how this works. When a retailer buys beverages from a distributor, a deposit is paid to the distributor for each can or bottle purchased. The consumer then pays the deposit to the retailer when buying the beverage.

The deposit is refunded when the consumer returns the empty beverage container with options that may include a retail store or redemption center with or without reverse vending machines, or bag drop. The retailer recoups the deposit from the distributor plus an additional handling fee in most U.S. States. This helps cover the cost of handling the containers.

DRS creates a privately funded collection infrastructure for beverage containers and makes producers and consumers, rather than taxpayers, responsible for their packaging and waste. They also typically have very high redemption and recycling rates, achieving an average of 82 percent worldwide.

Among other benefits, a national deposit return system would achieve an 80 percent return rate for beverage containers, given a 10 cent deposit, cut beverage container litter in half as found by Keep American Beautiful in their national litter study in 2020, create over 80,000 new direct jobs, provide cleaner, high quality material without breakage or contamination, which often occurs in curbside systems, support domestic container material industries with more than 8 million tons of additional recyclables, save municipalities and taxpayers money, because the cost for beverage container recycling would be shifted to beverage distributors.

A national DRS program could also support the return of refillables in the United States. And a national DRS would eliminate greenhouse gas emissions equivalent to taking nearly 2 million cars off the road.

The adoption of beverage container DRS continues to grow at a skyrocketing pace worldwide. In just the last 7 years, new laws have been announced that will include nearly half a billion people in DRS systems. Last, the popularity of DRS in the United States was demonstrated in 2020 by a public attitude survey conducted by the Keep American Beautiful group, in which 75 percent of those surveyed indicated support of deposit laws.

Thank you, and I look forward to answering any questions.

[The prepared statement of Ms. Collins follows:]



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Testimony of Susan V. Collins
 President of the Container Recycling Institute

Senator Jeff Merkley
 Chair, Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and
 Regulatory Oversight
 Senate Committee on Environment and Public Works

Thursday, September 28th, 2023
 10:00 AM EDT
 Room 406
 Dirksen Senate Office Building

Dear Chair Merkley and Members of the Subcommittee:

The Container Recycling Institute (CRI) appreciates the opportunity to provide comments on solutions to address beverage container waste in the United States. CRI is a nonprofit organization and a leading authority on the economic and environmental impacts of used beverage containers and other consumer product packaging. Our mission is to make North America a global model for the collection and quality recycling of packaging materials.

Given our expertise in these areas, CRI would like to provide the following information regarding existing and proposed policies to improve the collection of single-use beverage containers.

Introduction

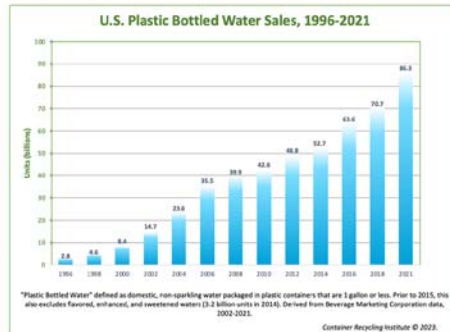
The inability to effectively recycle beverage containers in most U.S. states is increasingly contributing to our plastic pollution, marine debris and climate crises. However, we know that one solution works – deposit return systems (DRS), which enable consumers to return empty bottles and cans to a redemption location and receive back the deposit they paid upon purchase. Decades of data have shown that these systems are the single most effective solution to increase container recycling rates, reduce associated litter and marine debris, lower energy use, avoid greenhouse gas emissions, decrease waste collection and landfilling costs, and provide more of the high-quality scrap manufacturers need to make new products.

As detailed in this letter, a national DRS would maximize the collection of single-use beverage containers to support economic growth, domestic manufacturing jobs, a circular economy and a more sustainable future.

The Problem We Are Trying to Solve

Growth in Beverage Container Sales

Beverage container sales have grown by 45% in the last two decades, from approximately 205 billion units sold in 2000 to more than 298 billion bottles and cans sold in 2021. In the same period plastic water bottle sales skyrocketed from 8 billion to 86 billion – an astonishing increase of 975% (BMDA, 2023). This increase in overall beverage sales is due to both population growth and an increase in per-capita consumption.



Non-carbonated beverages have accounted for all of the non-alcoholic sales growth over the last 21 years, while carbonated beverage sales have dropped slightly. The lion's share of the non-carbonated, non-alcoholic sales increase comes from bottled water packaged in PET plastic, and to a much lesser extent, in HDPE plastic. Bottled water became the largest beverage category in 2015, and now comprises 29% of all beverage sales, or nearly a third of all beverages sold.

Recycling Rates Remain Stagnant While More Containers Are Wasted Each Year

In the last two decades, national beverage container recycling rates have remained about the same, around 35%, while production of containers has increased. With the combination of higher total sales and a stagnant recycling rate, the result is the number of beverage containers wasted every year continues to grow. U.S. consumers wasted 137 billion beverage containers in the year 2000, and the wasting reached 184 billion by 2019, an increase of more than a third over those two decades.

There are very low recycling rates in the United States for aluminum, plastic and glass containers, as most are being landfilled, incinerated or littered (Advancing Sustainable Materials Management, 2020). As of 2019, the national average container recycling rate stood at 34% (BMDA, 2023). More than 75% of all plastic ever produced ends up as waste, and of the mismanaged waste, about 87% of this waste becomes plastic pollution (WWF, 2019).

When glass, aluminum and plastic containers are wasted rather than recycled, they must be replaced with containers made from 100% virgin materials, whose manufacture requires tremendous amounts of energy, and generates carbon dioxide and other greenhouse gasses. Half of the virgin plastic produced between 1950 and 2016 occurred starting in 2000, resulting in exponentially growing plastic production (WWF, 2019).

Brands Don't Have Enough Material to Meet their Recycled Content Goals

Given recycled content mandates in some jurisdictions and international brands' stated goals for reducing plastic waste, there will be new demands for recycled materials in the future, and it has been widely observed that, under business as usual, availability of recycled materials will be insufficient to meet future demands. The brands will not be able to reach their recycled content goals unless beverage container materials are collected for recycling at much higher rates than they are today. Brands need approximately twice as many used aluminum cans, and a tripling of recycling rates for plastic and glass bottles to meet corporate goals. For plastic in particular, there are recycled content laws in 4 states, with looming deadlines in the near term of 2025 to 2030.

Beverage Containers Fill Up Our Landfills and Incinerators

According to CRI's data, it is estimated that millions of tons of beverage containers are ending up in our landfills and incinerators or littered instead of being diverted into a recycling system. In 2021 alone, 782,000 tons of aluminum containers, 8.8 million tons of glass containers, 2.6 million tons of plastic containers, and 436,000 tons of carton or foil containers were not recycled, adding up to a total of 12.6 million tons of wasted beverage containers.

According to the EPA's Advancing Sustainable Materials Management: 2018 Tables and Figures, 35.68 million tons of plastic were generated in municipal solid waste (MSW) and ended up in our landfills. Containers or packaging (14.53 million tons) accounted for roughly 40.7% of all plastic generated. Beverage containers are the single largest component of plastic packaging: per CRI calculations, the quantity of PET and HDPE beverage containers generated alone was about 3.63 million tons in 2019. That is a quarter of all plastic containers and packaging in the US, and 10.2% of all plastic generated in the US.

Dollar Value of Materials Being Wasted

The beverage container materials that we litter or send to landfills and incinerators each year would be worth more than \$2 billion if we recycled them instead.

Ideally, post-consumer material should be used to make new products instead of discarded into landfills or incinerators. In 2019, 822,354 tons of usable aluminum from aluminum cans were not recycled and were disposed of instead. That amount of wasted aluminum on its own could be used to rebuild the entire 2021 U.S. fleet of commercial aircraft 17.3 times over, totaling over 108,000 mid- and large-sized planes. (BMDA 2023)

Beverage Containers Make Up a Lot of Our Litter

Beverage containers make up a large volume of litter. Other methods of litter prevention, like litter taxes and education campaigns, are marginally effective. Moreover, litter is not just a nuisance on the sides of our roads and in our public spaces but is costly to society. Between the increasing amount of solid waste thrown away and the very slow deterioration of that waste, marine litter found at sea, on the seafloor and coastal shores is growing dramatically. Litter is polluting our soil, posing a health hazard to the public, and placing a burden on municipalities, taxpayers and businesses. A Keep America Beautiful study estimated that businesses and governments are collectively spending more than \$11.5 billion per year to clean up litter.

Beverage containers typically comprise a significant portion of roadside litter. Keep America Beautiful's 2021 report on litter estimated that there were nearly 2.8 billion pieces of beverage container litter near U.S. roadways and waterways, accounting for approximately 6% of all litter in the United States.

Beverage Container Waste Increases Greenhouse Gas Emissions

Beverage containers make up less than 6% (by weight) of municipal solid waste, but the upstream environmental effects of container wasting are disproportionately high ("Municipal Solid Waste," 2013). The production of beverage containers results in higher greenhouse gas emissions and energy use than the average of the other material types in the waste stream.

Aluminum can waste accounted for 50% of the total greenhouse impacts of 2019 container wasting, compared to 18% for both PET plastic and glass, 10% for cartons, 3% for HDPE plastic and 1% for foil pouches. Since the energy required to produce aluminum from virgin resources is so high, and the recycling rate remains around 45% for aluminum, beverage can waste continues to exact a heavy environmental toll. Much the same can be said for PET bottles: the benefits of producing a relatively lightweight container have been offset by skyrocketing sales, very low recycling rates and high energy requirements.

A Solution to the Beverage Container Recycling Problem

CRI believes that a solution to the problems described above may be a **national deposit return system** (described below.) The first beverage container deposit law was implemented in British Columbia, Canada in 1970. Decades of data have shown that beverage container deposit return systems (DRS) are the single most effective solution to increase container recycling rates, reduce associated litter and marine debris, lower energy use, avoid greenhouse gas emissions, decrease waste collection and landfilling costs, and provide more of the high-quality scrap manufacturers need to make new products.

What Is a Deposit Return System?

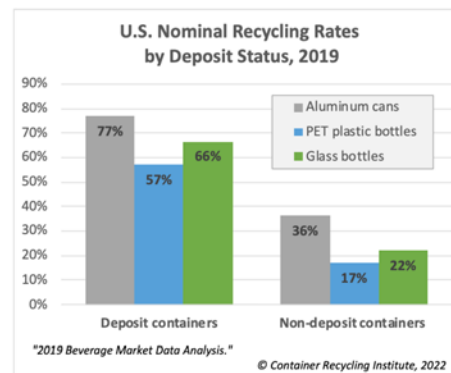
A beverage container deposit return system is one that promotes the return of containers for recycling by issuing a minimum refundable deposit when every eligible container is sold and returned to a retailer, redemption center or a reverse vending machine. When a retailer buys beverages from a distributor, a deposit is paid to the distributor for each can or bottle purchased. The consumer pays the deposit to the retailer when buying the beverage. When the consumer returns the empty beverage container to the retail store, redemption center, bag drop system, or to a reverse vending machine, the deposit is refunded in full. The retailer recoups the deposit from the distributor, plus an additional handling fee in most U.S. states. The handling fee, which generally ranges from 1 - 6 cents per container, helps cover the cost of handling the containers. DRS create a privately funded collection infrastructure for beverage containers and make producers and consumers (rather than taxpayers) responsible for their packaging and waste.

With so many recyclable materials out there, some may wonder why it's worthwhile to focus on beverage containers. A deposit encourages people to return these containers, keeping them off the streets and out of the waterways and wilderness. According to industry estimates, about one-third of beverages are consumed on the go—away from the home recycling bin and often in places where recycling is not available.

Benefits of a Deposit Return System

More Beverage Containers Will Be Recycled

A well-run national container deposit law that covers all beverage types (except milk and milk substitutes) with a 10-cent deposit would be the single largest recycling program in the nation. It would boost the nation's recycling rate of beverage containers from the current national rate of 34% to 80% and provide 8.5 million new tons of recyclables for the nation's container



manufacturers. This would improve the nation's overall recycling rate for all materials by three percentage points.

If the U.S. were to implement a national DRS, CRI estimates that the country would recycle almost 114 billion additional containers annually—or nearly 8.5 million tons of metal, glass, and plastic—over and above the recycling currently taking place (assuming an 80% recycling rate). By increasing collection and recycling of plastic, aluminum and glass containers, DRS mitigate their negative environmental effects.

Deposit Return Systems Reduce Greenhouse Gas Emissions

By reducing the need to make new bottles and cans from virgin materials, this additional recycling would eliminate about 8.4 million tons of greenhouse gas emissions annually: an amount equivalent to taking more than 1.8 million cars off the road for a year. (BMDA, 2023).

Deposit Return Systems Reduce Energy Use

Approximately 12.6 million tons of beverage containers were “wasted” (i.e., landfilled, incinerated or littered) in 2019. In replacing the 184 billion bottles and cans that were wasted with new containers made from virgin materials, the energy equivalent of 236 trillion BTUs was consumed, which is enough to meet the total residential energy needs of more than 3 million

American homes, or more than the total number of occupied housing units and apartments in the cities of Los Angeles and Chicago combined (BMDA, 2022).

Deposit Return Systems Promote Job Creation

In the 10 states where DRS are in place, it is estimated that there are 20,000 total existing jobs resulting from them. According to estimates, a national DRS would add over 80,000 jobs, meaning that if the U.S. had a national deposit law with a redemption rate of 80%, it would support more than **100,000 jobs** in the United States – 20,000 that already exist, and 80,000 new. Depending on the DRS system parameters and performance, these systems create 11 to 38 more jobs for beverage containers, on average, than a curbside recycling system. DRS systems also require between 1.5 to 4 times more employees than curbside recycling to collect, sort and transport containers. Therefore, DRS systems increase employment rates and contribute to economic growth (Returning to Work, 2011).

These Programs Support Domestic Materials Industries

Domestic container material industries that make glass, plastic and aluminum containers rely heavily on recycled materials from DRS programs to supply their factories and supply chains. More than 33% of beverage containers that are recycled in the United States come from DRS programs.

In a joint statement issued on April 20, 2020, four of the largest trade associations for beverage container materials – the National Association of PET Container Resources (NAPCOR), the Aluminum Association, the Can Manufacturers Institute and the Glass Packaging Institute – made clear the critical importance of deposit beverage containers in the materials supply chain. The statement read that, “material from beverage container deposit systems generally accounts for 20%-60% of the inputs our industries use to make our essential packaging” (“Trade Associations”, 2020). Beverage containers collected through a deposit system typically suffer less breakage and contamination than those collected through other systems; that means *more* beverage containers can be recycled into new containers than containers recycled through other means.

Beverages Going Through Deposit Return Systems Have a Greater Potential to Be Recycled

Beverage containers are a subset of packaging with the greatest potential to be recycled and reused through DRS. Minimal sorting is needed in a DRS program since there is no commingling with other material types like in curbside systems. Additionally, beverage containers collected through a deposit system typically suffer less breakage and contamination than those collected through other systems; that means more DRS containers can be recycled into new containers than containers recycled through other means.

Deposit Return Systems Are Effective in Reducing Litter

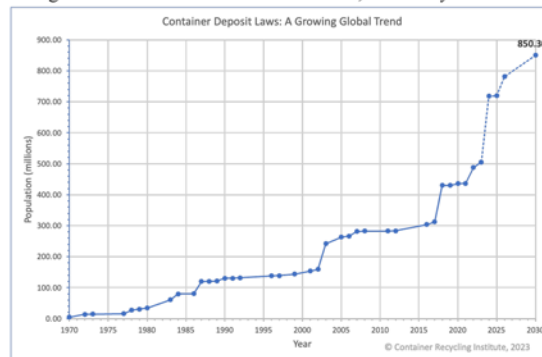
DRS are extremely effective in reducing litter, as shown in many of the states that already have these systems in place. In the 1970s through 1990s, government-funded studies conducted in seven states, pre- and post-DRS, showed reductions in beverage container litter ranging from 69% to 84% and reductions in total litter ranging from 30% to 65%. In 2018, the Commonwealth

Scientific and Industrial Research Organization (CSIRO), an Australian agency, found that the proportion of containers found in coastal debris surveys in both US and Australian states with a DRS was approximately 40% lower than in states without a DRS. Both the CSIRO study and the Keep America Beautiful 2020 National Litter Study indicate that a national DRS would have the potential to cut beverage container litter in the United States in half.

Deposit Return Systems Are Not Funded by Taxes

Under a traditional municipal recycling program, taxpayers often pay for processing beverage containers they may not use. Deposit return systems decrease taxpayer burdens by shifting the costs from taxpayers to the beverage manufacturers. The deposit that a beverage consumer pays is returned to them in full when they recycle through a DRS. Thus, DRS place the cost of managing post-consumer beverage containers to those who manufacture, sell or buy them.

Handling fees are also not funded by taxes, but rather by beverage distributors. Handling fees provide retailers and redemption centers with compensation for collecting, sorting and preparing empty beverage containers for shipment, thus helping them remain economically viable. (Handling Fees Factsheet, 2023)



Deposit Return Systems Are Popular and Growing Worldwide

The adoption of beverage container DRS continues to grow at a skyrocketing pace worldwide, as more and more governments recognize these programs' value in dramatically increasing recycling rates. In 2016, 46 years after the introduction of the first DRS, 286 million people worldwide in 41 jurisdictions were covered by a deposit return system.

By the end of 2022, that number stood at approximately 444 million in 44 jurisdictions. Assuming that additional announced programs meet their implementation dates by 2026, DRS coverage will again rapidly grow, to 67 jurisdictions worldwide with a collective population of almost 744 million people — an increase of 160% in a decade.

Since the year 2016, 26 new DRS programs have become law (but many of them have not yet been implemented) throughout the world, including programs in the countries of Jamaica, Malta, Latvia, Scotland, Slovakia, Portugal, New Zealand, Singapore, Ireland, Mauritius, Belarus, Greece, Hungary, Romania, Turkey, the United Kingdom, Poland, Cyprus, the British Virgin Islands, Uruguay, the states of Australian Capital Territory, Western Australia, Victoria, Queensland, and Tasmania, in Australia and the state of Maharashtra, India.

Deposit Return Systems Are Popular in the United States

Deposit return systems historically have enjoyed widespread public support on a state and national level. On the national level, the Keep America Beautiful 2020 National Litter Study reported results of a Public Attitudes Survey that indicated strong support of deposit laws as a means to increase recycling. Whether they were asked if they support a “refundable deposit” or a “rebate incentive,” more than 75% of respondents said they were in favor of these policies in their state.

According to public opinion polls in many states, expansion of existing state deposit laws is supported by 70-85% of the citizens in those states that have a DRS. Polls from Iowa, Michigan, Indiana, Massachusetts, Vermont, Tennessee, New York, Kentucky and Oregon have all shown that constituents in these states are in favor of having a new DRS or expanding the existing DRS in their state.

Beverage Companies Want Recycled Materials Back to Meet Their Recycled Content Goals

CRI strongly believes that markets for deposit containers collected for recycling will grow in the coming years, in part because multiple global beverage brands have made public commitments to increase their use of recycled materials, as the table below shows.

Selected plastics reduction commitments by global brands		
Company	Timeframe	Commitment or target
Coca-Cola	by 2030	Equivalent of 100% of containers collected and recycled
Coca-Cola	by 2030	Average 50% recycled content in bottles
Danone	by 2025	100% of packaging reusable, recyclable or compostable
McDonald's	by 2025	100% of guest packaging from renewable, recycled or certified sources
Kraft Heinz	by 2025	100% of packaging recyclable, reusable or compostable
Nestlé	by 2025	100% of packaging recyclable or reusable
Reprinted from CRI's Winter 2018 newsletter		
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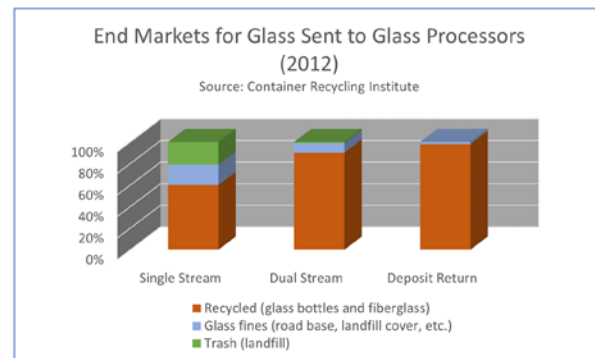
These goals can only be met through the increased availability of high-quality beverage bottles and cans for use as feedstock in new containers. Only deposit programs consistently generate such high-quality containers. For example, deposit-grade PET bottles have recently had a value of 21¢ per pound, nearly twice the value of non-deposit, curbside PET (12¢ per pound).

Deposit-Covered Beverage Container Material Is Clean and High Quality

Not everything that is collected for recycling gets made into a new product. Breakage and contamination of collected materials often results in them being “downcycled” into something that cannot be recycled again, or sometimes just simply discarded. Beverage containers collected through a deposit system typically suffer less breakage and contamination than those collected through other systems such as curbside; that means more beverage containers can be recycled into new containers than containers recycled through other means.

A survey of a dozen glass processing facilities indicated that, on average, only 60% of glass from single-stream collection is recycled into containers and fiberglass. Nineteen percent is small broken glass ("glass fines") used for low-end applications such as road base or landfill cover, while the remaining 21% is unusable and sent directly to landfill (A Common Theme, 2012). Mixed glass from dual-stream systems yields an average of 90% recycled into containers and fiberglass, with the remaining 10% being glass fines used for low-end applications. Almost none of the glass in dual-stream systems gets sent to landfill. In deposit systems, 98% of collected glass material is recycled and only 2% is marketed as glass fines (A Common Theme, 2012).

Glass collected through a curbside system is not guaranteed to reach a glass processor. The nonprofit organization Northeast Recycling Council, Inc. (NERC) released a 2018 study stating that only "54% of the reported glass tonnage from Northeast MRFs [materials recovery facilities] are sent to glass processors to be cleaned" (Northeast MRF Glass Survey Report, 2018). More than



38% of the remaining MRF glass is sent directly to landfill: as landfill cover (23.5%), as roadbase/fill (0.5%) and as trash (14.7%). None of the remaining glass is sent for use to fiberglass manufacturers.

Not only is less plastic lost in the processing of deposit containers, the plastic

that comes from deposit bottles is also cleaner and more likely to be food-grade. In the United States, only food-grade material is compliant with regulations for food packaging. Because deposit programs only collect beverage containers, all material collected through deposit systems contain only 100% food-grade material. However, PET bottles collected through curbside may suffer food-grade quality degradation issues due to being recycled alongside non-food grade plastics.

A 2021 report by Stina, Inc. indicated that "Curbside collected PET is more likely to include both food and non-food containers, as well as opaque PET containers and missorted non-PET plastics." Non-food grade plastics include additives, inks and other chemicals not included in food-grade plastic, which makes them unsuitable for processing into food-grade plastic due to the risk of contamination. Because curbside collection comingles food-grade and non-food grade containers, both are often processed together at MRFs. This risks the non-food grade material contaminating any food-grade material, making it unsuitable to be utilized again as food-grade material. In contrast, The Stina, Inc. report further notes that deposit systems produce "readily recyclable high-quality material" for food-contact applications.

A national deposit return system would not only solve many problems that the recycling industry faces, but bring in a variety of advantages that would benefit our environment, economy and generations to come.

Please contact me with any questions you may have.

Sincerely,



Susan Collins
President, Container Recycling Institute

***About the Container Recycling Institute:** CRI is a nonprofit organization and a leading authority on the economic and environmental impacts of beverage containers and other consumer-product packaging.*

Citations:

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Examining Solutions to Address Beverage Container Waste

Presented by Susan V. Collins, Container Recycling Institute

17

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

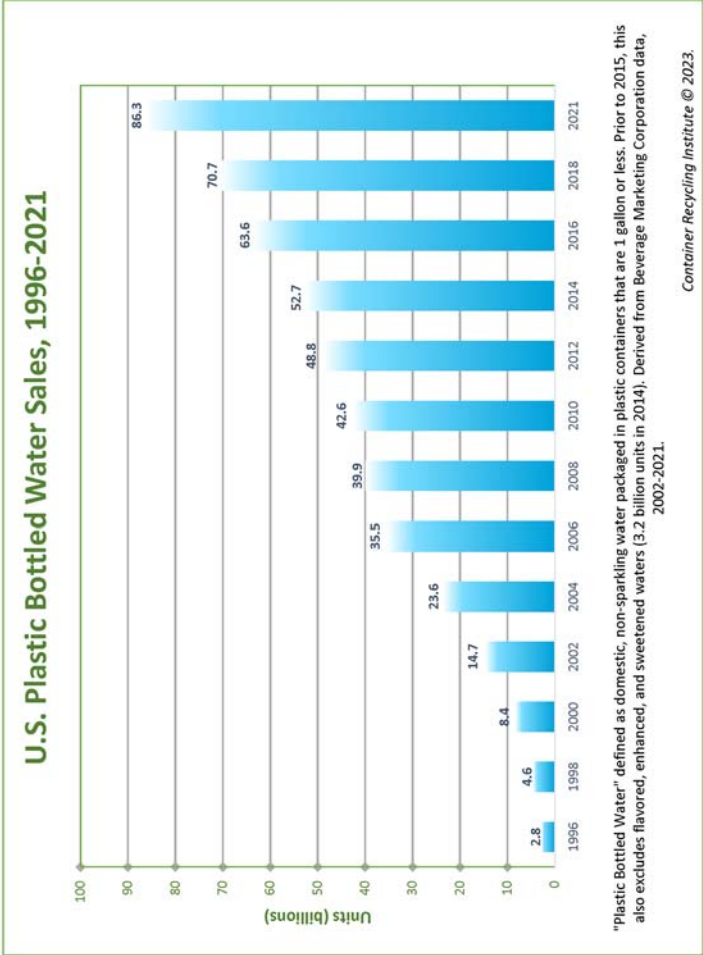
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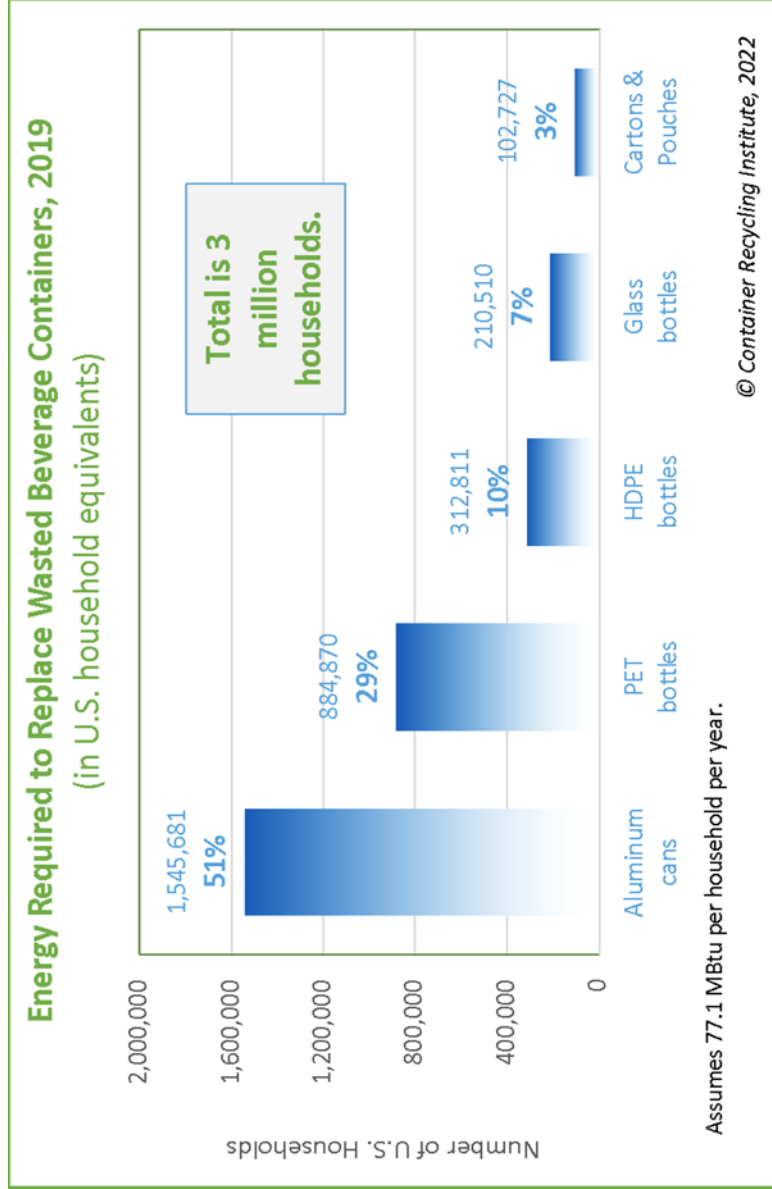
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Room 406

Dirksen Senate Office Building

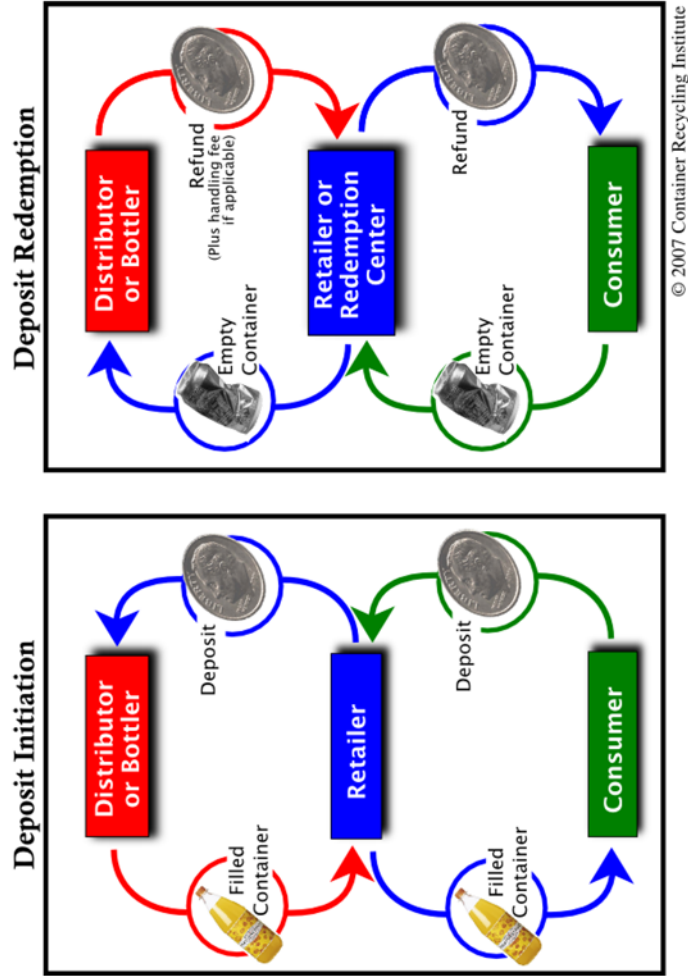
PET plastic water bottles are *the* primary source of beverage sales growth

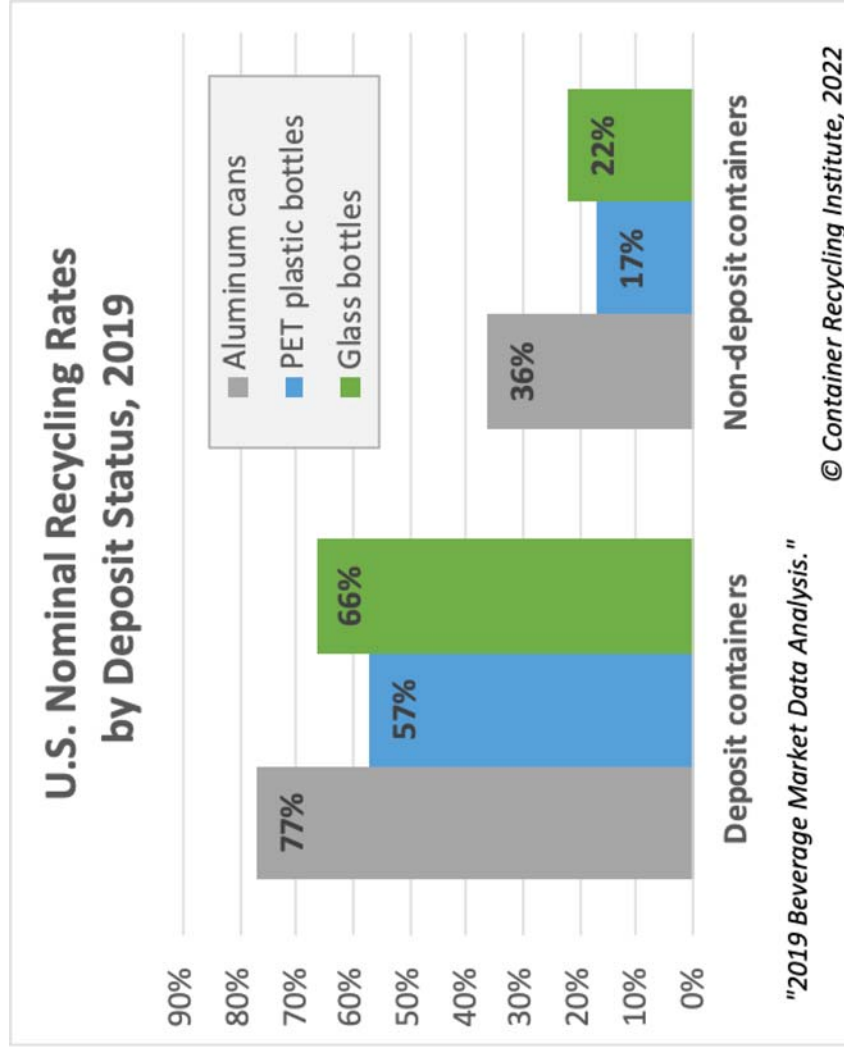




What is a Deposit Return System?

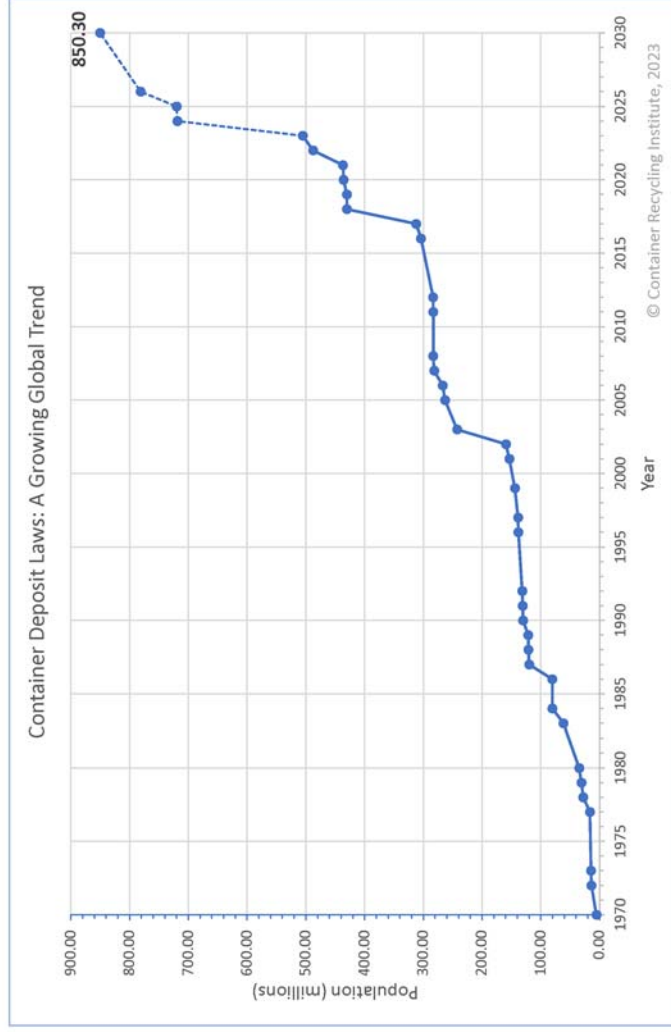
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Existing and new laws will serve more than 850 million people by 2030

2023: Czechia, France, and Goa announced + Singapore and Poland confirmed + expansion in CA





Senator MERKLEY. Thank you very much, Ms. Collins.
Now we will turn to Mr. Bailey.

**STATEMENT OF JULES BAILEY, PRESIDENT AND CEO,
OREGON BEVERAGE RECYCLING COOPERATIVE**

Mr. BAILEY. Thank you, Senator. It is a pleasure to be with you here this morning.

My name is Jules Bailey, and I am President and CEO of the Oregon Beverage Recycling Cooperative. We are a cooperative composed of Oregon beverage distributors and we are responsible for all aspects of the Oregon program, from handling the deposits and refunds to operating redemption centers to trucking, processing, and even marketing the material.

Our vision is a world where no resource is wasted. Beverage containers are not waste. The glass, plastic and metal materials that compose the packaging and even the containers themselves in the case of refillable bottles are resources that can be used again and again.

You can see in this excerpt from our 2022 annual report, we are pretty good at what we do. The bottom line is, we have a better redemption rate than any other system, we operate at the lowest cost per container in the United States and maybe the world, and we offer some of the most convenient return options of any program.

Last year, we turned over 2 billion glass, metal, and plastic beverage containers into grade A, high quality recyclable material, offsetting not only virgin material, but also producing the kinds of materials that are put in the global market by Russia and China. We also run the Nation's only statewide refillable bottle program with nearly three times more bottles in circulation than the system in Paris, France.

We are not done yet. Next slide, please. We continue to expand access in our flagship. The Green Bag Account program now has over a million signups in the State with only 1.5 million households. We have more than 5,600 nonprofits signed up in our State, which received nearly \$6 million last year for organizations ranging from wildland fire fighting to preschools to homeless shelters and everything in between.

So how did it happen? Oregon, as the Senator mentioned, had the first Bottle Bill in the Nation in 1971. The legislature didn't have a road map. So instead, it set the refund value of the container and assigned responsibilities. The legislature asked the beverage distributors to figure out the rest, and over time, they did.

The term "extended producer responsibility," or EPR, has recently come into fashion. Yet while no one in 1971 would have understood that term, Oregon's Bottle Bill was really the first EPR program. We are now implementing EPR for other kinds of packaging, but that remains distinct and separate from the DRS.

The primary feature of Oregon's deposit return system is that industry is responsible for all costs and all benefits of the program with four fundamental principles. One, industry pays for all aspects of the program and accepts no public funding. Two, industry invests unclaimed refunds above the target redemption rate into operating and improving the system. Three, industry keeps the

scrap material, allowing for full material circularity. And four, no handling fee exists in Oregon, which allows OBRC to be a central system operator at scale.

We have evolved into this over 50 years, and Senator Merkley, when he was still Speaker of the House Jeff Merkley, shepherded a major set of reforms that expanded Oregon's Bottle Bill and allowed industry to coordinate as a cooperative, creating OBRC as we know it.

Ultimately, there are only two things that affect whether a Bottle Bill is successful: convenience and incentive. A system with high incentives will fail if there is no convenience, but likewise, the most convenient system in the world will fail without an incentive.

Curbside recycling is just such a system. And the highest-performing curbside systems fail to get back more than around 40 percent of beverage material and often much less. And the quality is usually lower. Even if the quality increases, without an incentive it will not be enough volume to supply the needs of the American recycling infrastructure, like the new aluminum plants being built in the south.

So how do we do convenience? First, Oregon law created room for innovation by allowing industry to work out the details in the private market. In Oregon, government regulators act more like referees than coaches or players on the field.

Second, OBRC created a strategy for customer segmentation, allowing for return pathways that make sense for different users. We have fast, high-volume return options for those who want cash; for others, the Green Bag program means families can just place glass, plastic, and metal containers in the same bag and drop them off at a redemption center or store when they go do their shopping. You can see that here in the next slide. Most Oregonians use this method.

Still others are motivated to redeem containers for their local charity, church, or school. Third, OBRC makes it easy for you to use your money. We have an app that allows you to use Venmo, PayPal, bank to bank transfer to move your money. You can donate your balance to a nonprofit or connect it to a kid's 529 college savings plan, or even spend it for in-store credit with a 20 percent bonus.

None of these innovations were mandated. Rather, the flexible structure of Oregon's deposit return law allowed them to happen.

But at the end of the day, the most important statistic is our customers. Do they like it? People are voting with their feet. There is a lot of info on this slide. But this is the whole system summed up in one graph. You can see a dozen years ago 90 percent of returns went directly back to large grocery stores with only a billion containers redeemed and a lot more unclaimed refunds compared to the number of containers processed.

As the refund value changed from a nickel to a dime, we expanded to cover nearly all beverage types and invested in convenience and access. Now, nearly 80 percent of returns come directly back to us and we are doing twice as much volume directly through our network with a fraction of the unclaimed refunds.

It is popular. Ninety-four percent of Oregonians are familiar with our deposit return system; 97 percent of those say it is good for Or-

egon. And in fact, when we look at the crosstabs, our strongest supporters are consistently older, rural, and Republican. We enjoy broad bipartisan support in the legislature and we take that responsibility to steward that goodwill very seriously.

So as you examine a national deposit return system, we should look at the principles of the Oregon model. We have had 50 years to build the program, and not every State will look the same. But the principles of government facilitation, of regulation, empowerment of the private sector to do what it does best in service of public goals, that should be at the heart of a national system. It will not be one-size-fits-all, and we will need to allow for successful statewide systems to continue operating.

But the benefits of a national framework are large. Fewer cross-border issues, more recyclable material at higher quality to build American industry and jobs, and the opportunity to do reusable packaging at scale.

So let's make sure that in America, no resource goes to waste. Thank you.

[The prepared statement of Mr. Bailey follows:]



September 28, 2023

Dear Members of Senate Committee on Environment and Public Works,

I sit before you today representing what can happen when collaboration between the public and private sector works. The results: partnership of over 50 years between the beverage industry and the environment to produce the most successful deposit return system in the United States, and one of the most successful in the world. At a redemption rate of nearly 90% and with over 2 billion containers recycled last year into high-quality, grade-A material, all of which is recycled domestically, Oregon produces both a proportionate quantity and quality of recyclable material unmatched by any other deposit return or curbside recycling program for beverage containers in the United States. The vision of the company I work for, Oregon Beverage Recycling Cooperative, is a world where no resource is wasted. Beverage containers aren't waste. The glass, plastic, and metal materials that compose the packaging, and even the containers themselves in the case of refillable bottles, are resources to be used again and again.

OBRC, the industry steward of Oregon's Bottle Bill, was founded in 2008, but grew out of previous companies and distributor collaboratives going back to 1971, when Oregon passed the first "Bottle Bill" in the nation. When the legislature created Oregon's deposit return system, it didn't have a road map. Instead, it set the refund value of the container – not a deposit – and then assigned the parties responsible for making sure the system worked. Grocers had the responsibility to take back containers, and distributors had the responsibility to pick up the containers from the grocers, process them, and reimburse the grocers for the refunds that were paid to consumers.

The legislature asked the private sector to figure out the rest, and over time, it did. The term "Extended Producer Responsibility" or "EPR" has recently come into fashion, and yet while no one in 1971 would have understood that term, Oregon's Bottle Bill was the nation's first EPR program. Oregon is now implementing EPR for other kinds of packaging, but it remains distinct and separate from the successful deposit return program for beverage containers.

The primary feature of Oregon's deposit return system is that industry is responsible for all costs and all benefits of the program, and internalizes the incentives to get it right. The model has four fundamental principles: 1) industry pays for all aspects of the program and accepts no public funding; 2) industry keeps unclaimed refunds above the target redemption rate to invest in operating, expanding, and improving the system (unclaimed

refunds below the target redemption rate are contributed to the Oregon Community Foundation to support grants to nonprofits working in the spirit of the Bottle Bill); 3) industry keeps the scrap material, allowing for full material circularity and the ability to send price signals to the market on the recyclability of material; 4) no handling fee exists in Oregon. This last principle allows for vertical integration of the system under the umbrella of OBRC's not-for-profit cooperative structure, the efficiencies of which create the lowest cost per container in the nation, and likely the world, and maximize convenience and access for consumers.

This efficiency and verticality would not have happened without continued partnership from the Oregon legislature. Senator Jeff Merkley, when he was still State Representative Jeff Merkley, speaker of the Oregon House, shepherded a major set of reforms that expanded Oregon's Bottle Bill and allowed industry to coordinate as a cooperative, creating OBRC as we know it, with over 300 beverage distributor patrons. These patrons range from small craft producers with self-distribution, to large multi-state distributors, most of whom support Oregon's Bottle Bill. Further reforms allowed for the creation and deployment of BottleDrop Redemption Centers, and the creation of the Green Bag program, the most recognizable customer-facing feature of the Oregon model. Oregon now has over 1 million Green Bag account holders in a state with only around 1.5 million households, who collectively return nearly 12 million bags of containers each year. While policymakers focused on streamlining responsibilities and strengthening outcomes, the beverage industry focused not only on efficiency, but on convenience.

Deposit return systems can seem complicated, but they are actually quite simple. Ultimately, there are only two things that affect whether a system is successful: convenience, and incentive. A system with high incentives will fail if there is no convenience. Imagine having to drive for hours just to get your deposit back, even a high one. But likewise, the most convenient system in the world will fail without an incentive. Curbside recycling is just such a system, and the highest performing curbside systems fail to get back more than around 40% of beverage material, and often much less. While the yield produced by these systems is comparatively low, the quality of that material recovered is also usually much lower.

Curbside systems represent the recycling of last resort, and work best for those things that cannot be easily returned. By contrast, the combination of convenience and incentive in Oregon means nearly all beverage containers are collected with other beverage containers, helping protect food-grade materials from contamination, and returning them to their highest and best use, which is often a new bottle or can. Even if curbside invests in technology to improve the quality of recycling, without an incentive, these systems will not generate the volume necessary to meet the needs of American recycling infrastructure, like the new aluminum plants being built in the South. Deposit return systems provide the volume and quality necessary to grow American jobs, and to displace materials in the global market provided by Russia and China.

While the combination of incentives and convenience may make a successful system, convenience for one person may not look like convenience for another, and people's reasons for returning containers may differ. So how did OBRC provide convenience? First, Oregon law created room for innovation by allowing industry to work out the details in the private market while internalizing costs and benefits. In Oregon, government regulators act more like referees than coaches. They make sure everyone is playing fairly and according to the rules, but don't serve in any sort of operational role – that's the job of the beverage industry. It is worth noting that the most successful system in Europe, the German reuse system, is set up much the same way.

Second, OBRC created a strategy for “customer segmentation”, allowing for return pathways that make sense for different users. For some people, the refund value is a source of income to make ends meet. OBRC provides fast, high-volume return options for those that want to get their cash every day. For others, the Green Bag program means families can just place glass, plastic, and metal containers all in the same bag, and drop their bags off at a redemption center or grocery store when they go to do their shopping. Most Oregonians use this method. Still others are motivated to redeem containers when their local charity, church, or school puts a “Blue Bag” non-profit bag in their hands and asks them to return those bags to fund the nonprofit. There are over 5,600 nonprofits in Oregon using Blue Bags, and they raised \$5.1 million last year to support everything from homeless services, to pet adoption, to pre-schools, and everything in between.

Third, OBRC makes it easy to use your money. The BottleDrop app allows you to use Venmo, Paypal, and bank-to-bank transfer to move your money. You can easily donate your balance to a nonprofit. You can connect your account to a child's 529 college savings plan. Or you can spend your balance for groceries with in-store credit, and earn a 20% bonus on your money. However you want to use your money, we've got a way to do it. None of these innovations were mandated – rather, the flexible structure of Oregon's deposit return law has allowed them to happen. Furthermore, OBRC and the beverage industry have grown beyond recycling, introducing the nation's first statewide refillable/reusable bottle program. With nearly three million units in circulation and a dozen craft beverage makers participating, Oregon's BottleDrop Refill program is nearly three times larger than the beverage reuse program in Paris, France.

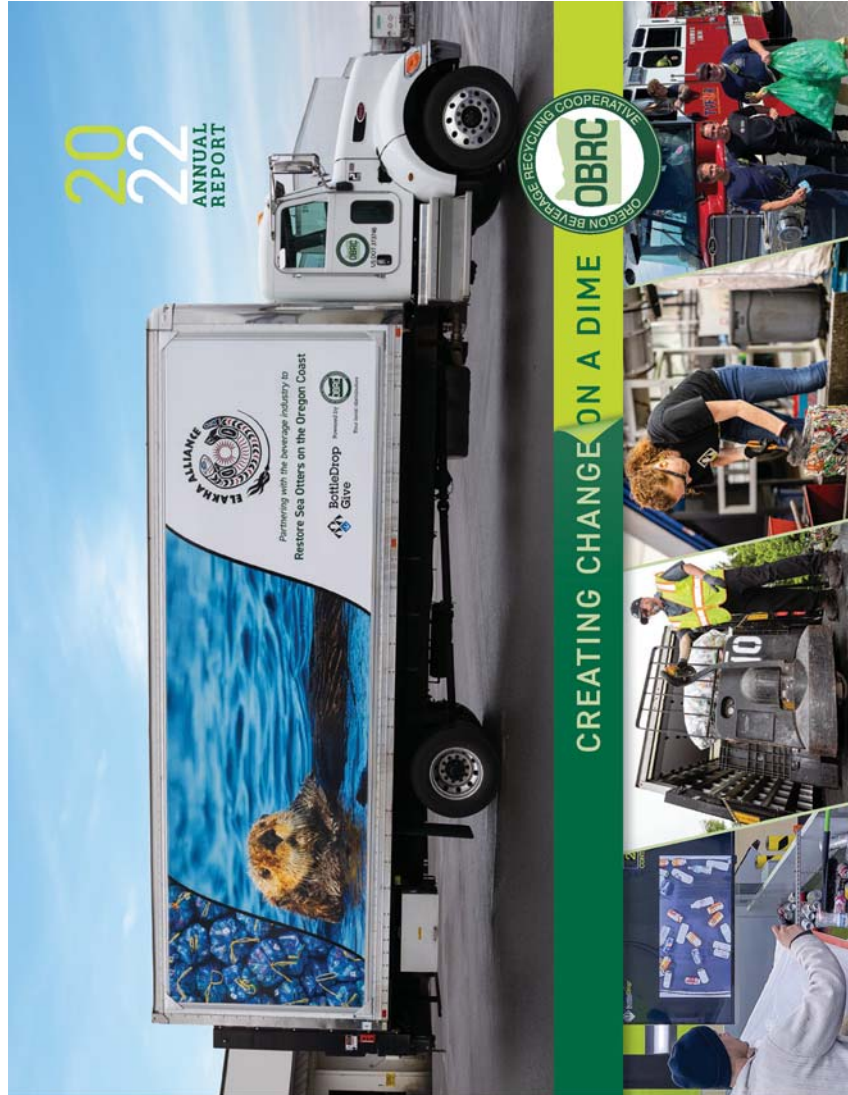
As Congress examines a national deposit return system, it should look to the principles of the Oregon model. Oregon has had 50 years to build its program, and not every state will look the same. But the principles of government facilitation (instead of regulation), and empowerment of the private sector to do what it does best in service of public goals, should be at the heart of a national system. Such a system won't be one-size-fits-all, and will need to allow for latitude for state-based innovation, especially as every state does beverages differently. Successful statewide systems should be acknowledged in any federal legislation, and allowed to continue operating under their successful frameworks. But the benefits of a national system are large – fewer cross border issues, much more recyclable material (and at a higher quality) to build American industries and jobs, and the opportunity to do reusable packaging at scale.

Oregon's deposit return system is not partisan. A recent resolution commemorating our program passed nearly unanimously in the legislature. And we're not done. We're still learning and innovating, and when Congress is ready to take up the issue, we're ready to help.

Sincerely,

A handwritten signature in black ink, appearing to be 'Jules Bailey', with a long horizontal stroke extending to the right.

Jules Bailey
President and CEO



Creating Change on a Dime

For 51 years and counting, OBRC and its distributor participants have served every corner of Oregon, providing access, convenience and always the highest level of recycling quality for beverage containers.

In January 2023, I stepped into the role of President and CEO of Oregon Beverage Recycling Cooperative. It's a company with a talented team, a drive for innovation and a critically important mission. After growing up with Oregon's Bottle Bill, leading this company and stewarding Oregon's legacy is a dream come true.

The success of the Bottle Bill and the OBRC system is possible because of our focus on continuous improvement. We invest and innovate, year after year. But more than that, it is possible because of the people involved.

Thank you to the Oregonians who use the system daily, weekly and monthly. Thank you to the policymakers who help safeguard the system for all. Thank you to our nonprofit partners who bring community into our mission by directing millions of dollars in refunds to great causes across Oregon. Thank you to our co-op members who combine expertise with both foresight and oversight. And perhaps most, thank you to our employees, who work in challenging jobs to ensure every dime is refunded and every container is recycled.

In 2022, we learned from public opinion research that Oregonians give the system an A+, with 97% agreeing that it's good for Oregon*. While that highlights the success of where we've been, even more so, it shows the importance of where we are going and the responsibility to do it well. You can count on all of us at OBRC to work every day to continue to make our Bottle Bill the most successful in the world and to create a world where no resource is wasted.

Jules Bailey
President and Chief Executive Officer
Oregon Beverage Recycling Cooperative

*2022 survey by OHM Research

COVER PHOTO:
In 2022, OBRC partnered with BottleDrop Give nonprofits across Oregon to feature their work on OBRC trucks. The Elakha Alliance, headquartered in Siletz, Oregon, is working with tribal and conservation leaders to reintroduce sea otters to their native habitat along the Oregon Coast.

1

2022 by the Numbers: 2 Billion and Counting!

Convenience means results. 2022 marked the first time ever that more than 2 billion containers were redeemed through Oregon's Bottle Bill. That's more than 2 billion containers recycled domestically to the highest and best outcomes and more than \$205 million paid out to Oregonians and Oregon nonprofits in container refunds.

513 employees

301 co-op participants

164.8 million pounds of materials processed

117,831 new BottleDrop account sign-ups

26 full-service BottleDrop Redemption Centers (1 new)

94 bag drop locations (12 new, 1 closed)

51,337 metric tons of CO₂ equivalent emissions reduced - comparable to taking 10,900 passenger cars off the road*

88.5% redemption rate**

*by recycling containers through OBRC vs. sending them to landfills, as calculated by US EPA Waste Reduction Model

**Preliminary data. OBRC submits final data to OLCC in June of each year.



OBRC's Statewide Network is Powered by Innovation

Being good stewards of every container



OBRC's Technology Makes the Redemption Process Faster and More Convenient

Thirty-one thousand.

That's how many Green and Blue Bags of redeemable beverage containers, on average, are processed at BottleDrop locations every day in Oregon. And when it's at peak volume, it can hit 50,000.

Meeting that demand in an efficient, speedy and convenient way is no easy task. But by developing an innovative technology right here in Oregon, OBRC has created a solution that's made the redemption process faster, more accurate and more convenient for customers everywhere.

Oregonians return more than 2 billion containers annually, so efficiency and accuracy are key. OBRC's patented Smart Count AI helps on both fronts, rapidly and accurately counting containers and crediting customers' BottleDrop accounts instantly.

The Smart Count AI's system uses image recognition, scanners, cameras, advanced software and artificial intelligence to rapidly identify and count bulk batches of OR 10-cent containers returned through the Green Bag and Blue Bag programs. After counting, customers' accounts are credited immediately.

The system is extremely accurate and continues to learn over time as the software is updated to include more container and material types. OBRC has deployed the patented Smart Count AI technology at some of its processing plants and Redemption Centers.

In 2022, OBRC also deployed a second version of the technology called Stream Count AI, which counts beverage containers while they are in motion on a conveyor belt. The technology, made available at Redemption Centers in Northeast Portland and North Bend/Coos Bay, allows customers



to empty up to 350 containers onto a conveyor belt, where the bottles and cans are instantly identified and counted underneath an optical system. Customers receive a voucher and can redeem it immediately.

OBRC regularly hosts delegations visiting from across the nation (and the world) to learn about the innovations that have made Oregon's system one of the most efficient and convenient of its kind. Oregon's first-in-the-nation Bottle Bill was inventive from the start, and OBRC's focus on innovation continues to deliver nation-leading results.

Growing the BottleDrop Network

Convenience is a key factor in the performance of Oregon's Bottle Bill. In 2022, OBRC expanded the BottleDrop network by opening a BottleDrop Redemption Center in North Bend/Coos Bay and replacing the Northeast Glisan Street BottleDrop Redemption Center in Portland with a state-of-the-art facility featuring first-of-its-kind technology. The BottleDrop network ended the year with 94 Green and Blue Bag drop sites across Oregon, 11 more than the previous year's end. New drop locations were added through retail partnerships in Aloha, Ashland, Bend, La Pine, Lincoln City, Portland and Tualatin.

The percentage of containers returned through the BottleDrop network stabilized throughout 2022 compared to the COVID-19 pandemic-era highs that occurred during retail return suspensions in 2020 and 2021. Comparing the two most recent years without retail return suspensions (2019 and 2022), the BottleDrop network continues a steady trajectory of growth in the overall percentage of return volume.



Total volume of container returns by year. Darker shading denotes proportion of volume returned through the BottleDrop network, and lighter shading denotes proportion of volume returned through retail stores.



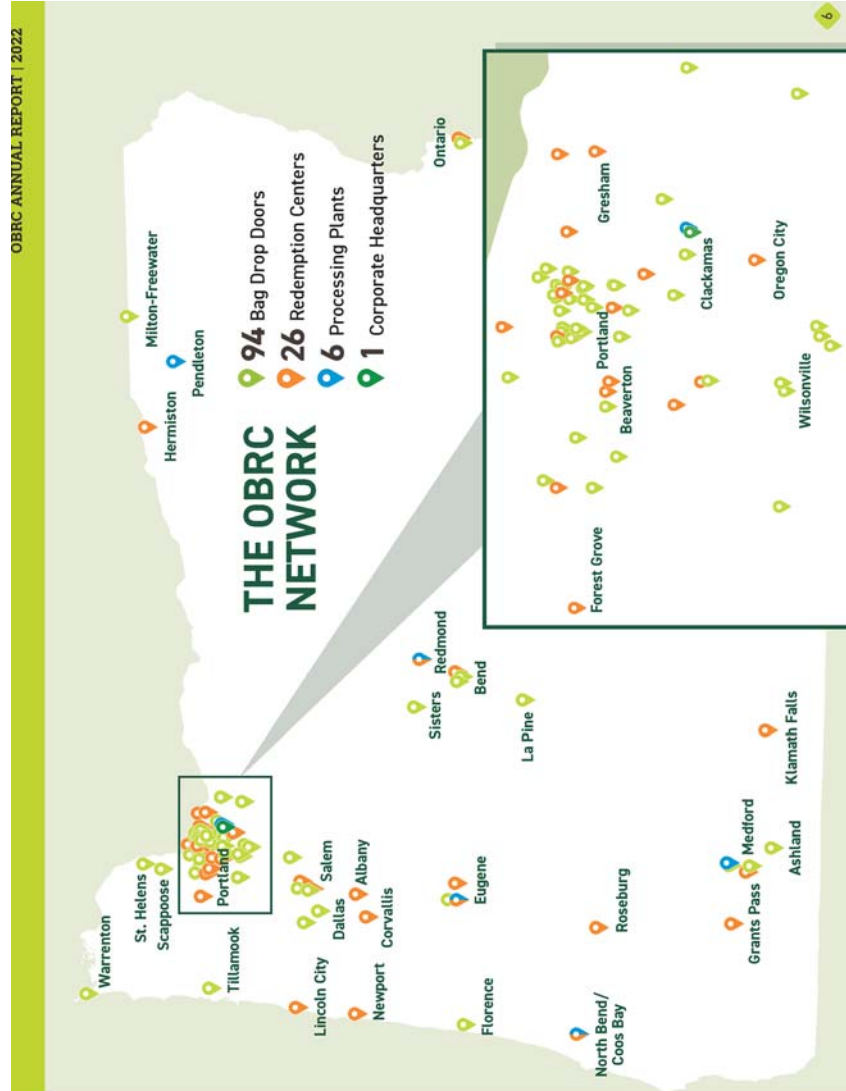
Above: The new Redemption Center at 122nd and Glisan in Portland

Left: The new BottleDrop Express in Ashland and North Bend/Coos Bay Redemption Center



"The savings that we are having with this, not just in terms of resources but in terms of time, is so invaluable for this community, for my neighborhood. We are working-class, refugee and BIPOC communities, and it's just such a relief to know that we're seen and that we're valued and that we have this incredible technology that's bright and shiny right here in an area that has felt traditionally underserved."

– **State Rep. Andrea Valderrama**
Resource Recycling, 11/28/22



Making a Real Difference Across Oregon – and Beyond

Oregon's Bottle Bill was created to reduce litter and protect the environment. While it continues to fulfill these core missions today, it has also become a big part of the social fabric in communities across the state – and even the world, as was the case when Oregonians showed up in a big way for their distant neighbors in Ukraine during the spring of 2022 (see the feature story on Page 8). Whether through Containers for Change, the OBRC Emergency Fund or an enduring partnership with the Oregon Community Foundation through the BottleDrop Fund, OBRC regularly partners with Oregonians to provide support during emergencies and to transform container redemption into community progress everywhere in Oregon.



76 NONPROFITS
RECEIVED FUNDING THROUGH
CONTAINERS FOR CHANGE

38

13 nonprofits were awarded grants through the BottleDrop Fund at the Oregon Community Foundation in 2022.

Adalante Mujeres, empowering women through environmental education and leadership in Forest Grove.

AdoptOneBlock, supporting volunteers who beautify communities through litter collection.

Blanchet House, improving sustainability at the Blanchet Farm residential recovery facility in Yamhill.

Children's Forest of Central Oregon, boosting access to the NatureHoods Program and field trips for students.

Elakha Alliance, working to restore sea otter populations on the Oregon Coast.

Everyone Village, launching an alternative container redemption service in conjunction with their safe rest village in Eugene.

Ground Score's People's Depot, operated by and providing container redemption services for canners and gleaners in Portland.

Growing Gardens in Portland, serving students through food systems education and environmental action.

Illinois Valley Community Development Organization (Cans for Kids), providing funds for children's programming and activities through container donations in Cave Junction.

Lomakatsi Restoration Project in Ashland, engaging youth in ecological stewardship training and employment.

Oregon Bee Project at Oregon State University, supporting pollinator research.

Spruce Up Warrenton, rallying the community to beautify Warrenton.

Trust for Public Land, incorporating environmental education and design into school playgrounds at Madras Elementary and Alameda Elementary.

The BottleDrop Fund awards larger grants to support nonprofits working to build community, protect the environment and help vulnerable people.

Oregonians Rally to Help a Community Across the Globe

OBRC's Emergency Fund helped raise \$125,000 to support refugees in Ukraine in 2022

In February 2022, Russia invaded Ukraine, triggering the fastest-growing refugee crisis in Europe since World War II. By the end of that month, more than 4 million people had fled the country.

Almost immediately, Portland-based Mercy Corps, a global provider of humanitarian relief, sprang into action to help – and so did OBRC and our BottleDrop customers.



In March, OBRC announced that it would match donations up to \$50,000 from its Emergency Fund to help support Mercy Corps' efforts in Ukraine. The cooperative encouraged BottleDrop account holders – more than 810,000 at the time – to make donations to Mercy Corps from their online accounts. Oregonians returning containers at BottleDrop Redemption Centers could also donate their refund value to support Mercy Corps.

The campaign generated more than \$125,000 in less than a month.

The funds have helped Mercy Corps support local organizations in Ukraine, Poland and Romania that were providing critical relief services for refugees and those still in Ukraine.

"From grain shortages to fuel prices, the war in Ukraine has had significant ripple effects around the world," said Lynn Hector, Mercy Corps' senior director of global communications. "Oregonians stepped up tremendously in 2022 by donating their bottles and cans to support Mercy Corps' relief efforts in Ukraine. This unique BottleDrop fundraising effort shows us once again how deeply interconnected we are as a global community and how even small acts of generosity can make a tremendous impact."



Mercy Corps team members assisting Ukrainian refugees at the Sighetu Marmatiei border crossing between Romania and Ukraine. Photo credit: Cassandra Nelson

This wasn't the first time OBRC and Oregonians returning their containers teamed up to help others in need. Originally launched in 2020, the OBRC Emergency Fund aims to help communities and neighbors during times of crisis, often through matching campaigns or calls to action that provide opportunities for BottleDrop account holders and Oregonians to leverage the full redemptive power of their containers.

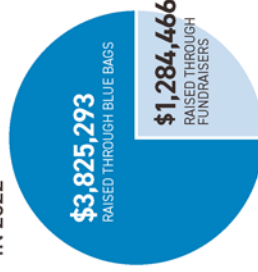
The Emergency Fund was first activated at the beginning of the COVID-19 pandemic and raised \$200,000 for the Oregon Food Bank to help people experiencing food insecurity. The fund has also been activated to help rural firefighters during a devastating wildfire season and to support cooling and warming shelters during extreme weather events.

Giving Back, Giving Big

It's easy to get lost in the numbers: more than 110 checks each week, 480 per month, 5,800 per year, totaling more than \$5.1 million raised by Oregon nonprofits through BottleDrop Give in 2022. Behind each of those checks is a town festival bringing people together, a food bank providing nourishing meals, an animal rescue brightening a home with a shelter pet, a youth or senior services provider enhancing lives, and an environmental group caring for our planet.



MORE THAN
\$5.1 MILLION
RAISED FOR NONPROFITS
IN 2022



534,641
BLUE BAGS PROCESSED
A 4% increase from 2021

5,565 PARTICIPATING
NONPROFITS ACROSS OREGON
An 18% increase from 2021



CHEERS TO RESILIENCE!

"We have long known the sustainability benefits of refillable bottles, but the recent beverage market showed us a whole new benefit of the program. While other brewers were scrambling to find bottles, even at significantly escalated prices, the steady supply of Refillable bottles coming back through OBRC's Refillable program meant that we had bottles available the whole time – and at a price that stayed stable, despite the whims of market scarcity."

– **Matt Swihart**
Double Mountain Brewery

Going Far Beyond the Dime

Container redemption is about more than just the dime. Oregon's Bottle Bill boosts community organizations across the state, helps keep Oregon beautiful, reaches new heights through creative partnerships and continues to inspire change beyond our borders through relentless innovation.



BottleDrop Plus

199,431 BottleDrop account holders took advantage of BottleDrop Plus in 2022, making their redemption dollars stretch farther by getting an extra 20% added to their funds to shop with in-store credit at participating retailers. That's a **25% increase from 2021**.



OREGON COLLEGE SAVINGS PLAN

In 2022, BottleDrop account holders transferred **more than \$400,000** to nearly 4,000 Oregon College Savings Plan accounts. Oregon is the only place in the world where people can directly save for education through container redemption.



OBRC continues to lead the way in refillable glass bottles. The only statewide refill program in the U.S., BottleDrop Refillables now includes **11 craft beverage producers and 112 unique beverage options**.



OBRC unveiled a **much-improved website** in 2022. OBRC.com now features information about Oregon's Bottle Bill, the unique and effective nature of the Oregon Model and the excellent recycling outcomes it produces.



An Annual Celebration of Oregon's Bottle Bill

In 2022, OBRC once again celebrated the Bottle Bill's anniversary (\$1!) by engaging Oregonians in a statewide hunt for hidden commemorative bottles. Each lucky finder got to direct a \$1,000 donation to the BottleDrop Give nonprofit of their choice.



Megan Futrell of Tigard, hunting with Elizabeth and Karen Guise of Beaverton
Found in Trojan Park near Rainier
Selected nonprofit: Rabbit Advocates



Nicole Ferguson and Jesse Grimes of Pilot Rock
Found in Hermiston's Riverfront Park
Selected nonprofits: Pendleton Animal Welfare Shelter (PAWS)/Pioneer Humane Society



Amber Kaney and teammates Tommy, Edith and Vina Hefflinger, Jason Stride and Neal Dietz, all of Oregon City and Portland
Found in Wilsonville's Memorial Park
Selected nonprofit: Rose Festival Foundation



Johanna Field of Eugene, assisted by Dawn, Marie and Melissa Dettmer
Found in Eugene's Amazon Park
Selected nonprofit: Shelter Animal Resource Alliance (SARA)



Shane Chatham of Bend
Found in Bend's Hollinshead Park
Selected nonprofit: Upper Deschutes Watershed Council



Kim Thurman and Rob Schneider of Shady Cove
Found on the Quarry Trail near Jacksonville
Selected nonprofit: Rogue Valley Genealogical Society

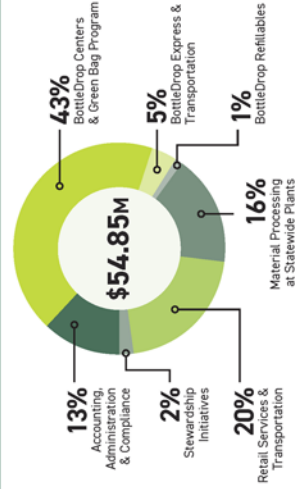


The entire value of unclaimed refunds is fully invested in the operation of the redemption system.*

Big Returns. Zero Tax Dollars.

Oregonians who redeem their containers responsibly get to enjoy the system's strong environmental and recycling outcomes at almost no cost – and at no taxpayer expense. That's because Oregon's Bottle Bill is an advanced form of Extended Producer Responsibility, where OBRC serves as the statewide not-for-profit operational steward on behalf of the beverage industry, and we invest the value of unclaimed refunds directly into the operation and expansion of the network. Additionally, beverage distributors make significant financial contributions to cover the remaining costs of the program.

2022 Annual Budget^{1,2}



*Additional funds in the operating budget come from fees paid by OBRC members, retailers and other system revenues.

¹Pie chart percentages and data reviewed by the Oregon Liquor and Cannabis Commission (OLCC).

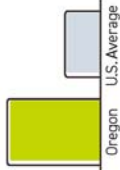
²Budget and redemption data for 2022 in this report is preliminary. OBRC is committed to accurate and transparent accounting and files an official report with the OLCC as required by Oregon's Bottle Bill in June of each calendar year. OBRC does not include the value of scrap material sold in its operating budget.

Innovation + Convenience = Success

A range of easy return options and thousands of return points help Oregon's system deliver excellent results each year. Through OBRC's network, customers have easy access to their dimes, and Oregonians enjoy outstanding recycling outcomes. Convenience and results, the Oregon way.

WE GET A LOT MORE BACK

Around **88%** of beverages sold in Oregon are redeemable, and the redemption rate is regularly between **80-90%**. Nationally, the beverage container recycling average is around 35%.



CLEANER MATERIAL MEANS BETTER RECYCLING

Beverage containers have their own recycling pathway in Oregon, making them cleaner and easier to recycle. Unlike curbside, this means they can remain **Grade-A materials** and be recycled into food-grade packaging again.

WE KEEP THINGS CLOSE TO HOME

Not all recycling is the same. While there are plenty of stories about recyclable material being shipped overseas or ending up in a landfill, because of our Bottle Bill and OBRC's system, Oregonians can have confidence that:



Our beverage containers **ARE** being recycled.



Glass and plastic are recycled **right here in Oregon.**



All recycling takes place **in the U.S.**

ON THE HORIZON: 2023 GOALS

- Open Yamhill County's first full-service BottleDrop Redemption Center in McMinnville.
- Secure property for a future full-service BottleDrop Redemption Center in The Dalles.
- Expand access to the BottleDrop network by partnering with retailers to make Green and Blue Bag drop doors available for the first time in The Dalles, Brookings, Lebanon, Pendleton, Woodburn and Lake Oswego, and expand drop door access in Ashland, Eugene, Oregon City and Portland.
- Hit \$1 million contributed to Oregon College Savings Plan and Oregon ABLE accounts through BottleDrop account transfers.
- Serve as a great partner for BottleDrop Give nonprofits, continuing to grow the Give network of nonprofits, increase funds raised and make positive community impacts through the program.
- Reach 1 million BottleDrop account holders for the first time.
- Continue to work with programs across the country (and the world) to help them improve by exporting Oregon's creative solutions beyond our borders.
- Continue to improve the BottleDrop app by rolling out new functionality to enable direct fund transfers from the app and BottleDrop Plus integration to allow the creation of electronic Plus vouchers in the app.
- Build on the success of BottleDrop Refillables and roll out improved labeling technology, making bottle washing and reuse much easier.
- Continue to serve as a major statewide employer, providing a range of jobs across Oregon as part of the growing green economy.

At OBRC, we empower people to ensure no resource is wasted with every container they redeem. Oregonians can be proud of their Bottle Bill, which consistently produces one of the nation's highest redemption rates. While container return volume has doubled in just the past six years, and the system recently faced a disruptive global pandemic, OBRC has been consistent in delivering convenience for consumers and best-in-class recycling outcomes. When there's no existing solution, OBRC invents one. We are innovators, finding ways to be easier, faster, better and cost-efficient. And when we find the answer, we bring it to the world.



BottleDrop®
Oregon Redemption Center



LEARN MORE

EMAIL

PR@obrc.com

WEBSITES

OBRC.com

BottleDrop.com

2022 by the Numbers: 2 Billion and Counting!

Convenience means results. 2022 marked the first time ever that more than 2 billion containers were redeemed through Oregon's Bottle Bill. That's more than 2 billion containers recycled domestically to the highest and best outcomes and more than \$205 million paid out to Oregonians and Oregon nonprofits in container refunds.

513 employees

301 co-op participants

164.8 million pounds of materials processed

117,831 new BottleDrop account sign-ups

26 full-service BottleDrop Redemption Centers (1 new)

94 bag drop locations (12 new, 1 closed)

51,337 metric tons of CO₂ equivalent emissions reduced - comparable to taking 10,900 passenger cars off the road*

88.5% redemption rate**

*by recycling containers through OBRC vs. sending them to landfills, as calculated by US EPA Waste Reduction Model

**Preliminary data. OBRC submits final data to OLCC in June of each year.



Innovation doesn't stop



Since the 2022 annual report, 2023 has brought continued growth

1 million+
BottleDrop
account holders

2 billion
containers/year
recycled

>89%
Projected
Redemption
Rate

2.8 million
reusable bottles
in circulation

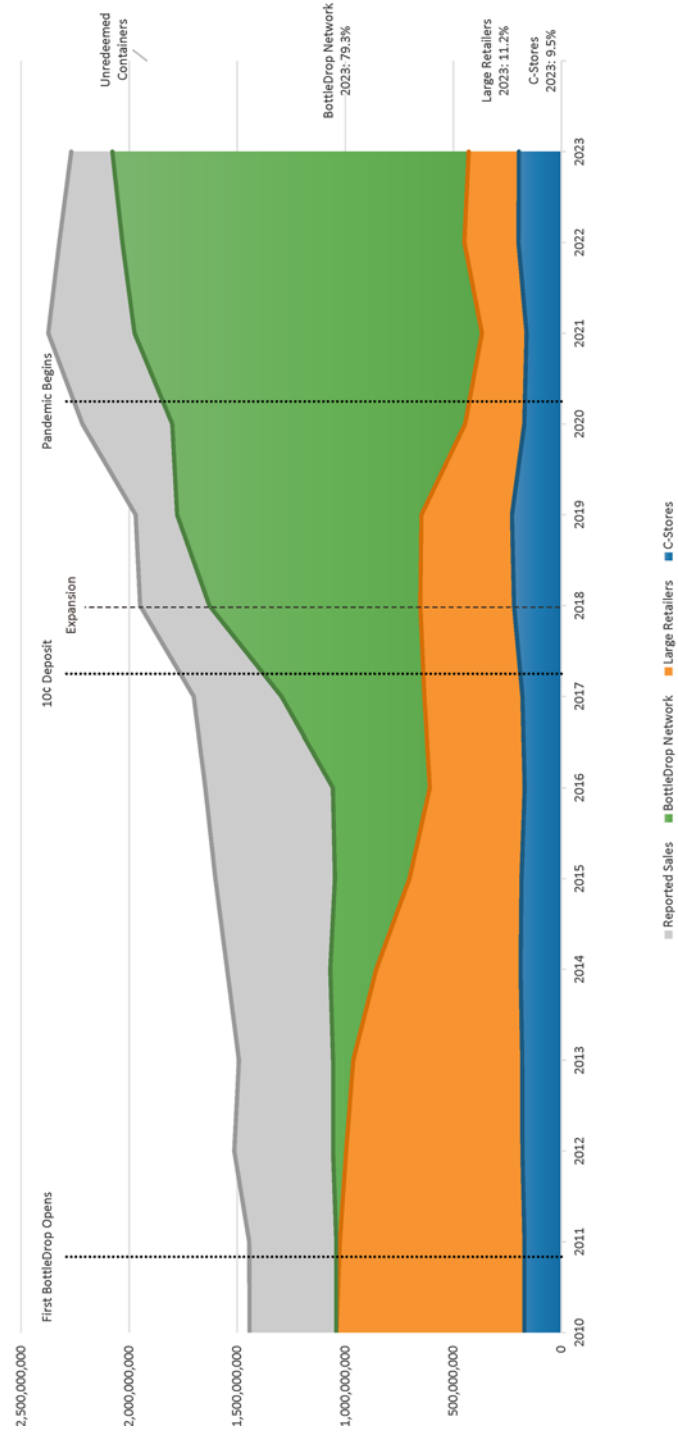
> 12 million
projected bags
processed

101
Green Bag
drop sites

27
Full-Service
Redemption
Centers

Still Zero
taxpayer
dollars





Senator MERKLEY. Thank you very much.
Now we will turn to Mr. Alexander.

**STATEMENT OF STEVE ALEXANDER, PRESIDENT AND CEO,
ASSOCIATION OF PLASTIC RECYCLERS**

Mr. ALEXANDER. Thank you, Chairman Merkley, members of the committee. My name is Steve Alexander, and I am the President and Chief Executive of the Association of Plastic Recyclers. The recyclers are excited to be here today. Thank you for giving the recyclers the opportunity to address you.

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. We work at every link of the chain, from the initial design of packaging to the eventual manufacturing.

Our design guide for plastics recyclability and our testing protocols are the gold standard and referenced across the globe. They have been adopted by thousands of companies, countries, and organizations, as the technical basis to ensure that plastics packaging is designed to be recycled from the very beginning.

Our member companies take your soda bottles, your milk jugs, your yogurt containers, from every community recycling program. We wash them, we grind them, we flake them, we make pellets that we then sell to U.S. manufacturers who make them into new plastic packaging and products. Last year, our members completed this cycle countless times, recycling more than 5 billion pounds of post-consumer plastics. That is 5 billion pounds of plastic that did not end up in the ocean or in a landfill.

Plastics recycling particularly for consumer plastics packaging works. But as we all know, it can work a lot better. The problems facing our recycling infrastructure today, however, are not just in plastics. We know that three out of every five cardboard boxes and half of the aluminum cans are thrown away by U.S. households every year.

But my focus with you today is on plastics recycling. I would like to share some numbers, if you do not mind. I will try to keep this as straightforward as I can.

Eighty percent of consumer packaging is comprised of three resins: PET, which is soda bottle resin that we are talking about here today; high density polyethylene, which are your milk jugs, your laundry detergent; and polypropylene, which is yogurt tubs, butter tubs, what have you. Eighty percent of consumer packaging are in those three forms.

Right now, we recycle those three forms in the United States at 19.8 percent. It is not very good. Interesting, our members have the capacity today, September 28th, 2023, to take that number to 42 percent tomorrow, if in fact we could get the supply. Recyclers simply cannot recycle what is not made available to recycle. So collection and supply is a huge problem facing this industry, because we have the ability to deal with it and to recycle it, even as we sit here today.

We know that recycling matters, not just to reduce waste and protect our environment, but also as the economic engine for U.S. manufacturing in building clean, resilient domestic supply chains. Demand for our products, recycled content, is soaring. U.S. compa-

nies have committed to buying three times more soda bottle resin by 2025 than is currently available in the domestic market. As a result, our members are already importing plastics from other countries to meet that demand.

Collecting more recycled plastics is good for U.S. consumers, U.S. manufacturing, and clearly benefits our environment. We need to collect more plastics from consumers, but the responsibility cannot and must not fall on consumers alone. We need robust public policies at the State and Federal level to grow and sustain recycling. Plastics recycling is a very complex, interconnected system. There is no silver bullet fix. Instead, we need a comprehensive suite of tools at every link in the chain, and our focus right now is on three main suggestions for you.

First, plastics must be designed to be recyclable. If they are not designed to be recyclable, it does not matter if we collect it, we sort it, we process it, it is going to contaminate the stream. It includes manufacturing adherence to design standards and implementation of very clear, consistent labeling, so we do not confuse consumers in terms of what to put in the bin.

Second, recycling must be convenient and accessible. We need more bins at every household and business in the State. Frankly, we need to make recycling as simple as throwing away a container.

We have 9,000 recycling programs in this Country. Most of them take something different. We do a great job at confusing the consumer.

Third, new plastics packaging must be made out of recycled plastic through U.S. manufacturing. APR was the first organization to call for mandatory recycled content standards nearly 20 years ago, in 2006. We still need State and Federal policies to drive minimum recycled content standards.

Americans across the board support recycling. So long as people depend on plastics, we need a robust recycling supply chain to minimize that waste and to strengthen sustainability. Recycling is the sustainability solution for plastics packaging.

Thank you for taking the time to listen to the recyclers. I look forward to answering any of your questions.

[The prepared statement of Mr. Alexander follows:]



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.](#)¹
- [80% of households believe recycling has a positive impact.](#)²
- [75% of Americans think recycling is the best thing to do for the environment.](#)³
- [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.⁴

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%.](#)⁵ 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](#)⁶ 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.

¹ 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>.

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

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

⁴ 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>.

⁵ 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.

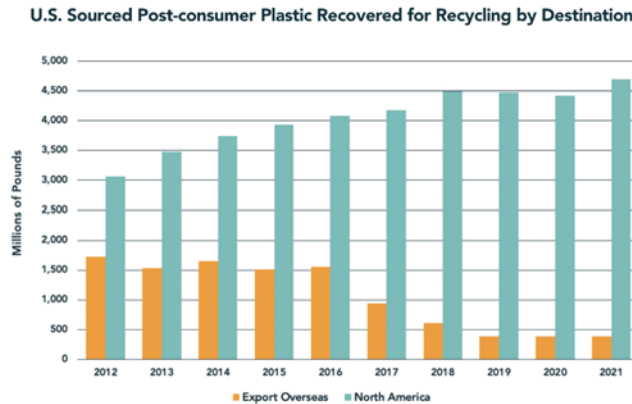
⁶ Circularity in Action, *2021 U.S. Post-consumer Plastic Recycling Data Dashboard*, <https://circularityinaction.com/2021PlasticRecyclingData> (last visited Apr. 23, 2023).

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

5.1 Billion lbs. Bottles, Non-bottle Rigid Plastics, Film and Other Plastics (excluding foam)	PET Bottles 1,931.5 Millions of pounds	HDPE Bottles 927.2 Millions of pounds	PP & Other Bottles 28.1 Millions of pounds
	Non-bottle Rigid 1,071.0 Millions of pounds	Film 1,106.2 Millions of pounds	Other Plastics (excluding foam) 20.2 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 2010.⁸ Less than 8% of plastics are exported, and the [Basel Convention amendments](#) have reduced trade in contaminated or under-processed plastic waste.⁹ 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 2010¹⁰.



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

⁸ *Id.*

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

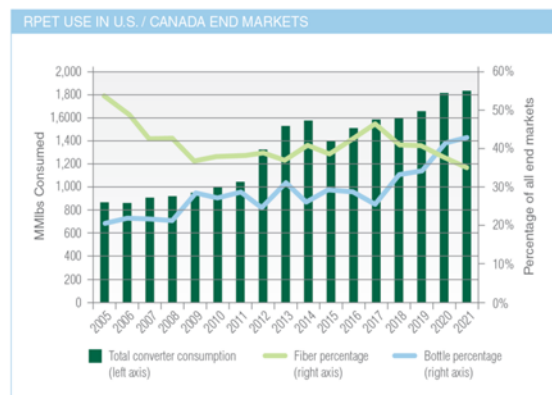
¹⁰ Circularity in Action, 2021 U.S. Post-consumer Plastic Recycling Data Dashboard, <https://circularityinaction.com/2021PlasticRecyclingData> (last visited Apr. 23, 2023).

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](#).¹¹ 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](#).¹²

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.¹³



Source: NAPCOR 2021 PET Recycling Report

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

¹¹ 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).

¹² 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.

¹³ 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.¹⁴

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.¹⁵ Right now, the U.S. recycles those plastics at a rate of 19.8%.¹⁶ Over 70% of the PET and HDPE containers that people put into their curbside bin are sorted, processed, and effectively recycled today.¹⁷

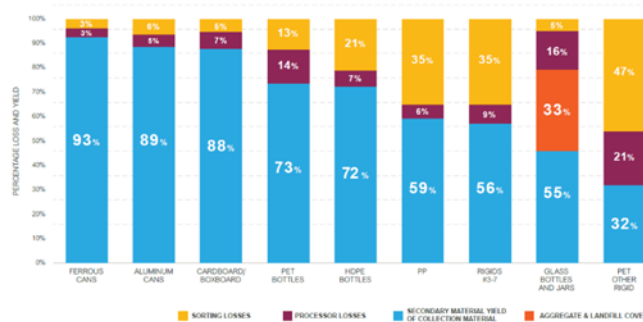
¹⁴ Thomas Hundertmark et al., *Accelerating plastic recovery in the United States*, McKinsey & Company (Dec. 20, 2019), <https://www.mckinsey.com/industries/chemicals/our-insights/accelerating-plastic-recovery-in-the-united-states>.

¹⁵ 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.

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

¹⁷ 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 materials¹⁸



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.

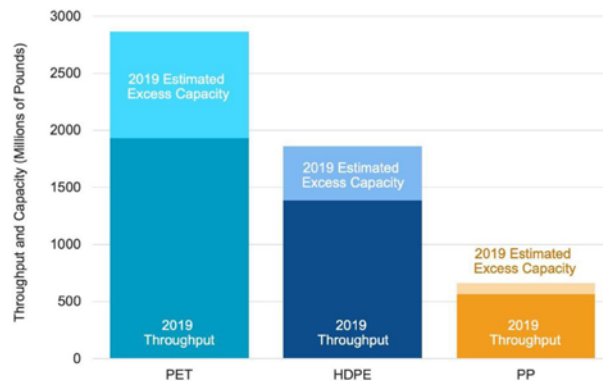
We can recycle more plastics today with better collection programs.

Recyclers today have the [existing capacity to process 50% more PET, HDPE, and PP](#).¹⁹ 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.

¹⁸ *Id.*

¹⁹ 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.

Figure 4. [Recyclers have capacity to process more PET, HDPE, and PP²⁰](#) 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.²¹ [Similar growth rates are needed for high density polyethylene \(HDPE\) plastics](#) to reach goals of 50% recycled content by 2030.²²

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

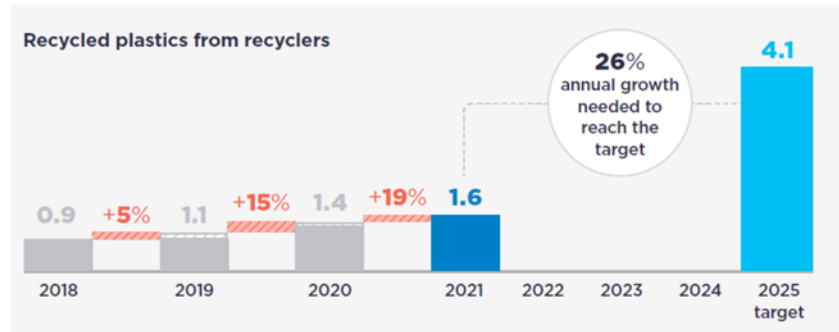
²⁰ Ocean Conservancy & Resource Recycling Systems (RSS), Recommendations for Recycled Content: Requirements for Plastic Goods and Packaging (Feb. 2022), https://oceanconservancy.org/wp-content/uploads/2022/02/RSS_OceanConReport_Feb2022_Final.pdf.

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

²² 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.²³



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.](#)²⁴ 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.

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

²⁴ 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 in 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.

Senator MERKLEY. Thank you very much to each of you for bringing your diverse set of skills and experiences to bear here.

I want to start with you, Mr. Alexander, in kind of understanding this plastics piece better. You mentioned that there are three types of plastic that are common in food containers: PET (polyethylene terephthalate), high-density polyethylene (HDPE), and polypropylene.

Mr. ALEXANDER. Yes, sir.

Senator MERKLEY. Basically corresponding to water bottles, milk jugs and yogurt cups, crudely?

Mr. ALEXANDER. Yes.

Senator MERKLEY. Did you say that 80 percent of the containers fall into one of those three categories?

Mr. ALEXANDER. Of consumer packaging, right, 80 percent of the rigid consumer packaging, not film and flexibles, the rigid consumer packaging falls into one of those three categories, yes, sir.

Senator MERKLEY. Is there an effective recycling path? You mentioned the wash, grind, flake, pellet path. Does that same path work for all three of these plastics?

Mr. ALEXANDER. Yes, it does.

Senator MERKLEY. Can they be mixed together, or do you have to keep separate each of those streams?

Mr. ALEXANDER. Senator, they do not like each other.

[Laughter.]

Mr. ALEXANDER. Sorry, I do not mean to be flip. Basically each stream has to be homogeneous. Soda bottle resin, and again, it is called polyethylene terephthalate, that is one. High density polyethylene, low density polyethylene, polypropylene, there can be a little bit of mix depending on the application. You might have 5 percent mix, 10 percent mix, but again, it depends on the application.

But by and large, you need a very clean, pristine, homogeneous stream. That is why plastics need to be sorted appropriately.

Senator MERKLEY. So you mentioned how confused people are about what can be recycled, what can go in the bin. I experience this every single week, staring at the triangles, wondering if these triangles are accepted and so forth. So we need a simpler system.

Can you explain just briefly, ordinary folks like me just kind of go, why these three different types of plastic for these three different types of products? Does it have to do with the chemical interactions with different types of yogurt versus water versus soda? Why aren't they all made from the same type, which would make it simpler in terms of commingling the streams?

Mr. ALEXANDER. It really has to do on the application, and the chemical composition of each of the individual resins. One, it is really to protect the material, the contents of the container. For instance, you see a lot of milk jugs have a natural color to them. That is to protect it from light and from spoiling and things like that. Also in terms of the way that, you can not put, for instance, yogurt in the same container as a single-use water bottle. The material will spoil much more quickly. It is about preservation of the material.

It is interesting, it would be much simpler if we could do that. And it would be much less expensive for the packaging companies

and the recyclers to be able to do that. But unfortunately, the protection of the product lends itself to a particular type of protective package delivery system.

Senator MERKLEY. That is very helpful. Thank you. More or less, it is equally simple to wash, grind, flake, and pellet each three. When you produce those pellets from these different plastics, there is a market for those. I think you are referring to how, if more was recycled, there would be a ready market for an expanded flow of plastics.

Mr. ALEXANDER. Absolutely.

Senator MERKLEY. Okay. You mentioned that one of the things that could drive this is recycled content standards. What do we have currently? Are there voluntary suggestions? Do any States have a standard, or is there any national standard?

Mr. ALEXANDER. There are not any national standards, either from design or recycled content mandates nationally. There is some efforts, the State of California has a recycled content mandate for beverage containers that is due to go into effect in 2025. It gets progressively more, from 25 percent to 35 percent to 50 percent. There is discussion in the State of Oregon and the State of Washington right now about developing recycled content mandates along with recycling rate mandates. We are working very closely with them.

The issue there is we need to make sure you have the supply available in order to meet those contents. For instance, in California, we did a study for them 3 years ago on the 25 percent recycling content rate. We told them we have enough material in our stream to get them to 25 percent. But anything beyond that, we need to collect more material. So right now, there is enough in the process to get us to 25 percent.

Senator MERKLEY. Okay. Thank you very much.

I am going to turn to the Chair of the committee, Senator Carper. So glad you could join us. Welcome.

Senator CARPER. This is great. Now I can talk out of both sides of my mouth. How is that? That is what they let chairmen do around here.

On a serious note, welcome. Ms. Collins, you looks just like your pictures of the Senator from Maine, who is one of our revered colleagues. Have you ever met Senator Susan Collins?

Ms. COLLINS. I have been in her office.

Senator CARPER. Did you meet her?

Ms. COLLINS. No, I didn't get a chance to meet her. I met with her staff.

Senator CARPER. When you went into her office, did you tell her staff that you were the real Susan Collins?

Ms. COLLINS. I told them I was the other Susan Collins.

[Laughter.]

Senator CARPER. Well, you have a good name. That is a good name around here.

We have a couple of other hearings going on, we have a bunch of new IRS nominees to help run the IRS and provide better customer service, that is going on in the Finance Committee, so I will be bouncing back and forth between here and there.

Mr. Bailey, it is nice to see you, Mr. Alexander, nice to see you as well. Mr. Chairman, thank you so much for pulling this together for what I think is a really important hearing.

I am 76 years old, I started recycling when I was a lieutenant JG in the Navy. My squadron was located in Moffett Field, California, not far from Palo Alto and Menlo Park. I learned that when I was just joining my squadron that there was a place you could recycle not far from the base. I started going there when I was just a young pup and I have never stopped. I have recycled entire vehicles, motor vehicles, like our Ford Exploder, also known as a Ford Explorer. Recycled dehumidifiers. I like to run outside, and when I see recyclables along the trail, I stop and I pick them up and take them with me. I run by other peoples' houses, and if they have the recycling bin out, I just put it in the recycling bin.

This morning, I was on the Amtrak train coming down from Delaware, I go back and forth most days. I was in the caf car getting a cup of coffee. A guy came in and he had a plastic bottle, and he was going to put it into the trash. Before he could do that, I intercepted him, I took the bottle and said, "On Amtrak, we recycle." About two feet away was the recycling bin.

So I believe in leadership by example. I know Senator Merkley and I share this passion. I am certain that you do as well.

I like to say, when I talk to people about climate change, the need to save this planet, I say, it is not just a noble thing to do, actually in terms of jobs and job creation it is the smart thing to do. With respect to recycling, not only does it give the opportunity to strike a blow against the climate crisis, but it also gives us the opportunity to create a whole lot of jobs for a whole lot of people in places throughout our Country.

With that having been said, good morning, Sheldon. We are following each other from committee to committee. We do that fairly regularly.

Would you expand on the role of a national deposit return system and the role it could play in reducing emissions and fighting the climate crisis, please?

Ms. COLLINS. Thank you for that question. We talked about the greenhouse gas savings and the equivalent to taking 1.8 million cars off the road.

Senator CARPER. Over what period of time?

Ms. COLINS. Over each year, each year the containers would be recycled and that is the number of cars operating in that year that it would be equivalent to.

Most people do not realize how our common materials are created. There is no need for us to, we just use plastic bottles and aluminum cans and glass bottles. But a tremendous amount of material has to be mined to create those materials. It has to go through several industrial processes and then be transported, sometimes great distances, across the world. Our aluminum can come from many different countries as close as Jamaica, as far as Russia.

So all of those industrial processes, all of that transportation becomes part of the embodied energy of something like an aluminum can or glass bottle.

When we recycle, we skip the first several steps of production. We skip all of that industrial mining and transportation and just

take what has already been produced, melt it down and produce it again. That is why we save so much in greenhouse gases. Most people do not realize that there is a very big front-end burden of greenhouse gases on the manufacturing of our materials.

Senator CARPER. That was a great explanation.

Mr. Alexander, we also heard from you, maybe just before I arrived, that the mechanical recycling of plastic materials as opposed to the use of new resins created through a chemical recycling process is better for our planet. Will you please share with us how your industry could help curb emissions and reduce energy consumption?

Mr. ALEXANDER. Thank you, Senator. Recycling plastic is one of the most important things we can do to reduce greenhouse gas emissions. The energy consumption in order to use recycled plastics to remanufacture is anywhere between 75 and 80 percent of the energy, as Susan was talking about, to manufacture virgin materials.

Second, reusing recycled plastic to remanufacture reduces the carbon footprint by more than 70 percent. It is interesting that there have been studies that have shown that in this world of climate change, one of the most effective things that can be done by a consumer to physically participate in reducing their own carbon footprint is to recycle their plastic. So the more material that we recycle, obviously if you think about it, we are replacing more virgin material in the marketplace, which means we are reducing greenhouse gas emissions from that initial manufacturing process that Susan just talked about as well.

So when we talk about, we need more supply so that we can recycle more of this material, so that we can replace more of the virgin material that is going into the marketplace, that by itself is a great reducer of greenhouse gas emission and carbon footprint implications.

Senator CARPER. Thank you for that response.

Is your industry currently recycling plastic material at its full capacity, or would increased resources and infrastructure allow you and your industry to recycle more plastic? The second half of my question would be, would the improved ability to mechanically recycle more plastic lead to additional climate benefits? Two-part question.

Mr. ALEXANDER. To the second part, to refer to my first answer, absolutely. The more you recycle, the more we are going to be reducing our climate impact and our greenhouse gas emissions. I indicated earlier in my statement, Senator, that right now, the three primary resin components of consumer packaging, which make up 80 percent of consumer packaging, we recycle those three components at a 19.8 percent. But we have the capacity today to make that 42 percent.

We need more supply. It is as simple as that. So the more supply we can get, the more we can recycle, the more virgin resin we can eliminate in the marketplace. And then of course, that has the effect of reducing greenhouse gas emissions and our carbon footprint.

Senator CARPER. Thanks. Thanks, Mr. Chairman.

Will there be a second round of questioning?

Senator MERKLEY. Absolutely. And a third and fourth. Maybe.

[Laughter.]

Senator CARPER. I will not be around for the fourth.

Senator MERKLEY. Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Chairman, and thank you particularly for your persistent interest and concern about the plastics issue.

On plastics recycling, I try to be a good citizen. I have the recycling bins under the kitchen table. And I try to be diligent about making sure that I rinse out the bottles and put them in the bin at the right time of the week. I come down to the outside bin and dump them in the outside bin and then roll the outside bin down to the street where then the recycling truck comes to pick it all up.

I am also working with Senator Sullivan on our plastics legislation, and we are looking at, now it will be Save Our Seas 3.0. As part of that inquiry, I am looking more into plastics recycling. What I am learning is that it really is not happening, that the stuff that I actually take and put in my blue bin, the amount of the stuff that actually gets put in the blue bin, setting aside the stuff that gets thrown away, discarded improperly, etc., from the blue bin, the amount that actually gets recycled is in single digits. Most of it is not recycled at all.

More and more, it makes that blue bin in my kitchen look to me like a prop that is a prop in an essentially fraudulent scheme to make American consumers think that they can buy all the plastic that they want for as long as they want, because there is a legitimate recycling end to it, making them feel better about it, and keep buying the bottles, keep buying the packaging, keep throwing it in the bins, keep thinking that it is going to be recycled. And it is not. It is a fake, more than 90 percent of the time. And consumers are the suckers in all of that, and taxpayers are the suckers in all of that, because the recycling programs that propagate this mythology of plastics recycling are paid for by taxpayers.

So I have gone from feeling good about putting my plastics away, as I have done my research, into thinking that I have basically been co-opted into a big fat scam that makes people believe there is recycling when there really is not. If you look at the other end, on the plastics industry side, and you look at what the plastics industry is doing to bring recycling into its products, the number that I recall is that for single-use plastics, the component of plastic input that is recycled is less than 2 percent. They are not even trying. You could probably get 2 percent by accident.

So there is really no effort. When I ask why is there really no effort, they say, well, because it is actually more expensive for us to go and find and test and have a proper supply chain for recycled plastic than it is for us just to get the new nurdles and spread more and more and more plastic into our ecosystem. It is cheaper to not use recycled plastic. So guess what? They do not use recycled plastic.

When I tried to fix that by putting a little charge on virgin plastic destined for single-use plastic products, so that it would equilibrate, so that there would be equivalency in the cost to the industry of recycled plastic and new plastic, I got virtually berserk industry opposition. Pages in newspapers with pictures of child seats and bicycle helmets saying that Congress wanted to tax your child

seat and your bicycle helmet. Last I heard, child seats are not single use. Last I heard, bicycle helmets are not single use.

So we have this system in which the public is being fooled, the industry is not being helpful at providing any significant recycling support, and when you try to equilibrate the economic imperatives that they follow, they fight you on it.

So that is where I think we are on recycling. I have essentially burned through all my time, but I offer any of the three of you the opportunity to respond in a response for the record. If you think I have said something that is outlandish or wrong or I have my facts not right, then feel free to let me know.

But what I am left with is that I feel like I have been the sucker in a con job and that a lot of taxpayers are paying a lot of money to prop up a completely phony or almost completely phony recycling apparatus that reaches into kitchens and garages all around the Country and has as its primary purpose misleading people about where their plastic ends up and therefore encourages them to—guess what?—buy more plastic.

With that, I yield.

Senator MERKLEY. Senator, I think it would be useful in this dialog, when we have the time to do so, we have certainly the wish-cycling, which is a term used for putting your things in those buckets that is never going to be recycled. But in the bottle recycling, it may be a little bit of a different picture than the non-bottle world. We have experts on the bottle world. Would it be useful to have them share their insights?

I am yielding the committee's time to you.

Senator WHITEHOUSE. Anybody who wishes to comment?

Mr. BAILEY. I might jump in. Senator, as I talk to people, my friends and neighbors, a lot of them share a similar frustration to what you are expressing. There is a perception that they are unsure what is happening to the material that is going into the blue bin on the side of their house that they are pulling out to the curb. They want to recycle; they want to do the right thing. But they just do not know.

Senator Merkley, to an earlier point that you made, it is very confusing when we try to talk to busy people about recycling and tell them, you have to separate this and do that, and you have to figure this out or clean this or pull this off the top. It is hard. Frankly, with two young kids at home, I feel the pain. I am busy just trying to get dinner on the table.

But that is where deposit return systems provide a really clear economic incentive. It says, hey, this has a value associated with it. This is easily recyclable. And if you return it, you get your value back. And it is segregated from the other things. So you do not have your water bottle mixed up with your detergent bottle, even if they are the same type of plastic, all blended together, mixed in together with whatever people also throw in the blue bin, which is often recyclable or not, depending on the wish-cycling that you brought up.

The good news is that I can guarantee you, Senator, that when a beverage container is regained through a deposit return system, and it is not just ours, I would say this is true for any of the de-

posit return systems across the Country, it is recycled. It is recycled and it is recycled to its highest and best use.

In Oregon, we get back nearly 90 percent of all bottles and cans sold in the State, and 100 percent of those bottles that are plastic go to a wash and flake facility in St. Helen's, Oregon, in rural Oregon.

Senator WHITEHOUSE. So by putting a reward on return, you are able to essentially flip the numbers from 90 percent of the plastic not being recycled and just ending up in a dump someplace in the U.S. or in some foreign country or ultimately in a river, and in the ocean, to where 90 percent of it actually get claimed and used?

Mr. BAILEY. That is correct, Senator. Yes.

Senator WHITEHOUSE. Well, that is a very helpful signal about the importance of what we would call bottle bills. I can relate to you that every time I see a bottle bill turn up, the plastics and drinks industry goes berserk trying to make sure that it does not pass into law. So bravo getting it passed into law. I assume you had the same experience with opposition from industry.

I will close out by saying, you can actually do this at the more corporate level as well. I was in Oslo at the Our Oceans conference when Unilever made what I thought was a very impressive commitment, which is about to go live, if I remember the timing. For every kilo of plastic that Unilever put out into the world as packaging or whatever, whatever came through them and out into the world, they would go find a kilo of plastic waste and take it back out of the world, and assure its proper disposal or recycling.

Which did something significant, and that is again, economics driving all of this, now they have to buy that stuff. So suddenly, there is a market particularly to go to poor countries where this stuff is piled up, you see these horrible photos of countries where is shin-deep along the beach, and 50 years out into the water, just a mass of floating plastic waste. Now, Unilever has an incentive to pay somebody to go out and get that stuff and bring it back to them and have a solid, we are actually cleaning up the waste supply chain, to prove out their promise. I think that can make a very big difference.

I think at the end of the day it is enormously about economic incentives. It is almost unfair to corporations to expect them to behave in a manner that is inconsistent with their economic interests. So it really is incumbent on us to make sure that their economic interests align with the public interest. Otherwise, it is always going to be an uphill struggle and the ones who want to cheat the most will have the best economic advantage against the ones who try to be good citizens.

Thanks again for holding the hearing.

Senator MERKLEY. Thank you, Senator. Thank you for your work on plastics. It is so important.

Ms. Collins, let's turn to one point that Senator Whitehouse raised. When the materials are flaked and turned into pellets, so they are washed, they are ground, they are flaked and they are turned into pellets, is that material cheaper to the industry than virgin material for making new plastic bottles?

Ms. COLLINS. Thank you for the question. It totally depends on what is happening in the marketplace and what the price of oil is.

Virgin prices go up and down dramatically. So sometimes virgin material is cheaper, sometimes recycled content is cheaper. I will add that the recycled content laws in the different States, especially I will speak to the one in California, attempts to impose an economic incentive to use recycled content by placing a 20 cent per pound penalty on material that is used that is virgin material instead.

So it is an economic mechanism to try to even out the price differential. Sometimes, recycled content is cheaper for plastic and sometimes it is more expensive.

Senator MERKLEY. Thank you. Mr. Alexander, this is your world. How do we make sure that the economics work for the recycled plastic that you are noting to be greatly expanded if we had more of it?

Mr. ALEXANDER. Thank you, Mr. Chairman. If you do not mind, I would also like to address some of the comments that Senator Whitehouse made.

I think one of the things we find in this industry, not to get too technical, this industry tends to operate on a month to month short-term purchasing basis. One of the things we have been pushing very aggressively in our market is for recyclers to be able to obtain long-term contracts with converters and consumer brand companies to use the material in their packaging.

Because in point of fact, right now we are played against the virgin market on a month to month basis, if recycled resin, the additionality of recycling the material is somehow consistent with virgin material, then we can sell it. On others, when virgin prices plummet, then they get out of the market and they go to the cheaper product.

So a lot of it is a procurement issue that we are working. That is why with long-term contracts and with mandated content requirements, if the companies have to use content, then they know that they are going to have to use it, so then we can have a stable economic environment, we know we are going to have a market, we can price it accordingly for the longer term which then allows us to pay the supplier, the MRFs, a better price in order to make their bales of material more pristine, which reduces our operating cost, which reduces the cost of the product.

Senator MERKLEY. So recycled content standards and long-term contracts are critical.

Mr. ALEXANDER. They are critical.

Senator MERKLEY. Thank you.

I am not going to ask you to respond to all of Senator Whitehouse's broader vision, because of the limited time, but we will have time at the end to come back to it.

I wanted to turn, starting to amplify a little bit on the details.

Senator CARPER. Mr. Chairman, could I ask a favor? I have limited time to get back to the Finance Committee. If you do not mind.

Senator MERKLEY. Absolutely, Mr. Chairman. Please.

Senator CARPER. Thanks so much.

Ms. Collins, a question, if I could, for you. In your testimony you mentioned that the deposit return systems in the U.S. currently create over 20,000 jobs, is that right?

Ms. COLLINS. Yes.

Senator CARPER. And your organization estimates a national bottle bill could create an additional 80,000 jobs to 100,000 jobs. That is kind of a win-win situation where I come from.

Could you share with us a little more information on how deposit return systems increase employment rates and contribute to economic growth? What are some specific jobs associated with deposit return systems?

Ms. COLLINS. Absolutely, thank you for that question.

We conducted a study about 10 years ago where we looked very deeply at the entire process of recycling and looked industry by industry and got factors for the jobs per thousand tons of materials moved.

The No. 1 reason that container deposit laws create more jobs is because there is more material in the recycling system. It is because instead of operating at something like 20 or 30 percent recycling rates, they are actually bringing back more material, and that material has to be handled by people doing the recycling process.

When I say the recycling process, it starts all the way from the beginning where the materials are collected and then they are transported to places like glass beneficiation facilities where the glass is cleaned up so it can be used by manufacturers, or to plastic reclaimers where they are taking that material and turning it into plastic pellets that can then be made into bottles again.

All of those places are jobs and some of them are highly valued, highly paid manufacturing jobs. And they are domestic. They all stay here in the United States.

Those are the numbers we found. It would be an additional 80,000 jobs and those are the types of jobs that they are.

Senator CARPER. Good. Thanks for that response.

Mr. Alexander, before I run, one last question for you. In EPA's draft strategy to address plastic pollution, you may have noticed that the agency affirmed that it does not consider activities that convert non-hazardous solid waste such as plastics into fuels to be recycling activities. That is the way they call it.

Do you agree with the statement that any process that takes plastic materials and converts it into a fuel source using incineration, pyrolysis, chemical reactions or otherwise, should not be considered recycling?

Mr. ALEXANDER. That is correct. If it is not going back into plastics, we do not consider it recycling.

Senator CARPER. Would you please explain the main difference between mechanical recycling and the process often referred to as advanced or chemical recycling, including energy use, emissions, or scalability?

Mr. ALEXANDER. Essentially, when Susan pointed out earlier, the initial process for manufacturing the material but also the initial process for segregating and recycling the material, mechanical recycling, chemical recycling, the initial process is similar. You have to collect the material, you have to sort it, and then you have to begin to process it.

In many ways, it has to be mechanically processed for a while and then make it available, if in fact there is a chemical process for it.

Mechanical processes are exactly what we talked about. You are physically, mechanically grinding, flaking, pelletizing. The chemical process, the best I understand it, and I am not a chemist, is that you then take that material and through some combination of heat and pressure break it down to the original monomer. So you are actually breaking the material down.

That is technology that has obviously been discussed. There may be an opportunity for that because we need new technologies in order to address a lot of the plastic products that are out there.

But what we know how to do and what we are doing today is a proven recycling activity, which is mechanical recycling. Frankly, if we had more supply, we had more content requirements and we had more convenience, we can improve and reduce greenhouse gases more by just reinforcing and prioritizing what we are already doing today.

Senator CARPER. Thank you for those responses.

Mr. Chairman, before I run out of the room, I just received from my staff, I said, what percentage of our paper are we currently recycling in America? And the number, I think it was pretty high, it is about 68 percent. I think this is an EPA number.

With respect to aluminum, about 35 percent. Not as high as paper, but that is an EPA number. Is that right? That is from EPA.

We are told in 2018 EPA estimated that paper recycling, the aluminum rate was that, while for plastic, what is it, 9 percent? Yes, 9 percent. I like to say, Mr. Chairman, find out what works, do more of that. Find out what works, do more of that.

Obviously, we are doing, in the paper part, plenty of supply, if you will, for that in terms of recycling. We can do better. We have to do better than we are doing. Hopefully, part of that solution, part of the answer will come from this hearing and your leadership. Thank you all very, very much.

Senator MERKLEY. Thank you very much, Chairman Carper. I think that 9 percent rate may have dropped this last couple of years, if any of our experts have a sense of that. I thought it had dropped down closer to 6 percent in the last year.

Mr. ALEXANDER. Mr. Chairman, may I address that?

Senator MERKLEY. Sure. Briefly, though, please.

Mr. ALEXANDER. That is always a challenge.

The reality is that number, we hear it all the time, relative to consumer plastics packaging, that number is wrong. That takes in all plastics that are manufactured. Primarily what we are addressing here is consumer packaging. More than 50 percent of the plastic that is manufactured is not meant for consumer curbside recycling programs. You are talking medical waste, automobile parts, fiber, electronics.

You take away that half, and what we are doing is we are focusing on consumer recycling on the other essentially 50 percent. As I indicated to you earlier, 8 of every 10 of those packages in that 50 percent category of consumer packaging, we are doing that at 20 percent today. And we can get it to 42 percent.

So when you talk about that 8 percent number, frankly, it drives us recyclers batty.

The other thing I would like to say is we know, this is what we do very day, something goes in your bin, it gets recycled at a 70

percent rate. I do not know where that narrative comes from that if it goes in your bin, it is not recycled. We know. We have been doing studies. We have been doing this for 35 years. It goes in your bin; 70 percent is going to get recycled.

Senator MERKLEY. Thank you for that clarification.

I want to turn to some of the details of the Oregon program, since it is one of, in our estimation, the most successful in the Country. It has gone through a number of changes.

Mr. Bailey, 20 years ago, people returned their bottles to the grocery store. Grocery stores didn't really love that very much. Now, Oregon has changed its system. Can you explain that transition?

Mr. BAILEY. Absolutely, Senator. What has happened over time, and it was the graph that I showed earlier, is people have voted with their feet. They prefer an option that is more convenient. The trick is to have multiple return pathways. Under the reforms that were shepherded in the mid-2000's, we started opening redemption centers that are high capacity redemption centers.

People that want to get back their cash and return a lot of containers all at once, which there are a number of people that do that, they like going to those redemption centers better than going to a grocery store, because they can return their containers faster. We have high-volume, high-capacity machines. They get their cash more quickly. It is a better return experience overall.

We have also created what is called the Green Bag program, which is really convenient for families. Senator Whitehouse mentioned the bin he has under a sink. In my family, we have garbage, we have recycling, and then we have redemption and compost is up on the top there. Redemption is easy; we just put our Green Bag in there, we throw in all our containers mixed, we do not have to separate glass from plastic.

Then when we go to any of the drop sites, sometimes they are at a grocery store, sometimes they are at a redemption center. We just drop the bag and walk away. OBRC picks it up, processes it, credits to your account, and makes it super simple.

What we have seen is that that is the most popular option Oregonians want. The demand for that is astronomical.

Senator MERKLEY. I am going to pause you there and explain for folks who are watching that under this Green Bag system, and you had a picture of it up on the screen, I do not know if we can put up the person who was returning their green and a blue bag, which I will get to in a moment.

In our family, we have the Green Bag out in the garage. We throw everything that has a redemption into it, large bottles, small bottles, soda, and so forth. Then it has a quick response code that you put on the package. You go to the redemption center, you throw it through the door, and then it gets transported to a processing center where the bags are opened, the bottles are scattered across a tray, the computer takes a picture of them, immediately recognizes what is all recyclable, and credits your account.

It is pretty much science fiction. I encourage people to visit and see it.

But you also in that picture had a Blue Bag being returned. What is the difference between a Green Bag and a Blue Bag?

Mr. BAILEY. A Blue Bag indicates that that is a bag that will be automatically credited to a certified nonprofit. So if you put your containers in a Blue Bag, we have verified that is a 501(c)(3). For example, my kids' school has Blue Bags. When we go pick the kids up, they say, have you got your Blue Bag yet? They hand us one. Then when we go home, we put the containers into the Blue Bag. Then when we drop that off, the money automatically goes to that nonprofit.

We have 5,600 nonprofits in the State of Oregon registered for Blue Bags.

Senator MERKLEY. Habitat for Humanity, food banks, school clubs, Boy Scouts, Girl Scouts, you name it, 5,600 of them are saying, hey, you are involved in the swim club, put our QR codes on a Blue Bag and it will be a fundraiser. That provides an additional large incentive for recycling.

Mr. BAILEY. That is right, Senator, and I think the really important point here you are driving at is there are so many things that pull people into the program that care about redeeming containers. They may not care about the environment. The 10 cents might not mean a lot to them. Maybe they have other things going on. But you know what? If their local Sportsmen's Club or their kid's school puts a Blue Bag in their hand and says, will you put some containers in there, and drop it off for us? Yes, they are going to do that.

That is one of the reasons the redemption rate is so high in Oregon.

Senator MERKLEY. I really want to emphasize, in your testimony you talked about convenience and incentive. So the Blue Bag is another whole set of incentives that encourage recycling. It is convenient because you just throw the bag through the door, and it all happens automatically.

I wanted to turn to the incentive rate. In Oregon it is 10 cents. If we go back to the initial program in Oregon, it was 5 cents. Five cents today, we used to say it would be more than 25 cents, but now I am sure it would be higher. It was like, oh, yes, I noticed as I was in Boy Scouts at the time and we would go up and cleanup the river, along the Columbia River, the beach, and suddenly all the bottles disappeared overnight. All the glass bottles that would be shattered and broken disappeared overnight.

What would that 5 cents be today?

Mr. BAILEY. It feels like every year we have to do the calculation again. I think we are over 30 cents or 33 cents now.

But the change, when we went from a nickel to a dime in 2017 was remarkable. Oregon's system was struggling. Thanks to the reforms that were shepherded through the legislature, we went from a nickel to a dime in 2017 and literally overnight we went from essentially an annualized rate of about 64 percent, but it had really dropped down to about 58 percent by the time it changed, all the way up to 84 percent overnight and then continued to climb to 90 percent.

So it has made a dramatic difference.

Senator MERKLEY. Ms. Collins, some States have on certain types of bottles a 15 cent redemption. Are there insights that come from setting a 5 versus a 10 versus a 15? What is the magical point at

which people stop and pick up bottles that someone else has left on the street?

Ms. COLLINS. Absolutely. We have studied this both in the United States and around the world. Here in the United States, there are three levels of deposit. There are States that are all at 5 cents, there are States that are all at 10 cents, then there are a few States that have some containers at a higher level and some containers at 5 cents.

Those different deposits, when you compile all the information together, it stacks up exactly how you would think it would. Five cents is an incentive, 10 cents is a stronger incentive. The 5 cent programs have lower redemption rates than the 10 cent programs. We see that it goes all the way up to 25 euro cents in Germany, which has one of the highest redemption rates in the world, between 95 and 100 percent.

Senator MERKLEY. Since we do not have a national system, if you have a State that has a 15 cent return, do you find people basically transporting bottles across State lines? Does that undermine the system or is that just an additional beneficial collection process?

Ms. COLLINS. It depends on your point of view. There are containers that move across the border. They are generally in the range that is less than 5 percent of the total system. So they are sort of offsetting the folks who are not in the given State that are returning their containers. There is 10 to 15 percent of those, even in the best systems. Then there are some leakage from another State into your State.

So it is not a make or break situation, but it does occur.

Senator MERKLEY. Are the containers in States that are far from a deposit State, are they labeled returnable in those other States, or are they not labeled that way?

Ms. COLLINS. There are some containers that are labeled differently. In the northeast, where it did get to be enough of a problem, some of the beverage manufacturers changed their labeling to make it very clear whether that container was a deposit State container or a non-deposit State container. So when it did reach a certain threshold of a problem, there was a way to address it.

But in the vast majority of cases, the containers are labeled identically, so you wouldn't know from State to State.

Senator MERKLEY. Mr. Bailey, let's go to some of the other economics here. How much taxpayer money goes into driving the recycling system in Oregon?

Mr. BAILEY. None, Senator. We do not take any public money.

Senator MERKLEY. All the Republicans who are present here, and the Democrats who are present like that answer.

Mr. BAILEY. It is paid for by the beverage industry, Senator. One other point I might just make very briefly on the point of the nickel to the dime change. When we went from a nickel to a dime, while I will not comment on any particular beverage seller, I can tell you in the aggregate, per capita sales did not change in Oregon.

Senator MERKLEY. So we do not see a disincentive to purchase because of that?

Mr. BAILEY. We have not seen that in the data, Senator.

Senator MERKLEY. Okay, so we have talked a little bit about the different types of plastics that are in beverage bottles. Under the

Oregon system, the return deposit, I am assuming there are several different types of plastic that are coming in through these Green Bags, Blue Bags, yellow bins, so on and so forth. How do you sort them out to keep these waste streams separate the way Mr. Alexander was explaining, that each one has to have a separate, if you will, wash, grind, flake, and pellet process?

Mr. BAILEY. Yes, Senator. I will try to make this brief, because there is sort of an interesting longer answer here. I will see if I can condense.

Most beverage packaging is in PET. There is some HDPE in our system. There is some polypropylene and a few other things. The vast majority is in PET. Although the caps on PET are polypropylene. We urge people to leave the caps on. We recycle those as well. Please leave the cap on your container when you return it.

As long as it is all beverage containers, it is actually pretty easy to separate out the different material types. It goes baled in bulk to our sister facility, ORPET, in St. Helen's. There are different weights to the plastic, so if you run it into water, the PET will sink and the other material will float. You can skim it off. It is not very difficult to do it.

If you had to do it at scale and there were a ton of different plastic types mixed in together, it would definitely get much more difficult to do that, and you could risk other contamination.

As an example, and one of the reasons that having an industry-run program has been very powerful, is we had a beverage manufacturer, I will not say who, who came into our market wanting to sell a container that was made of a plastic type that, to use a technical term, would have screwed up the recycling of all the rest of the plastic that we had.

We went to them and we said, well, we can not stop you from selling this in the State of Oregon. But we are going to have to pull that out by hand and separate it out, and that is going to be very expensive in the system. So our fee to you to do that, to sell that in Oregon, is going to be astronomical. Do you want to sell this in the State or not?

And they said, actually, you know what, never mind. We will not sell that package in the State of Oregon, because it is not really recyclable.

Senator MERKLEY. So the materials or the bottles that have the deposit are mostly PET? Do you call it PET or P-E-T?

Mr. BAILEY. It depends. It's potato, potato.

Senator MERKLEY. And high density polyethylene. So what are the percents on that? Is it like 80 percent PET?

Mr. BAILEY. It is higher than that.

Senator MERKLEY. Those are the main two?

Mr. BAILEY. Yes. It is primarily PET and HDPE. We do have some polypropylene packaging in there, but it is *de minimis*.

Senator MERKLEY. How do you get that out? The high density sinks, the PET floats, that is easy.

Mr. BAILEY. Polypropylene floats as well, and we also have sorters in our wash and flake facility that use optical sorting. It is actually really cool, speaking of magic. I know how the AI works for our Green Bags; it is not magic to me anymore. But the sorters are

still magic to me. They can see opacity within the different flake types, and they can shoot them off with these little air jets at really high speed and get those things sorted.

Senator MERKLEY. All right. So it goes down a conveyer belt and gets knocked off?

Mr. BAILEY. Exactly.

Senator MERKLEY. So it is not a problem, is my point in this.

Mr. BAILEY. Not within the beverage container world. You wouldn't want, again, to repeat, you wouldn't want non-food grade with food grade mixed together, because then you have two polymer types that are same and it would be hard to distinguish in that sink-float, or in the polymer sorting or opacity sorting. It would look the same. But there is a big difference in the chemical composition between something that is food grade and not.

Senator MERKLEY. So these pellets of these different types, going back to the economics of how we drive this, is it sold then, do you sell these pellets?

Mr. BAILEY. Yes. We co-own the wash and flake facility. We then sell the flake. Some of that goes into pellets through another company. We do not market the pellets directly. But we do have flake. To echo Mr. Alexander's point, we have a problem with demand. Having that pull-through of need for recycled content, of long-term contracts, that would go a long way toward making these kinds of facilities much more viable. But then they would of course need to be at scale to be supplied with as much material as they can handle.

Senator MERKLEY. So the key, as Mr. Alexander noted, a key piece is a recycled content standard or requirement? Is that what you need to drive the demand?

Mr. BAILEY. We do not have a specific position on recycled content standards. But what we have seen is that recycled content standards have been a major motivator. To Senator Whitehouse's earlier comment about industry, it is one of the reasons we have seen industry come around to support these kinds of programs, because they need clean supply to then meet those standards.

Senator MERKLEY. Okay. What do you do if you can not market it? Or do you just lower our price in order to get it out of the warehouse?

Mr. BAILEY. Supply and demand. Prices are low, yes. If anybody wants to buy it, they can call me.

[Laughter.]

Senator MERKLEY. Very good. Ms. Collins, as we look across the landscape, I think most of the plastics we are talking about are made with fossil gas, and fracking has made fossil gas a lot cheaper. Are we in a situation where that has made it difficult to sell from the different systems around the Country, difficult to get rid of the recycled material?

Ms. COLLINS. Again, there is a difference between food grade material and non-food grade material. So historically, the materials, specifically plastics, specifically PET plastic through bottle bills, has always experienced a stronger position in the marketplace. It is very high quality, food grade material.

So when there have been times historically where it was hard to sell material, it was easier to sell the bottle bill material. It was

the curbside, lower grade material that had to wait longer to find a home.

Senator MERKLEY. We used to ship a lot of bulk plastic waste to China. That ended. China said no, we are not taking this anymore. Do we ship anything out of the Country now, or does it all stay here? I know this is broader than consumer plastics or food plastics.

Mr. BAILEY. Senator, I will let the others speak more broadly. I will just say, for the systems we run, no material is shipped out. Most of the material is recycled within the State. Certainly when you include the aluminum, it is all recycled domestically.

Mr. ALEXANDER. Senator, exported material has been going down since 2005. Most of the markets have escalated for the demand, and then obviously with the China sort in 2017 and 2018, the infrastructure has essentially absorbed most of that material. As I indicated in my testimony, we are importing material to try and meet the demand for recycled content, both food and non-food grade applications.

Senator MERKLEY. Mr. Alexander, is it a challenge to make sure that the imported material is actually what you think it is?

Mr. ALEXANDER. The challenge arises as to whether or not, and we have certificates of origin. First of all, food grade material, to sell food grade material in this Country, you have to through an FDA letter of non-objection (LNO). So you have to have an LNO to sell that material. It is a very elaborate, exhaustive, demanding process. If a company has that, as Susan indicated, and Jules said, they are the gold standard. They are the highest priced in the marketplace.

Beyond that, the other applications that can be utilized as barrier labels fill our other products with PET in it, what we are concerned about is basically from consumer applications. We have certificates of origin that we use so our members pretty much know that the material is coming from a consumer application, regardless of where it comes from.

We do have some problem with some countries in terms of authenticity of certification. You might be able to guess who some of those are. But by and large, where we get our material from, we pretty much are confident that we know it is coming from a consumer application.

Senator MERKLEY. My colleague mentioned one concern about establishing a deposit program. He mentioned that plastic has value in the trash stream or the waste stream, and that that is currently sold and it is a source of funding. And as a deposit system, basically undermining the economics of the waste stream. Ms. Collins, can you address that?

Ms. COLLINS. Sure. What is important in answering a question like that is to make sure that you are looking at the whole issue, and not just a very narrow piece of it. The whole issue is the entire process of what a municipality or taxpayers pay for in terms of recycling.

At the narrow point of just having a recycling facility that is selling that material, the PET plastic is valuable to them, the aluminum is valuable to them, and the glass oftentimes has a nega-

tive value because of the way that it has been broken and contaminated through the curbside recycling system.

But when you go more broadly and ask a different question, which is, what is this municipality experiencing in terms of their total recycling cost, when container deposit systems are established, they save money. They do not have to pay for the landfilling of most of the material that is being landfilled and not recycled at all. They do not have to pay for the collection and processing. They have lower litter collection costs, because these container deposit programs solve so many different problems for them.

This has been confirmed in literally more than two dozen studies around the world.

Senator MERKLEY. Over the last 10 years, how many additional States have adopted a deposit program?

Ms. COLLINS. The last container deposit program entirely that was established in the United States was in the State of Hawaii in 2005. But there have been probably maybe 10 different updates to container deposit laws, updates and expansions, in the States that do have them in the U.S.

Senator MERKLEY. Washington State is considering a program. Are other States on the verge of potentially establishing a deposit program?

Ms. COLLINS. Consistently since 2019, we have seen nine or ten States every year seriously consider these laws through having hearings in their legislatures.

Senator MERKLEY. I am going to wrap up with this question to you all, which is just a bit of a story. Back when I was an intern here in 1976, that is a long time ago, Senator Hatfield presented a national bottle bill proposal on the floor of the Senate. I went over to sit in on his speech.

When he was done, and he lost the vote, both Senator Packwood and Senator Hatfield proposed a study at the same time. Only Senator Hatfield had arranged to be called on, to the chagrin of Senator Packwood from Oregon. We had a softball game that night. I can tell you, there was a lot of tension between the two Oregon teams over that.

But the point here is that there has been a conversation now for over half a century over whether a national structure makes sense. My colleague and co-chair, Ranking Member Senator Mullin pointed out, different States may have different models that make sense. Different cultures are established, different consumer preferences.

Is there a pathway for a national framework that would have some guidelines but also leave some flexibility to the States that could accomplish the goal that I heard from all of you of greatly expanding recycling with its various values of job creation, waste reduction, greenhouse gas reduction, and so forth? Do you have a vision of how we might create a national framework that makes sense? Do any of you want to weigh in on that?

Mr. BAILEY. I will jump in on that really quickly, Senator. I am sure there are other comments here. Other than the fact that Oregon just joined the Big Ten, there is not a whole lot of similarity between Oregon and Iowa, right? At least you wouldn't think so on the surface. Similarly, my wife's family is from Massachusetts, and

sometimes I think they speak a foreign language. I call it like I see it.

I think there are a lot of differences in various States. But what we have seen is that deposit return programs have worked in a lot of these different kinds of places around the Country. I would actually take Ranking Member Mullin's point around one-size-fits-all. I wouldn't think that a one-size-fits-all program would work in the United States.

But to set a north star, to set a standard that says, here is what successful programs look like, and then to allow for State-based innovation and private sector innovation, I think has a lot of power and a lot of opportunity to eliminate some of the cross-border issues that we talked about, to generate more supply, to overcome some of the barriers that can crop up at the local level.

That is, I think, an appropriate place for Federal policy to examine how we have a system that is flexible and can meet the needs of different constituencies.

Ms. COLLINS. I could just add that that is exactly how it has played out in Canada, with all of their provinces, in Australia, with their different states, and in the European Union through the European Union Directive.

Senator MERKLEY. And by play out, you mean that some countries in Europe had a program, but then it expanded in a broader vision. Did they use a few basic standards and then each country in Europe is flexible within that? Same question about Canada and any additional insights from those two structures.

Ms. COLLINS. Yes. They have all evolved in different ways. I will use the European Union as an example. They had many countries that already had a deposit system in place ahead of time. Then they passed a single-use plastics directive, which mandated a 90 percent return rate for plastic bottles. They have until 2030 or 2029 to do that.

One by one, the different countries that do not already have a system have been implementing new systems. So we anticipate that they will all come online by 2030. But they have done it in their own individual way in each country.

Senator MERKLEY. Again, State that basic requirements that drove that.

Ms. COLLINS. The most important one is just that they want a 90 percent collection rate for plastic bottles. That alone, that one sentence—

Senator MERKLEY. Plastic beverage bottles?

Ms. COLLINS. Yes, thank you.

Senator MERKLEY. And Mr. Alexander, at one time, the bottling world was deeply opposed to deposit systems. That was certainly true when Oregon originated this. I have started to hear little bits of feelings like, oh, maybe we are interested in a nationwide system with some parameters as interest grows about the amount of plastic waste that goes into landfills or ends up in rivers, ends up in the ocean and so forth.

Do you see kind of a shifting attitude and a possibility of creating a national framework?

Mr. ALEXANDER. Absolutely. We have experienced the same thing, particularly from the beverage industry who are now work-

ing very closely with us. They need supply. I think that as Jules pointed out, in terms of his testimony, that is a phenomenal program, and the incentives they have. We have learned a lot over the last 35 years in this endeavor.

But it also points out that each State is its own marketplace. Vic Horton in Maine needs something different than Jules needs in Oregon or Amaya might need in Texas.

But I think a national framework is certainly something we need to supply. It is as simple as that.

Senator MERKLEY. I picture things like the Green Bag, the Blue Bag, as the kind of details that States might pursue on their own, flexibility. But if we are thinking about basic provisions that would drive a national system, what do you see as what those basic provisions would be? Would it be setting a minimum return deposit and saying this should apply to all of a certain class of beverage bottles? Or how would you, if you were at the whiteboard saying, hey, this would work, how would you design that?

Mr. ALEXANDER. One of the things we would make sure is it is not just soda bottles, but it is also water bottles. We have worked to expand existing deposit legislation over the years to include water bottles, because they have exploded over the years.

I think that is really what we would focus on, is making sure you can bring in one class. Unfortunately, with the diversity of resin, you want to make sure you are getting one class, a homogeneous class of material through that. So you do not have the contamination levels and things like that, and you begin to create the highest value in the secondary market of the material.

What we would think it should be focused on is one class of container, be it a PET container or something along those lines.

Senator MERKLEY. You are suggesting, rather than having, the deposit system in Oregon covers basically, based on what is in the bottle, but it does not say it has to be just PET or HDPE. Are you saying it would be better to focus just on, say, PET bottles?

Mr. ALEXANDER. It is the most iconic package out there, and it is the easiest for the consumer to understand. That would drive, we think, the greatest consumer participation.

Senator MERKLEY. So if we were to say each State needs to have a recycling system for beverages that focuses on PET containers, and at a certain minimum deposit rate, those States could then expand on that, they could expand on the Oregon model, deciding how do you return them, do you return them to a recycling center, do you return them to the store, do they raise the rates higher to do that, do they include other types of plastic once they have the system set up, with more flexibility. But if we were to start with a basic national system, you would be recommending a minimum deposit rate and just PET bottles?

Mr. ALEXANDER. Well, again, I really would have to think about that, to be honest. I am hesitant to say, again, that Maine would be able to handle that, given the rural nature versus what Jules is able to do in the area of, let's say the metropolitan area of Portland in Oregon.

It sounds like a great idea. To be honest with you, I think some basic framework is important. Whether or not something as specific as that, frankly, I would have to take a look at it, to be honest.

Senator MERKLEY. Mr. Alexander, I will just ask if you will continue to use your expertise in the plastics world to help us figure out what the basics of a national framework would be. That would be very helpful.

Mr. ALEXANDER. We appreciate the opportunity and we will take advantage of that. Thank you very much, sir.

Senator MERKLEY. Thank you. Mr. Bailey?

Mr. BAILEY. Senator, if I might just color one little bit of testimony here, from the perspective of somebody who operates this every day for customers that come in the door. It is really challenging to tell a customer that one bottle, because it is one material and another bottle that looks the same but might be a slightly different material, one is redeemable and one is not. That is really confusing to people. The most disappointed customer is the customer who leaves with bottles that they brought in to redeem.

So I think making sure that we also have a system that is easily understandable for Americans, for customers that come in, and that really covers a broad range of all of the glass, plastic, and metal bottles that are out there as broadly as possible is not only good for supply and for the environment, but it is better for customers.

Senator MERKLEY. So, make it as little confusing as possible, clear labeling, clear definitions. I will ask, or challenge you to do the same thing, which is to lay out the basics of a national architecture might look like that leaves a lot of flexibility to individual States, so that we can start wrestling with and have that conversation with our national producers, and see if there is a pathway. Would you do your whiteboard exercise and get it back to us?

Mr. BAILEY. Yes, Senator. Just very briefly, I think you assign the refund value, I do not know that you even need to mandate the deposit, but you assign the refund value, you assign the responsible parties, and you assign a target. Then from there, you let it play out. That I think is really the most basic system that you can have.

Senator MERKLEY. Write that up and provide it to us. Thank you.

Ms. COLLINS, same exercise. Can you go through that with your insights?

Ms. COLLINS. I have it written down.

Senator MERKLEY. Okay, great.

I want to thank you all very much for participating in the conversation. I think how we handle our containers is a significant part of the issue of waste and environmental improvement and energy savings. It is a win on many levels, job creation, as you have all pointed out.

So I look forward to your insights as we work to try to create a conversation here half a century after Senator Hatfield worked at that same conversation. I know that there are a number of my colleagues across the aisle who really have started to see the impact of plastics, especially those ocean States, and would like to ponder if there is a framework that could make sense, that is good policy and perhaps good politics.

In closing, thank you all for appearing today and sharing your perspectives.

Some housekeeping, I ask unanimous consent to submit for the record a variety of articles and materials that include letters from

stakeholders and other materials that relate to today's hearing.
Hearing no objection, so ordered.

[The referenced information follows:]



September 28, 2023

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

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

Dear Chairman Merkley and Ranking Member Mullin:

On behalf of American Beverage, representing the unified voice of America's non-alcoholic beverage industry, thank you for holding today's hearing on "*Examining Solutions to Address Beverage Container Waste*."

American Beverage and its members have long been active proponents of ensuring our carefully designed, fully recyclable bottles and cans are collected so they can be remade into new packaging, as intended. Our companies have for years invested in the modernization of our nation's recycling infrastructure to increase the amount of our bottles and cans that are collected, and we have a program under which we are measuring and reducing our industry's plastic footprint.

In 2020, AB partnered with leading environmental groups to develop robust collection policy principles that serve as a guide to a circular economy for recyclable materials and have been actively involved in pushing forward these policies in the states and federally. This is why we are encouraged by today's timely hearing dedicated to an issue of critical importance to our industry.

The beverage industry plays an active role in beverage container redemption systems around the world, including in Oregon, which has the highest redemption rate in the nation at approximately 80% (2021). The success of the Oregon system, which is uniquely funded and run by producers of recyclable materials, informs our views on designing and operating effective stewardship systems. The industry supports a range of programs and policies built on the model of producer responsibility and our decades of experience reinforce that a successful collection system is one that:

- Generates strong environmental outcomes in an efficient, transparent, and accountable manner.
- Provides convenient service to consumers.
- Creates a financially sustainable model.
- Offers producers access to recovered material for closed loop recycling.

Specifically, to ensure a deposit return system (DRS) is designed to meet the goal of higher recycling rates and reduced beverage container waste, it would require the following components:

- A 10¢ refund value nationwide on all nondairy, ready-to-drink beverages in aluminum, PET, or glass sealed containers 12 oz or less.
- Uniformity in refund value and scope across all states including those with existing DRS laws.
- Management of the system by a national, nonprofit beverage container stewardship organization (BCSO) managed by beverage distributors.
 - Regional organizations established under the national BCSO to facilitate market and demographic differences.
 - Existing DRS programs may operate as a regional BCSO if they conform to governance and operating principles established by the national organization and approved by EPA.
- A performance-driven organization and plan to support:
 - National redemption rates of 60% five years after enactment and 75% after 10 years.
 - Priority of returning recovered material to use as containers.
 - Reducing the prevalence of beverage containers in litter.
- A fully funded program to redeem, collect, process and market material; conduct education and outreach; manage the system; and fund related EPA regulatory and oversight costs. All revenues are retained by the BCSO to be reinvested in the system.
- A comprehensive seven-year plan, approved by an administrator and informed by an advisory committee of stakeholders that lays out the operational and financial details of the programs, including: the redemption network; customer service and satisfaction metrics; worker health and safety; market development and use of responsible end markets; mitigation of fraud and contamination; standardized labeling; and litter prevention and control.
- An extensive outreach and education program using multiple channels to reach consumers including culturally appropriate materials in multiple languages and emphasis on those in environmental justice communities, along with research and metrics to guide outreach efforts to reinforce program goals.

- Transparency in reporting program operating and financial details, performance metrics, consumer satisfaction, and consultation outcomes with the public and the advisory committee.
- Minimum post-consumer recycled content standards for PET and a study of standards for aluminum and glass.
- A study of refillable container infrastructure and reuse and refill applications in the beverage industry.

As work advances on the subcommittee and full committee levels, we look forward to continuing to engage in discussions around effective stewardship systems and collection policy that will help our industry process more of our packaging and return it to high value use as new bottles and cans.

Thank you for hosting this important hearing and we remain committed to working with the Senate on these issues.

Sincerely,



Franklin L. Davis
Vice President, Federal Government Relations



703.358.2960

1400 Crystal Drive, Suite 430
Arlington, Virginia 22202

September 28, 2023

The Honorable Jeff Merkley
United States Senate
531 Hart Senate Office Building
Washington, DC 20510The Honorable Markwayne Mullin
United States Senate
330 Hart Senate Office Building
Washington, DC 20510

Dear Subcommittee Chairman Merkley and Ranking Member Mullin,

On behalf of the Aluminum Association and its member companies, I appreciate the opportunity to provide written comments for the record in connection with the September 28, 2023 Senate Environment and Public Works Subcommittee hearing "*Examining Solutions to Address Beverage Container Waste*".

The Aluminum Association is the voice of the aluminum industry in the United States, representing aluminum producing companies and their employees that span the entire aluminum value chain from primary production to value-added products to recycling, as well as suppliers to the industry. The Association is charged with developing global standards, business intelligence, sustainability research, policy positions, and industry expertise for its member companies, policymakers, and the public. Altogether, Association member companies produce over 70 percent of the aluminum and aluminum products shipped in North America, and the U.S. aluminum industry across the value chain directly employs more than 164,000 union and non-union workers and indirectly supports an additional 470,000 workers. Through its activity, the economic impact of the U.S. aluminum industry adds \$176 billion to the economy annually.

In the beverage container space, Association member companies represent 100% of the U.S. production capacity of aluminum can sheet, the material from which aluminum cans are manufactured. As a key component of the can sheet production process, used beverage cans (UBCs) are received back after consumer use, melted, and integrated into new can sheet from which new cans are manufactured. Demand for can sheet is growing and within the last 2 years Association members have announced plans for over \$4 billion in new investments to increase supply of can sheet and other types of sheet products to meet this demand.¹ The preferred raw material to manufacture can sheet at the existing and newly announced production facilities is UBCs, perpetuating a virtuous closed loop whereby the aluminum is recycled over and over again into new can sheet and cans.

Already, aluminum cans are the most sustainable beverage package on virtually every measure. Aluminum cans have a higher recycling rate and more recycled content than competing package types. They are lightweight, stackable and strong, allowing brands to package and transport more beverages using less material. And aluminum cans at end of life are far more valuable than glass

¹ <https://www.aluminum.org/investment>, (accessed September 21, 2023).

or plastic, helping make the economics of all types of collection and recycling programs more cost-effective.

Key Performance Indicators Across Industries

	Aluminum Cans	Glass Bottles	Plastic Bottles (PET)
Consumer Recycling Rate	45.2%	39.6% ²	20.3% ³
Industry Recycling Rate ⁴	59.7%	N/A	N/A
Closed-Loop Circularity Rate	92.6%	30-60% ⁵	26.8% ⁶
Recycled Content	73%	23% ⁷	3-10% ⁸
Value of Material ⁹	\$991/ton	~(\$23)/ton	\$205/ton

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However, even with a beverage container industry leading recycling rate of over 45%, that still means that more than half of all UBCs are disposed of and end up landfilled each year. The scrap value of these unrecycled cans is worth over \$800 million annually, and if they were recycled, it would equate to enough energy to power more than 2 million U.S. homes for one year.

Given the above, a key focus of the Association and its can sheet producing members is to enact policies proven to increase both the quantity and quality of UBCs that are available to be turned back into new cans.

Recycling Refunds Substantially Increase Beverage Container Recycling and Reduce Waste/Litter

Recycling Refund³ programs (i.e. “beverage container deposit/return programs”, or historically “bottle bills”) have a proven track record of providing an effective and efficient means to substantially increase beverage container recycling rates at the state level. A well-designed national program, building on the learnings from decades of success in various states, would provide even more incentive for recycling, reduction of waste and litter, and a larger and cleaner supply of raw material for manufacture into new cans. In a recycling refund program, consumers pay a small refund value on the container at time of purchase and then that value is refunded back to them when the container is returned for recycling. Based on experience in states with the highest redemption rates in the US today (MI and OR), a minimum refund value of \$0.10 per beverage container and larger values for larger containers should be the goal, even if it requires phase-in over time to reach those amounts.

² The Aluminum Can Advantage: Sustainability Key Performance Indicators November 2021, https://www.aluminum.org/sites/default/files/2021-11/KPI_Report_2021.pdf, (accessed September 21, 2023)

³ www.recyclingrefundswork.org

Data shows that beverage containers subject to recycling refunds in the 10 states that have a recycling refund system have much higher recycling rates than those sold across the country not included in recycling refund programs. For aluminum specifically and all beverage containers generally, the recycling rates are over twice as high for containers sold with a refund value versus without a refund value.



Recycling refund programs are also nicely complementary to a variety of other federal solutions that are being pursued to increase consumer recycling rates overall such as recent recycling infrastructure funding through the IIJA and EPA's ongoing implementation of the National Recycling Strategy.

Recycling Refunds are Strongly Supported by the Public

According to 2022 research⁴ by Lincoln Park Strategies, Americans across the geographical and political spectrum strongly support recycling refund programs and that support can translate into action for implementation of a nationwide program.

What Americans Think About Recycling Refunds



⁴ <https://lpstrategies.com/national-survey-redemption-program>, (accessed September 21, 2023)

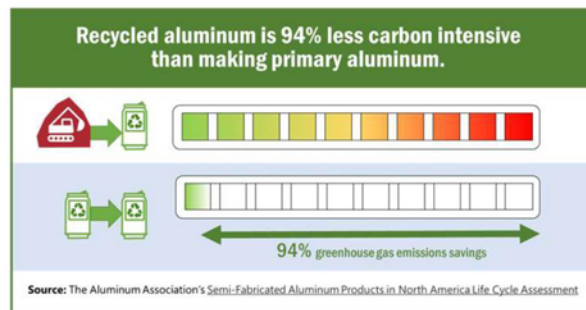
Recycling Refunds Provide a Stable Domestic Supply of Aluminum

The U.S. does not make enough primary aluminum or generate and collect enough secondary (i.e. recycled) aluminum to satisfy growing domestic demand. Increasing domestic recycling helps de-risk U.S. supply chains by bridging the existing supply gap with domestic material that would otherwise be filled by imports.

Increasing the U.S. aluminum beverage can recycling rate from 45 percent to 90 percent, a rate that nationwide recycling refund programs readily achieve,⁵ would mean annually nearly 1.3 billion pounds of additional recycled aluminum available domestically, which is approximately 10% of the amount of aluminum imported into the United States in a typical year. This is also material that would no longer need to be disposed of through other methods of household waste disposal, reducing the flow of waste material into landfills. Finally, as an added benefit, data show that with consumers understanding the value of recycling the container, the containers are much less likely to end up as litter polluting land or waterways.

Aluminum Sourced from Recycling Refund Programs is Low Carbon

Using recycled aluminum means 94 percent emission savings as compared to using virgin aluminum. Specific to cans, increasing the U.S. aluminum beverage can recycling rate from 45 percent to 90 percent in a typical year would avoid greenhouse gas emissions equivalent to taking nearly 1 million gasoline-powered passenger vehicles off the road.

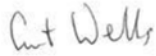


In conclusion, recycling refunds provide a market-based approach that has proven to recycle aluminum beverage cans and other beverage containers at very high rates, creating a consistent, larger supply of readily available domestic aluminum for recycling and manufacturing. In addition, this increased recycling of aluminum through recycling refund programs is broadly supported by the public, reduces reliance on imports of a strategic material, and reduces emissions. In recognition of these significant benefits, the Aluminum Association supports the implementation of a national beverage container recycling refund program as a proven solution demonstrated to reduce beverage container waste.

⁵ Data from countries such as Norway, Germany, and Brazil show consumer recycling rates for beverage containers as high as 97%.

We appreciate your leadership on this important issue and are happy to further engage on this topic at your convenience.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Curt Wells". The signature is written in a cursive, slightly stylized font.

Curt Wells
Senior Director of Regulatory Affairs and Corporate Stewardship
The Aluminum Association



Michael J. Smaha
 Vice President, Government Relations
 601 13th Street, NW
 The Homer Building, 12th Floor
 Washington, DC 20005
 Cell: (202) 876-4347
 Email: msmaha@cancentral.com

September 28, 2023

The Honorable Jeff Merkley
 Chairman
 Subcommittee on Chemical Safety,
 Waste Management, Environmental
 Justice, and Regulatory Oversight
 410 Dirksen Senate Office Building
 Washington, DC 20510

The Honorable Mark Wayne Mullin
 Ranking Member
 Subcommittee on Chemical Safety,
 Waste Management, Environmental
 Justice, and Regulatory Oversight
 410 Dirksen Senate Office Building
 Washington, DC 20510

RE: Comments of the Can Manufacturers Institute on the September 28 Subcommittee Hearing "Examining Solutions to Address Beverage Container Waste"

Dear Subcommittee Chairman Merkley and Ranking Member Mullin:

The Can Manufacturers Institute (CMI) respectfully submits these comments to the Subcommittee on proposals to address beverage container waste. CMI is the U.S. trade association of the metal can industry and its suppliers. Our members employ 28,000 workers in 36 states and produce more than 135 billion steel and aluminum cans for the food, beverage, aerosol and general packaging markets annually.

Aluminum cans are the most sustainable beverage package on virtually every measure. Aluminum cans have a higher recycling rate and more recycled content than competing package types. They are lightweight, stackable and strong, allowing beverage companies to package and transport more beverages using less material. And aluminum cans at end of life are far more valuable than glass or plastic, helping make the economics of all types of collection and recycling programs more cost-effective. Demand for aluminum beverage cans and for aluminum can sheet is growing. Just in the last two years, domestic can sheet producers have announced plans for more than \$4 billion in new investments to increase production to meet significant demand.¹

¹ <https://www.aluminum.org/investment>, (accessed September 21, 2023)

Increasing Aluminum Recycling Strengthens Our Domestic Supply Chain

Recycling aluminum means less imports from countries like China, Russia and United Arab Emirates, all of which are typically in [the top five countries](#) from which aluminum is imported into the United States. China and Russia combined control more than 60 percent of the world's aluminum production. The U.S. portion is about 1 percent. And Canadian primary aluminum production is not expected to increase, meaning U.S. reliance on less reliable and potentially hostile countries will continue to grow, even as U.S. domestic demand increases, further exacerbating the global supply squeeze.

Aluminum is a strategic material. Evidence for this fact is the Defense Logistics Agency [listed](#) aluminum as a "material of interest" for its use in aircraft and spacecraft. Additionally, the Trump administration imposed 232 national security tariffs on aluminum imports, signifying aluminum's strategic importance to the American economy.

Key Performance Indicators Across Industries

	Aluminum Cans	Glass Bottles	Plastic Bottles (PET)
Consumer Recycling Rate	45.2%	39.6% ²	20.3% ³
Industry Recycling Rate ⁴	59.7%	N/A	N/A
Closed-Loop Circularity Rate	92.6%	30-60% ⁵	26.8% ⁶
Recycled Content	73%	23% ⁷	3-10% ⁸
Value of Material ⁹	\$991/ton	-\$23/ton	\$205/ton

2

In addition, there is strong demand for used beverage cans (UBCs) from the aluminum industry. The collection systems for UBCs nationally provide a steady stream of inputs for new beverage can production. More than 45 percent of can manufactured are collected and recycled, making the aluminum beverage can the most recycled of all beverage packaging. Domestic aluminum manufacturers rely on the availability of UBCs to maintain its unique closed loop recycling system. Making a can from recycled aluminum reduces energy and greenhouse gas emissions more than 80 percent compared to using new or primary aluminum.³

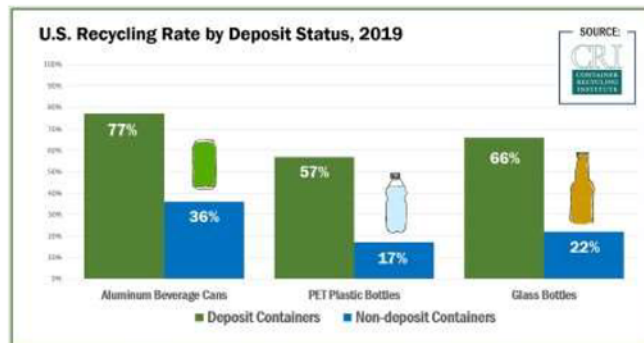
² The Aluminum Can Advantage: Sustainability Key Performance Indicators November 2021, https://www.aluminum.org/sites/default/files/2021-11/KPI_Report_2021.pdf, (accessed September 21, 2023)

³ The Aluminum Association's [North America Aluminum Beverage Cans Life Cycle Assessment](#)

While CMI is pleased to represent the beverage container industry's leading recycling rate, we are dismayed that more than half of all UBCs are not recycled. Many of these valuable aluminum cans end up in landfills or become roadside litter. As The Aluminum Association cited in their comments, "the scrap value of these unrecycled cans is worth over \$800 million annually, and if they were recycled, it would equate to enough energy to power more than 2 million U.S. homes for one year."

We encourage the Subcommittee to consider initiatives that create a greater supply of UBCs. One specific policy that has a proven track of increasing the quantity and quality of UBCs is container deposit return systems. CMI and The Aluminum Association refer to these programs as "recycling refund" programs. A consumer poll that [surveyed voters](#) from across the country found that the concept of a "recycling refund" resonated better than a "bottle bill" or "deposit return system."

CMI is actively advocating for industry run, well-designed, new recycling refunds for beverage can programs to help the aluminum beverage can sector achieve its ambitious national recycling rate [targets](#) for aluminum beverage cans starting with a 70 percent rate by 2030. Reaching the targets will require effective policy solutions, the foremost tool being recycling refunds for beverage containers. In fact, these programs are so successful that 40 percent of UBCs come from the 10 states with recycling refunds.



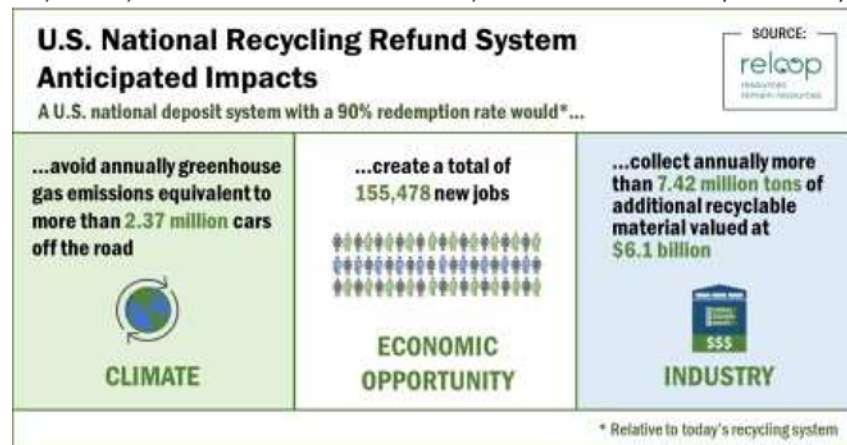
CMI and The Aluminum Association have taken the step of co-authoring [key elements](#) that the two associations believe will create an efficient, effective recycling refund system. These elements are based on insights gathered over many months from deposit experts in industry, government and non-profit organizations, as well as best practices from programs inside and outside of the United States.

Public Opinion Support Recycling Refunds

According to [2022 polling](#), 81 percent of the American public supports recycling refunds. These programs have a proven track record of increasing recycling and reducing litter. The 10 states with recycling refund programs consistently see higher recycling rates than states without them. Another national poll found that 90 percent of consumers in states with beverage container redemption programs support them. Returned containers help reduce litter, provide cleaner materials than those collected from single-stream curbside and increase the use of recycled content in beverage containers. Greater collection of beverage containers means a domestic supply of material to make the containers people depend on and less use of virgin material, which in turn reduces carbon emissions. Importantly, most consumers are motivated to recycle and want their recycling efforts to be part of successful programs that turn used materials into new feedstock. Recycling refund programs can be a convenient and effective way for consumers to participate in recycling.

Benefits for the United States

Recycled material going into aluminum beverage cans is an important part of our industry's environmental and economic viability. A national recycling refund system would have significant climate, economic and industry impacts as detailed in the graphic below, based on the international consultancy Reloop Platform's [research findings](#). Specific to aluminum, a 90-percent redemption rate in a national recycling refund system would mean an additional 813,000 tons, or 67 billion individual aluminum cans, would be collected and recycled annually.

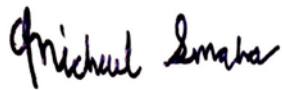


Aluminum Sourced from Recycling Refund Programs is Low Carbon

As referenced above, recycling used beverage cans and turning them into new can sheet is 80 percent less carbon intensive than primary sheet. If the aluminum beverage can recycling rate had been 70 percent in 2020, instead of 45 percent, there would have been around 25.6 billion more cans recycled, which would have generated more than \$400 million in revenue for the U.S. recycling system and resulted in energy savings that could power more than 1 million U.S. homes for an entire year.⁴

In conclusion, the Can Manufacturers Institute appreciates the Subcommittee's interest in increasing the recycling rate for beverage containers. CMI looks forward to working with the members of the Subcommittee, and the Committee as a whole, to pass legislation that increases recycling rates for aluminum beverage cans. If I can answer any questions, please do not hesitate to contact me.

Best regards,



Michael Smaha
Vice President, Government Relations
Can Manufacturers Institute

⁴ [Sustainability Advantages of Cans - Can Manufacturers Institute - Can Central](#)



September 27, 2023

The Honorable Tom Carper
Chair
U.S. Senate Committee on Environment and Public Works
406 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member
U.S. Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Jeff Merkley
Chair
U.S. Senate Committee on Environment and Public Works, Chemical Safety, Waste Management,
Environmental Justice, and Regulatory Oversight Subcommittee
531 Hart Senate Office Building
Washington, DC 20510

The Honorable Markwayne Mullin
Ranking Member
U.S. Senate Committee on Environment and Public Works, Chemical Safety, Waste Management,
Environmental Justice, and Regulatory Oversight Subcommittee
330 Hart Senate Office Building
Washington, DC 20510

Dear Chair Carper, Ranking Member Capito, Chair Merkley, and Ranking Member Mullin:

The PET Resin Association (PETRA) respectfully submits the following comments for the record at the September 28, 2023, Senate Environment and Public Works Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight hearing titled, "Examining Solutions to Address Beverage Container Waste." PETRA appreciates the Committee's attention and dedication to addressing the critical issue of plastic waste. We look forward to engaging with the Committee in ongoing conversations regarding this important topic, in particular as PET and plastics packaging reduce greenhouse gas emissions, save on energy consumption, and reduce waste generation when compared to alternative packaging materials.¹

¹ "Addressing Single-use Plastic Products Pollution Using a Life Cycle Approach," United Nations Environmental Programme, 30 June 2021, <https://www.unep.org/resources/publication/addressing-single-use-plastic-products-pollution-using-life-cycle-approach>



We look forward to future engagement on the Committee's legislative priorities in this regard and are prepared to be a critical resource as you work to address our shared priorities.

PETRA is the industry association for North America's producers of polyethylene terephthalate (PET), the clear and lightweight plastic used around the world to package foods, beverages, personal care products, and other consumer items.² Due to the unique nature of PET, and the growing national interest in reducing plastic waste, PETRA's member companies are deeply entrenched in the national recycling and collection discussion. PET is the most recycled plastic in the United States due to its ability to be almost infinitely recovered and recycled, its energy efficiency, and its significantly lower environmental impact as compared to other available products.

For many plastics, there is a shortage of demand for recycled product; however, in the case of PET, we have observed the opposite. Almost all individual-sized and 2-liter bottles of water and carbonated soft drinks sold in the U.S. are made from PET and, when recycled properly, create a true circular economy when recycled back into new bottles. Additionally, more than half of the world's synthetic fiber is made from virgin or recycled PET. Recycled, post-consumer PET resin is not only used to make new consumer product containers but can be recycled into other materials such as carpets, strapping, clothing fibers, automotive parts, and construction materials.

It is important to highlight that, beyond its favorable environmental benefits, PET is not toxic, as demonstrated by over forty years of use in packaging for all regulated food types without adverse health or safety issues. PET is used neat, meaning it does not require additives such as plasticizers or antioxidants. PET is non-degradable, meaning that it is biologically inert in the environment. The United States Food and Drug Administration permits PET in food contact, regardless of whether it is virgin or recycled PET.

With that, we appreciate the Committee's continued efforts to address plastic waste. We believe that a coordinated effort across the entire value chain, including engagement with industry, is necessary to these efforts – and in creating a circular economy. Below, we outline what we believe are critical policy components to this approach.

Collection Infrastructure

First and foremost, an effective strategy to reduce plastic pollution must involve efforts to improve the nation's collection infrastructure. For example, while U.S. recyclers in 2021 collected the highest amount of PET bottles in history, according to the National Association for PET Container Resources (NAPCOR), only 29 percent of PET in the marketplace was captured and recycled that same year. The industry has the capacity – and the desire – to double, and even triple, that number if the feedstock were available. PETRA members have worked to ensure that recycled content

² PETRA members include APG Polytech USA Holdings, Inc., Alpek Polyester USA, LLC, and Indorama North American Subsidiaries.



requirements are commensurate with current collection capabilities run by state and municipal governments for PET and educate on the need to improve collection of PET feedstock to produce recycled products. Unfortunately, a lack of a coordinated, national approach has hindered progress in this space. We stand ready to engage with Members of the Committee to establish a legislative framework regarding content requirements that can improve our nation's recycling infrastructure challenges.

Critically, we believe that access to recycling should be guaranteed for every citizen. Today, 1 in 10 Americans still do not have access to either curbside or drop-off recycling programs. Moreover, 23 percent of those residing in multi-family homes had no access to any recycling programs.³ Educating the public about the importance of recycling while not guaranteeing their ability to recycle their waste can lead to frustration and distrust of the positive impacts of recycling. As noted, creating a circular economy necessitates the involvement and commitment of all stakeholders, and consumers are a critical part of that equation. Therefore, the federal government must lead the charge in improving access to collection and recycling programs, as well as corresponding educational initiatives, to truly address and reduce plastic pollution. We look forward to future conversations to find ways that we can work together to address the need to make recycling available to all Americans.

Bottle Bills

Research has shown that deposit refund schemes ("bottle bills") enacted at the state level boost recycling rates and reduce plastic waste.⁴ We believe that more comprehensive bottle legislation could also lead to higher quality recyclable materials, as plastics collected through this system typically undergo less breakage. Further, bottle bills align with the increasing interest from consumers in recycling, and it would support industry's growing efforts to increase the use of recycled PET in new containers. With these considerable benefits in mind, we believe lawmakers and regulators should support the implementation of these programs at the national level to apply to states without an existing policy. We recognize that lawmakers must still determine how a federal program would impact states where such programs already exist. PETRA is supportive of the Committee's efforts to gain more information regarding a federal bottle bill program, and we look forward to working with you to provide input on any future legislation that will have a meaningful impact on recycling rates and reducing plastic waste.

³ "Centralized Study on Availability of Recycling," Sustainable Packaging Coalition, 30 July 2021, <https://sustainablepackaging.org/wp-content/uploads/2022/03/UPDATED-2020-21-Centralized-Study-on-Availability-of-Recycling-SPC-3-2022.pdf>

⁴ "Increasing Recycling of Beverage Containers in Minnesota: Recommendations for a Statewide Recycling Refund Program," Minnesota Pollution Control Agency, February 2014, <https://www.pca.state.mn.us/sites/default/files/lrp-rrr-1sy14.pdf>



Extended Producer Responsibility (EPR)

Relatedly, PETRA believes that EPR is an effective approach to achieving circularity goals. With EPR, producers are often required to invest in their collection and sorting infrastructures, resulting in system-wide improvements. More specifically, we support a policy that would allow for federal fees to supersede state fees when a state is not yielding greater than 50 percent plastic (all polymers) recycle rates. PETRA supports the position that the proceeds from a national program could also be directed towards collection, sorting, and baling efforts as well as education campaigns for recycling. We look forward to continued dialogue on the implementation of EPR at the federal level.

The Role of PET

Many efforts to address plastic waste have centered on the issue of “single-use plastics,” and it is therefore important to underscore that PET is distinct from single-use plastics. Mislabeling PET as “single use” and restricting the use of PET products could have severe, unintended consequences – such as shifting to less environmentally preferable packaging, negatively impacting the environment and global emissions. Lifecycle assessments show PET bottles used for food and beverage provide less depletion of natural resources and less generation of waste than alternative packaging materials – and do so economically and safely. The United Nations Environmental Programme’s (UNEP) research on beverage packaging demonstrates that using aluminum or glass instead of PET increases the carbon footprint of these products by 50 percent and 130 percent, respectively.⁵

Notably, environmental analysis conducted by UNEP demonstrates that PET and plastics packaging reduce greenhouse gas emissions, save on energy consumption, and reduce waste generation when compared to alternative packaging materials.⁶ Moreover, a 2023 life cycle assessment of PET bottles found that PET uses less energy during production, creates less solid waste, uses less water during production, and has a significantly lower carbon intensity than other types of beverage packaging.⁷

In fact, the PET industry has made great progress in its efforts to play a significant role in the circular economy, and our members have already invested upwards of a billion dollars to support increased reclamation and recycling of PET. As the beverage industry continues to make significant commitments to increase its use of recycled PET in new containers, and recycled content requirements are being introduced across the country, U.S. reclaimers have responded

⁵ “Addressing Single-use Plastic Products Pollution Using a Life Cycle Approach,” United Nations Environmental Programme, 30 June 2021, <https://www.unep.org/resources/publication/addressing-single-use-plastic-products-pollution-using-life-cycle-approach>

⁶ Ibid.

⁷ “Life Cycle Assessment of Predominant U.S. Beverage Container Systems of Carbonated Soft Drinks and Domestic Still Water,” Franklin Associates, 4 February 2023, <https://napcor.com/wpcontent/uploads/2023/02/NAPCOR-Beverage-Container-LCA-Report-2023.pdf>



positively by processing 1.76 billion pounds of post-consumer bottles in 2020 alone – nearly one billion pounds more than just ten years ago. As such, U.S. policy should be encouraging the use of PET over alternative materials. PET is an integral part of solving the plastic waste crisis, as we encourage the shift from plastics that are not easily recycled to the one that can be easily, almost infinitely recycled – such as PET.

Overall, PETRA's goal is to continue to support policies that promote a circular economy, enhanced collection, and thereby increase content availability in the recycling stream. Considering our shared goals, we hope PETRA can be a partner in the Committee's ongoing conversations and future legislative endeavors to reduce waste in the United States.

Thank you for your consideration of PETRA's comments. Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ralph Vasami", with a long horizontal flourish extending to the right.

Ralph Vasami
Executive Director
PET Resin Association (PETRA)

355 Lexington Ave., 15th Floor
New York, NY 10017
(212) 297-2125 | rvasami@kellencompany.com | www.petresin.org

Senator MERKLEY. Additionally, Senators will be allowed to submit written questions for the record through the close of business on Thursday, October 12th. We will compile those questions, send them out to our witnesses. We will ask for you to get replies back by October 26th.

With that, the hearing is adjourned.

[Whereupon, at 11:38 a.m., the hearing was adjourned.]

