WKC HB1089 Recycling Refund Testimony.pdf
Uploaded by: Alexander Villazon
Position: FAV

P.O. Box 11075
Takoma Park, MD 20913-1075
info@waterkeeperschesapeake.org
https://waterkeeperschesapeake.org/
(800) 995-6755

March 9, 2023

FAVORABLE Report – HOUSE BILL 1089: Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Chairman Barve and Members of the Committee,

We are writing in strong support of **HB1089** on behalf of Waterkeepers Chesapeake - a coalition of seventeen Waterkeepers, Riverkeepers, and Coastkeepers working to protect and maintain the ability of the public to safely enjoy the waters of our State. The plastic waste problem in the state of Maryland and the consequences it creates for our local waterways and the Chesapeake Bay are of great concern. While some cities and counties have made steps towards reducing plastic waste, such as the banning of single use plastic bags, Maryland as a whole must take wider-reaching action to reduce massive plastic waste from beverage containers, such as plastic bottles. Beverage containers comprise over half of the trash by volume collected in trash traps in the Anacostia River watershed, with plastic bottles being “sixty percent of the weight of the trash floating on the river at any given time,”[1] according to Trey Sherard, Anacostia Riverkeeper. Maryland, like other states have already done, would greatly benefit from a recycling refund program to increase the reuse and recycling of beverage containers and reduce the litter, pollution, and costs associated with plastic waste.

HB1089 will create the Maryland Beverage Container Recycling Refund Program (the Program) establishing a framework for the redemption of redeemable beverage containers sold in the State. Programs like this have proven to be effective for recovering used beverage containers and reducing litter. In other states, a small deposit, usually five cents, is added to the purchase of beverage containers and is refunded to customers when the containers are returned for recycling. Currently, Michigan and Oregon have the highest return rates of U.S. bottle bill states, with more than eighty-five percent of eligible beverage containers returned by consumers for recycling. Not only are there proven environmental and health benefits through increased recycling and reduced plastic waste, but the Program would not be a heavy financial burden on the state, as most of the financing of the Program becomes the responsibility of the producer. Maryland stands to gain a lot from **HB1089**, not limited to improved water quality and reduced greenhouse gas emissions from plastics, but the creation of jobs through the reinvigoration of the recycling industry provides an

[1] https://www.budgetdumpster.com/blog/anacostia-riverkeeper-partnership/

economic benefit to the state. Given Maryland's incredibly low recycling rate as compared to other states that have already enacted bottle bills, our communities deserve the opportunity to be engaged in a similar program like **HB1089** would provide them.

For these reasons stated above, we urge the Committee to adopt a **FAVORABLE** report on **HB1089.**

Alexander Villazon
Climate & Justice Legal Fellow
Waterkeepers Chesapeake
alex@waterkeeperschesapeake.org

2023-3-9 Bottle Bill Testimony.pdf
Uploaded by: Bente Cooney
Position: FAV

Plastic Free QAC
921 Oyster Cove Drive
Grasonville, MD 21638

TESTIMONY IN SUPPORT OF HB 1089
Beverage Container Recycling Refund and Litter Reduction Act
March 9, 2023

Hon. Kumar P. Barve, Chair, Environment & Transportation Committee
House Office Building
Annapolis, MD 21401

Dear Chairman Barve, Vice Chair Stein, and Committee Members:

My name is Bente Cooney and I am the Founder of Plastic Free QAC (PFQAC), a non-profit organization concerned with single-use plastic. I would like the record to show that Plastic Free QAC strongly supports HB 1089, which incentivizes bottle recycling which dramatically reduces littering.

As one of our many activities, PFQAC does monthly roadside clean-ups. While bottles are the third most frequent littered items in beach cleanups, they likely are **the** single most common litter along the roads.

If there was a 10-cent deposit on each and every one of these bottles, the problem would be almost totally eliminated. They would have been collected by children or adults for the reward. The proof is in the fact that States like Michigan and Oregon with a 10-cent bottle deposit legislation, have achieved recycling rates of 90%.

My husband and I sailed the seas for many years before we settled in Grasonville, and we always hated to see bottles floating on the surface of the ocean. The potential danger they cause to sea life is well documented.

In addition to the litter component, the plastic from recycled plastic bottles would provide excellent material for the post-consumer recycled content legislation being debated during this Maryland legislative session. There are many good reasons to implement a beverage container recycling bill.

Plastic Free QAC urge you to vote HB 1089 favorably out of Committee.
Thank you for the opportunity to submit testimony.

Bente Cooney, Founder
Plastic Free QAC
Grasonville, MD
bentetony1@gmail.com

Exit 42 in Grasonville, Queen Anne's Co.

C. Anspach. Testimony on HB 1089.pdf
Uploaded by: Chelsea Anspach
Position: FAV

Testimony on HB 1089
Maryland Beverage Container Recycling Refund and Litter Reduction Program
Position: Favorable

March 7, 2023

Environment and Transportation and Economic Matters
Maryland Senate

Mr. Chair and members of the committee,

My name is Chelsea Anspach and I am the Communications Manager with the Waterfront Partnership of Baltimore.

The Waterfront Partnership of Baltimore submits this testimony in support of a redeemable deposit on beverage containers. We are a Business Improvement District responsible for maintaining, improving, and protecting Baltimore's Inner Harbor. We represent major businesses and developers located along the Baltimore Waterfront. In 2009 we set a goal, in partnership with Baltimore City, to have a swimmable and fishable Baltimore Harbor. To that end, we have supported the implementation of the stormwater management fee, installed four of the world's first solar-powered water wheel trash interceptors, and advocated for City Council proposals aimed at reducing litter in our neighborhoods and streams. We do this because it is good for the environment but also because it is good for business.

The Inner Harbor has been the driving economic force in Baltimore throughout our City's history. When it was an industrial center, little attention was paid to the quality of the water. Now the Inner Harbor is a center for tourism and business receiving 24.3 million visitors in 2021 and generating $2.7 billion in overall economic activity. Visitors, residents, and employees have an expectation of what they will experience when they go to the Inner Harbor and if we fail to meet that expectation visitors may not return, businesses may relocate, and residents may move elsewhere. We know that expectation includes clean parks and healthy water. Waterfront Partnership works to keep our waterfront parks clean, but the water can be more challenging.

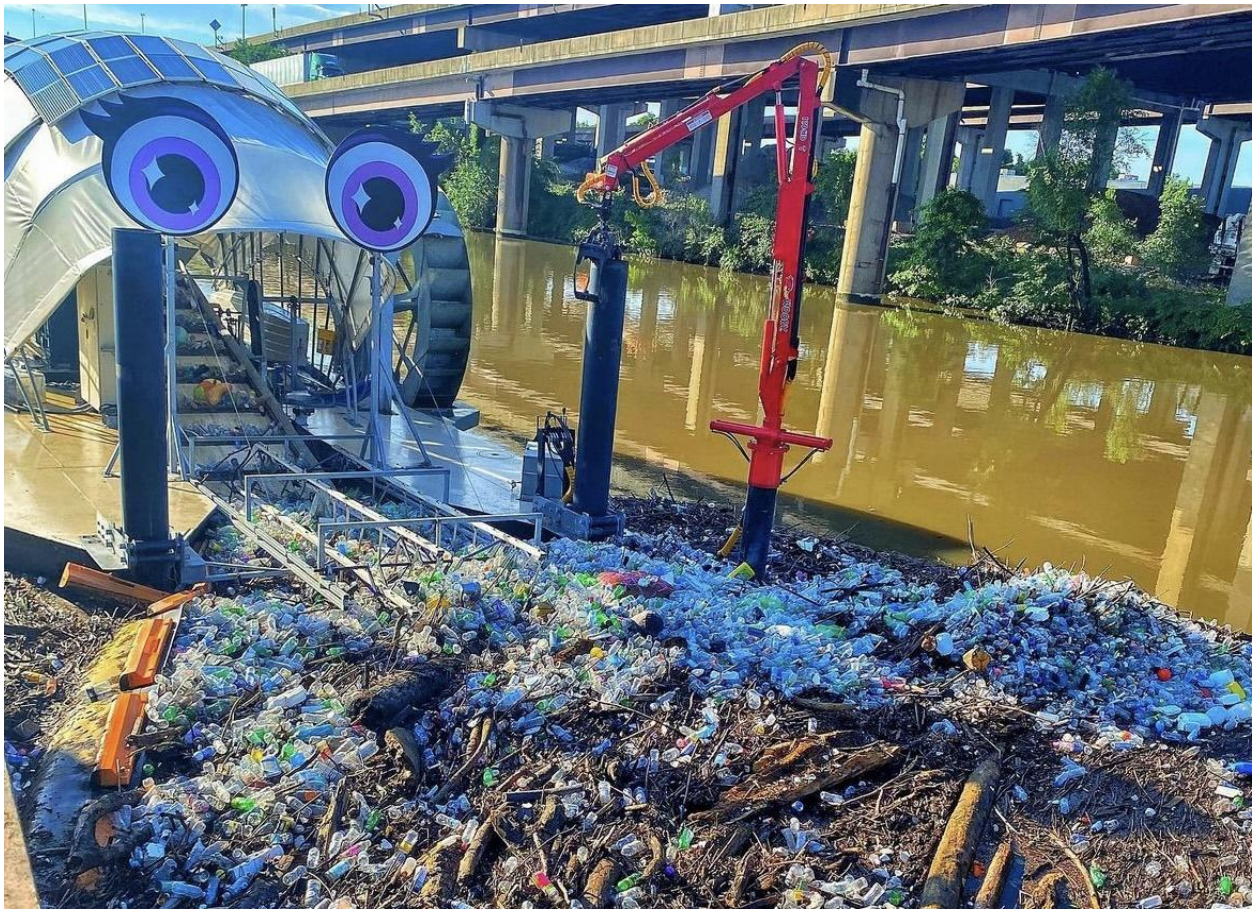
The Inner Harbor sits at the end of the Jones Falls, a stream that drains 64 square miles of land in Baltimore City and Baltimore County. When it rains, a tremendous amount of litter comes down the Jones Falls and covers the Harbor. That is why, in May of 2014, we installed the world's first solar powered water wheel trash interceptor, Mr. Trash Wheel. Since then, we have added 3 more trash wheels to the Trash Wheel Family at other watershed outfalls around the Baltimore Harbor. Not only do the trash wheels capture most of the floating trash coming down the stream, they also allow us to keep track of what types of trash we are collecting. Over the last nine years the Trash Wheel family has picked up 1,812,576 plastic bottles. That's 552 bottles every day! If each bottle were worth ten cents, it would total $181, 258. Instead they are seen as worthless and go to the incinerator.

The businesses that make up Waterfront Partnership pay us to collect this litter, but they would rather we spend their money on events, landscaping, and attractions like the Inner Harbor Ice Rink. This bill would simultaneously save businesses money and increase revenue around the Harbor because a Harbor that is clean and healthy is a harbor that people will visit time and again.

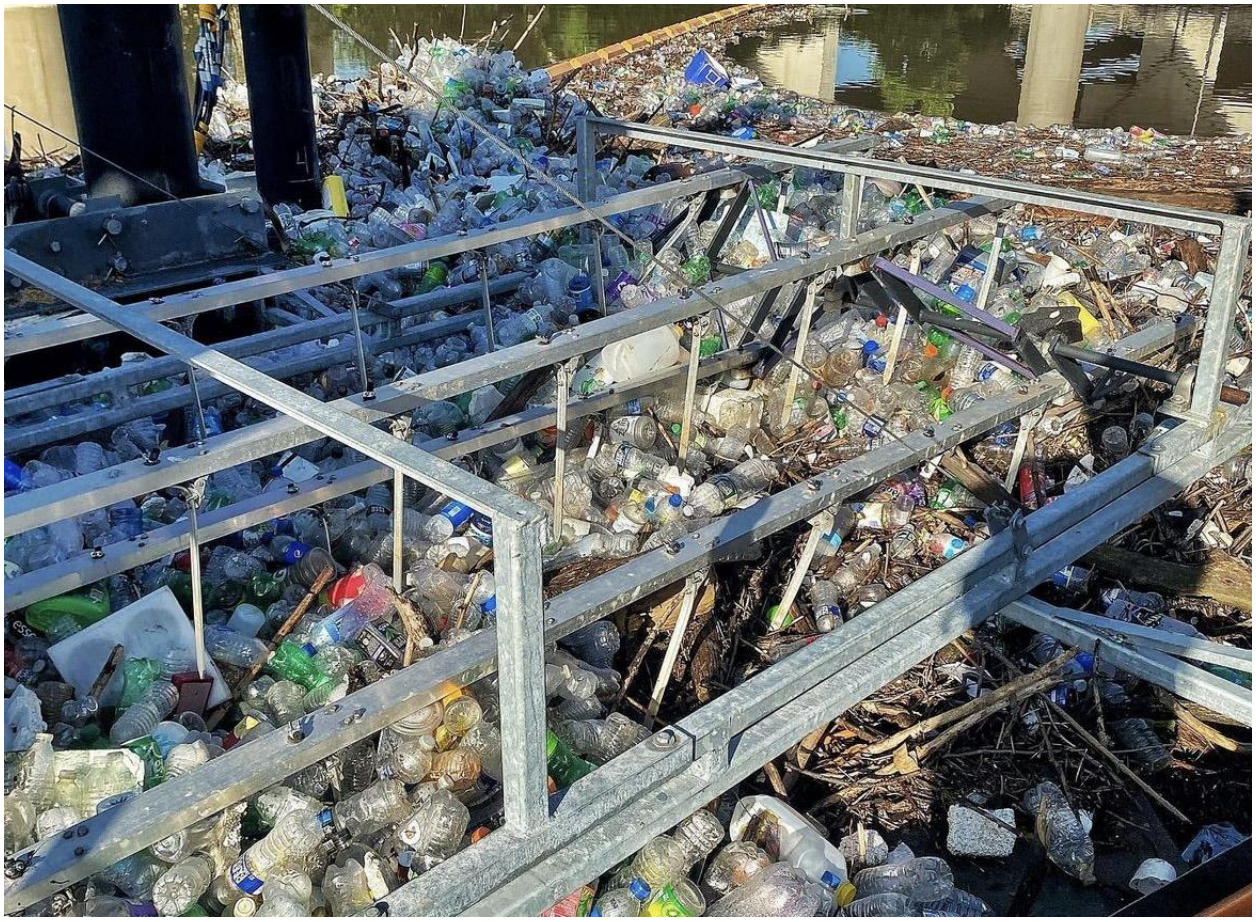
Beverage container litter negatively effects tourism and business in Baltimore. The time has come to do something about it. Mr. Trash Wheel has become a global sensation. He has been viewed over a million times on YouTube and has 30k Instagram Followers. Mr. Trash Wheel has been featured on NBC News, National Geographic, the National Weather Channel, National Public Radio, Voice of America, and in the Huffington Post because it is an innovative solution to cleaning up litter. Maryland, however, should be known for being proactive in keeping litter out of its waterways, not just for our innovative solutions for cleaning it up. A redeemable deposit on beverage containers is a proven and lasting solution to this public problem.

We respectfully ask for a favorable report on HB 1089. Thank you for your time this afternoon, and I look forward to your questions.

Contact:
Chelsea Anspach
Environmental Communication Manager, Healthy Harbor Initiative
Waterfront Partnership of Baltimore
(443) 743-3309
Chelsea@WaterfrontPartnership.org



Gwynnda the Good Wheel of the West (the newest trash wheel) after a large storm in West Baltimore.



Plastic water bottles being collected at Gwynnda the Good Wheel of the West.

Trash Wheel Trash Collection Totals (May 16, 2014 to March 7, 2023)

Mr. Trash Wheel after a large storm in the Inner harbor.

Image of trash being picked up by the Water Wheel (267 bottles pictured on the surface)

Image of litter in Baltimore City (93 bottles in pictured)

Anacostia Watershed Society testimony - HB 1089.pd
Uploaded by: Christopher Williams
Position: FAV

Testimony of Christopher E. Williams, President and CEO
Anacostia Watershed Society
to the
Maryland House of Delegates
Environment and Transportation Committee
on
HB 1089, the Maryland Beverage Container Recycling Refund and Litter Reduction Act
March 9, 2023

Thank you for the opportunity to provide testimony in support of House Bill 1089, the Maryland Beverage Container Recycling Refund and Litter Reduction Act. I am testifying today on behalf of the 10,000 members, supporters and volunteers of the Anacostia Watershed Society in Prince George's and Montgomery County, Maryland and the District of Columbia. Founded in 1989, AWS is dedicated to the conservation and restoration of the Anacostia watershed for the benefit of all who live there and for future generations.

Of all the threats to river health that plague the Anacostia watershed – sewage overflows, toxic pollutants, urban run-off, sedimentation, wetlands and forest loss – the most starkly visible is trash. Particularly after a heavy rain, thousands of pounds of trash flows from streets, parking lots, and storm drains into streams across the watershed and ultimately into the river's mainstem. Every visitor to the river has seen the result, every eddy and small inlet cluttered with food wrappers, chip bags, single use plastic cups and lids, straws, and – most ubiquitous of all – plastic beverage bottles. Of all the trash collected by AWS trash traps, which are designed to intercept trash flowing into the river, bottles and cans make up 42 percent, by volume. This trash fouls wildlife habitat, interfering with foraging, feeding, and other behaviors, and is sometimes ingested by wildlife. Moreover, the data suggest that over 70% of the pieces of trash flushed into the river will ultimately sink beneath the surface, raising troubling questions about just how much plastic waste is accumulating on the riverbed and in the water column, and how much that unseen trash is affecting the fish, wildlife and plants of the Anacostia River ecosystem.

As the plastic trash decomposes, microscopic pieces are chipped off. These microplastics persist in the environment for many years, and we are only beginning to learn about their potential negative impacts. For example, a study on the impact of microplastics on fish found damaged

digestive and reproductive systems, and an increased chance of mortality.[1] Mussels, organisms essential to the health of the Anacostia watershed, can also be highly impacted by microplastics. Several studies from other watersheds have found that mussel populations exposed to microplastics suffer from reduced reproductive success, which reduces the resiliency of the population in the face of other challenges of living in an urban river.[2] In other words, microplastics can have cascading effects for the organisms and populations exposed to them including, potentially, humans.

In addition, plastic bottles and other trash foul natural areas important to people. The 176 square mile Anacostia watershed is entirely urban and suburban, and many of the parks and green spaces in Prince George's and Montgomery County are along streams and creeks in the watershed. These spaces foster social interaction, exercise, play, and provide places to get away from the noise and bustle of the city. There is a growing body of evidence that access to urban green spaces is vitally important for our mental, physical, social and emotional health.[3] Specific benefits include a higher reported quality of life, lower stress, better mood, and a reduction in mental distress. However, the benefits of urban green space are diminished if the green space itself is stressful or unpleasant to be in. Visible litter makes the environment less inviting, and reduces these benefits.

AWS believes that HB 1089 will significantly reduce litter and plastic pollution in the Anacostia and in all of Maryland's rivers and streams. Data from other jurisdictions that have implemented such programs are encouraging. In 6 of the 10 states with recycling/refund laws, researchers have examined the impact of the recycling/refund program on litter found on highways. These states– Iowa, Maine, Michigan, Oregon, Vermont, and New York– have seen a 40-80% decrease in container litter, which contributed to a 10-39% reduction in total litter.[4]

Data from river cleanups in Massachusetts, another recycling/refund state, suggest that their program has a substantial impact on the amount of litter in rivers, streams, and wetlands as well. In Massachusetts, only containers holding carbonated drinks (beer, malt, carbonated soft drinks) and mineral water were eligible to be returned. Beverage market share data showed that deposit eligible containers made up 76% of sales, and non-deposit eligible containers were 24% of sales. Yet data collected from river clean-ups revealed that deposit eligible containers made up only 19% of the containers collected and non-deposit containers made up 81%. The evidence strongly suggests that the incentive provided by the recycling/refund program in

[1] Buyun, Md Simul, *Effects of Microplastics on Fish and Human Health*, Frontiers in Environmental Science, vol. 10, March 2022

[2] Scherer, Christian et al*, Interactions of Microplastics with Freshwater Biota*, The Handbook of Environmental Chemistry vol. 58

[3] Numerous studies support this conclusion. *See* https://link.springer.com/article/10.1007/s10708-021-10474-7/tables/2.

[4] Schuyler, Qamar et al*, Economic incentives reduce plastic inputs to the ocean*, Marine Policy, vol. 96, pp 250-255

Massachusetts routed the bulk of eligible beverage containers to reuse and recycling, while containers with no such incentive littered the riverbanks.[5]

HB 1089 provides a significant financial incentive for individuals to dispose of reusable and recyclable beverage containers responsibly, easing the load of government workers, non-profit organizations and volunteer efforts that presently shoulder the burden for cleaning up trash in our rivers and streams. Since its inception in 1989, AWS volunteers have devoted countless hours to picking up an average of over 45 tons of trash per year, much of which are plastic, glass, and aluminum beverage containers. How much more could we accomplish if that trash went into the recycling system instead of into the streams and wetlands of the Anacostia watershed?

Thank you for the opportunity to provide testimony on this important issue.[6]

[5] Cohen, Russ, *Worcester Earth Day Cleanup*, April 2003; Cohen, Russ, *Blackstone Valley Riverways Cleanup Day*, October 2007, Massachusetts Riverways Program. *See* bottlebill.org.

[6] This testimony was co-authored by Andrew Nord, Policy Intern, Anacostia Watershed Society.

HB1089_Glass_FAV
Uploaded by: Council President Evan Glass
Position: FAV

MONTGOMERY COUNTY COUNCIL
ROCKVILLE, MARYLAND

March 7, 2023

Hon. Delegate Kumar P. Barve
Environment and Transportation Committee, Chair
Room 251
House Office Building
Annapolis, Maryland 21401

Position: Support HB1089 - Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Delegate Barve,

Thank you for your work on behalf of Montgomery County residents in Annapolis. We appreciate having you as a partner in our shared goal to forge a greener, more sustainable future for all. Each year across Maryland, over 5 billion beverage containers are sold but only 23% of those plastic bottles are recycled - the rest end up in Maryland waterways or landfills and incinerators. Annual stormwater reports for Montgomery County indicate that close to 40% of all waste in our waterways are made up of plastic bottles.

HB1089 would incentivize residents to recycle more plastic bottles and ensure that plastic bottles sold in Maryland are made with a higher percentage of recycled materials. It would also reduce incineration of wasted beverage containers and divert them from landfills, as the County continues to move away from incineration to embrace the principles of zero waste.

Passing HB1089 would follow ten states that have already implemented similar legislation, the earliest enacted in 1970. Those programs with a 10-cent deposit per container have achieved 90% recycling rates and dramatic reductions in beverage container litter on land and in waterways.

We urge you to support HB1089 and ensure that Maryland and Montgomery County remain national leaders in environmental stewardship and waste reduction.

Sincerely,

Evan Glass
Chair, Transportation and Environment Committee

Kate Stewart
Councilmember, District 4

HB1089_Mayor's Office City of Salisbury_FAV
Uploaded by: Dana Haag
Position: FAV

City of Salisbury
John "Jack" R. Heath, Mayor

March 7, 2023

Dear Chairman Barve,

I am writing to ask you to pass the Maryland Recycling Refund and Litter Reduction Program (HB1089), to increase beverage container recycling and reduce waste and litter!

Every year in Maryland, four billion beverage containers end up in our environment – in the landfill, incinerated, or littering the landscape and waterways, especially our beaches. Plastic bottles break into microplastics, are consumed by wildlife, and end up in our food and water, potentially causing health issues for humans as well as animals.

The Recycling Refund and Litter Reduction Program (HB 1089) would reduce beverage container litter by as much as two-thirds, reduce plastic pollution, and more than triple the recycling rate for beverage containers in Maryland to 90%. The bill would add a small deposit to the cost of beverage containers that would then be refunded to customers when the containers are returned for recycling. That's a powerful incentive to return used beverage containers and to collect those that are littered, for their refund value!

Another benefit would be lowering the costs to the local government for recycling, landfilling, incinerating, and the collection of littered beverage containers, while creating new green jobs. It would be entirely self-financed and ease the burden on taxpayers!

I urge you to pass the Beverage Container Recycling Refund and Litter Reduction Program! Every year we wait, another 4 billion beverage containers enter our environment.

Thank you for your consideration,

John R. Heath
Mayor

Office of the Mayor
125 N. Division St., #304 Salisbury, MD 21801
410-548-3100 (fax) 410-548-3102
www.salisbury.md

Testimony in Support of HB 1089 Maryland Recycling

Uploaded by: Dave Arndt

Position: FAV

Testimony in Support of Maryland Recycling Refund and Litter Reduction Program
HB 1089
Environment and Transportation
March 7, 2023

Hello, my name is Dave Arndt, a resident of Baltimore MD. I am writing on behalf of myself to urge a favorable report on HB1089.

Living by the harbor in Baltimore, I see hundred of beverage containers floating in the water almost daily. Unfortunately, when they are collected by our trash wheels and harbor cleanup teams, they are taken to the incinerator, where residents can breathe in the air and get asthma, cancers and a shorter life span. Also, this is a tremendous waste of money and city resources.

Marylanders buy more than 5.2 billion beverage containers annually, but only about a quarter of them are recycled. Four billion containers every year end up in the environment – in the landfill, incinerated, or littering the landscape and waterways.

Beverage containers are half of the trash by volume in the Anacostia River watershed and are pervasive in Baltimore Harbor. Plastic bottles are the third most frequently littered plastic in beach cleanups. They break into microplastics, are consumed by wildlife, and move up the food chain. Humans are ingesting up to a credit card's worth of plastic a week!

The Recycling Refund and Litter Reduction Program (HB 1089) would reduce beverage container litter by as much as two-thirds, reducing plastic pollution, and more than triple the recycling rate for beverage containers in Maryland to 90%. It would add a small deposit to the cost of beverage containers that is refunded to customers when the containers are returned for recycling. Under this program, you're buying the beverage, but borrowing the container. The deposit is a powerful incentive to return used beverage containers and to collect those that are littered, for their refund value!

Ten states, covering about 90 million people, have longstanding, highly successful beverage container recycling refund programs. Two of them, Michigan and Oregon, have achieved recycling rates of 90% with a 10-cent deposit. These programs collect clean, source-separated materials that can be used in the production of new containers, reducing greenhouse gasses and saving energy compared to products made from virgin materials.

The program would also lower the costs to local government for recycling, landfilling, incinerating, and collection of littered beverage containers, while creating new green jobs. It would be entirely self-financed and ease the burden on taxpayers!

Now is the time to act! Pass the Beverage Container Recycling Refund and Litter Reduction Program today! Every year we wait, another 4 billion beverage containers enter the environment.

Dave Arndt

Container Recycling

Uploaded by: David Kosterlitz
Position: FAV

Beverage Container Recycling Refund and Litter Reduction Program

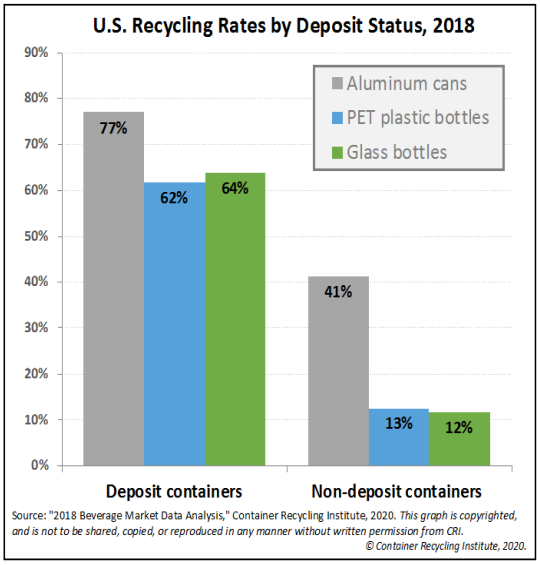
HB1089 (Dels. Terrasa and Edelson)

Co-Sponsors: Dels. Love, Feldmark, Ruth, and Solomon

Did You Know?

Courtesy of Anacostia Watershed Society

- **About 5.2 billion beverage containers are sold in Maryland annually - 863 per person**. Only 23% of them are recycled. Four billion containers a year are left in the environment–in landfills, on roadsides, in waterways–or incinerated.
- **Plastic bottles are the third most frequently littered plastic in beach cleanups**.[1] Beverage containers represent half of the trash by volume collected in trash traps in the Anacostia River watershed.[2]
- **Increasing the recycled content of beverage containers reduces greenhouse emissions and energy used in their production**. Global corporations have committed to increase the recycled content of plastic beverage containers to 25%-50%, yet recycled content in plastic bottles reached only 11.5% in 2020.[3] Beverage container deposit programs provide high-quality, food-grade materials for new containers.
- **Refillable glass bottles can be reused up to 50 times, and refillable PET plastic bottles up to 20 times.**A 20 percentage point increase in the market share of refillable glass and PET bottles instead of single-use PET bottles in 76 coastal countries could reduce marine plastic pollution by 39%.[4]Yet investments in refillables are inadequate.
- **Beverage container deposit programs are a proven, highly effective policy for recovering used beverage containers and reducing litter.** They add a small deposit, usually 5¢-10¢,to the purchase of beverage containers that is refunded to customers when the containers are returned for recycling.
- **Ten states in the U.S., covering about 90 million people, have longstanding, successful beverage container deposit programs**.[5]The recycling rate for deposit beverage containers is much higher than for containers not subject to a deposit (figure at right), and it increases with a higher deposit amount. Two states – Michigan and Oregon – have achieved recycling rates of 90% with a 10-cent deposit. The ten deposit states represent 17% of the population but contribute 48% of US beverage container recycling.[6]



Support the Beverage Container Recycling Refund & Litter Reduction Program to increase beverage container recycling, conserve resources, and reduce litter, waste, and greenhouse gas emissions!

What will the bill do?

- It will create the **Maryland Beverage Container Recycling Refund Program**, with a target of at least a 90% recovery rate and 85% recycling rate for plastic, glass, and aluminum beverage containers sold in the State.
- Customers will pay a small **deposit** when they purchase beverage containers that will be refunded when they return the container to a retailer or redemption facility for recycling.
- **Retailers and redemption facilities** will be equipped with high-speed counting and sorting technology(reverse vending machines and bag drops)to expedite processing and prevent fraud, andwill receive a **handling fee**.
- The program will be operated by one or more non-profit **Stewardship Organizations**, on behalf of producers selling beverage containers in the State, based on a Plan approved by the State.
- The **Maryland Department of the Environment**, with input from an **Advisory Council**, will provide oversight and enforcement.
- **Local governments** will be eligible to set up their own redemption centers and receive a handling fee for returned containers.For the first few years, they willreceive a payment for any documented net losses to their waste management programs due to the program. They will also get credit for the program's returned containers in the calculation of their jurisdiction's recycling rate.
- The program will be **self-financing**, from registration fees and unclaimed deposits. A share of the unclaimed deposits will fund a **grant program** for development of refill/reuse systems, among other dedicated uses.

. What are the Program's Benefits?

- Quadrupling of Maryland's recycling rate for beverage containers to >90% of those sold
- Reduction of beverage container litter by two-thirds or more
- Reduction of the costs to taxpayers and local government of collecting, recycling, landfilling, and incinerating beverage containers
- Provision of high quality, food-grade recycled content that can be made into new food and beverage containers to meet market demand
- Improved water quality, reduced greenhouse gas emissions, and less energy use
- Stimulation of investments in refillable and reusable beverage container systems
- Job creation and stimulation of recycling markets in Maryland

Maryland Sierra Club
P.O. Box 278
Riverdale, MD 20738
(301) 277-7111

sierraclub.org/maryland
facebook.com/SierraClubMaryland/

twitter.com/sierraclubmd
Email: legislation@mdsierra.org

2/10/2023

[1] 5 Gyres Institute. 2017. "Better Alternatives Now, B.A.N. List 2.0." https://static1.squarespace.com/static/5522e85be4b0b65a7c78ac96/t/5acbd346562fa79982b268fc/1523307375028/5Gyres_BANlist2.pdf

[2] Anacostia Watershed Society.

[3] Container Recycling Institute, calculated based on data from NAPCOR/APR.container-recycling.org.

[4] Schroeer, Anne, Matt Littlejohn, and Henning Wilts. 2020. *Just One Word: Refillables*. Oceana. p. 1. https://oceana.org/reports/just-one-word-refillables/

[5] California, Connecticut, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, and Vermont. Redemption rates in 2019 ranged from 59% to 91%.There are currently 72 container deposit programs worldwide in 61 countries. Increased interest in the past decade has been fueled by public concern about plastic pollution. Collins, Susan. 2020. "International Embrace," *Plastics Recycling Update,* Winter,pp. 38-43.

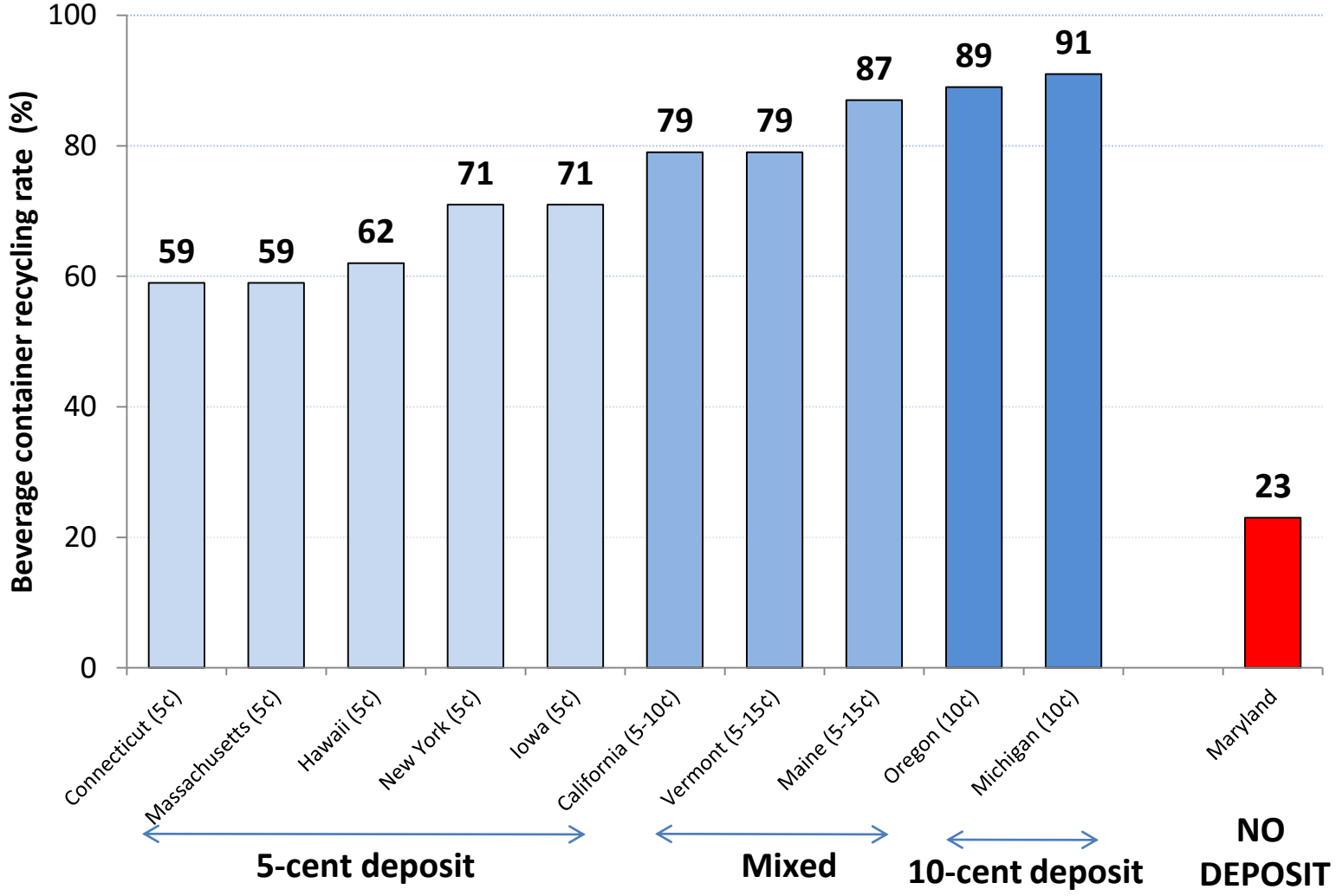
[6] CRI, 2019 Beverage Market Data Analysis, © Container Recycling Institute, 2022.

Recycling Rates

Uploaded by: David Kosterlitz

Position: FAV

Recycling rates (%) for covered beverage containers in deposit states vs. Maryland, 2019



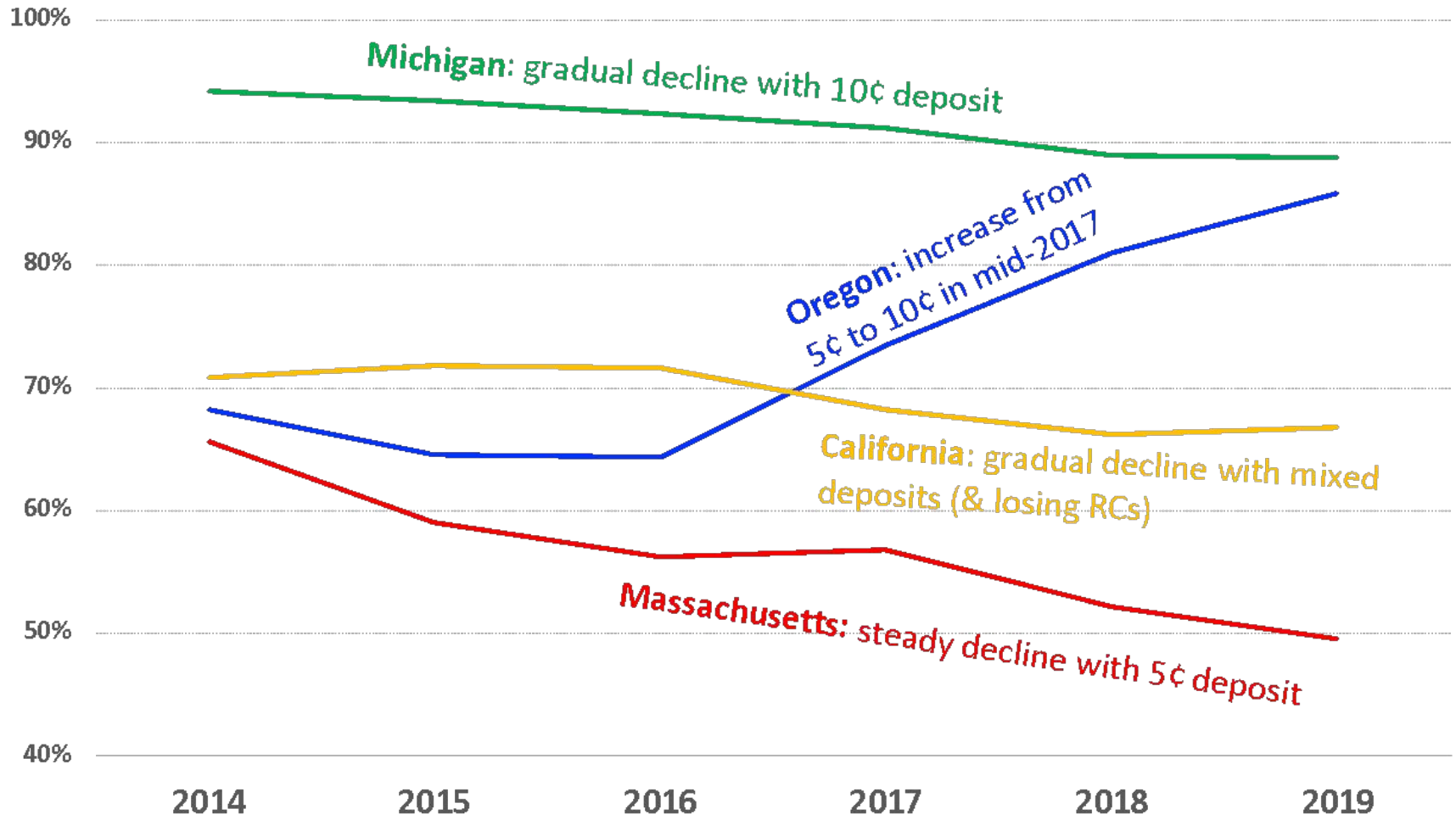
Source: Container Recycling Institute, 2022 Beverage Market Data Analysis

U.S. Redemption rates over time

Uploaded by: David Kosterlitz

Position: FAV

Selected U.S. redemption rates over time



HB1089_Terrasa_FAV
Uploaded by: Del. Jen Terrasa
Position: FAV

JEN TERRASA
Legislative District 13
Howard County

Environment and Transportation Committee

House Chair
Joint Committee on Children, Youth, and Families

THE MARYLAND HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401

Annapolis Office
The Maryland House of Delegates
6 Bladen Street, Room 217
Annapolis, Maryland 21401
410-841-3246 · 301-858-3246
800-492-7122 *Ext.* 3246
Jen.Terrasa@house.state.md.us

March 9, 2023

To: The Honorable Kumar P. Barve
Chair, Environment and Transportation Committee

From: Delegate Jen Terrasa
District 13, Howard County

Re: Sponsor Testimony in Support of HB1089, Maryland Beverage Container Recycling Refund and Litter Reduction Program

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Dear Chairman Barve, Vice Chair Stein, and Members of the Environment and Transportation Committee,

Thank you for the opportunity to present HB1089, which establishes the Maryland Beverage Container Recycling Refund and Litter Reduction Program to reduce the volume of litter and plastic pollution from beverage containers that ultimately end up in landfills or are incinerated. The other main goal of HB1089 is to increase the recycling of beverage containers by incentivizing the distribution and sales of beverage containers that can actually be recycled.

<u>The Problem</u>

In 2019, 5.2 billion beverage containers were sold in Maryland, enough for 863 per person. It is estimated that 1.2 billion of them, only 23% of the total bottles sold, were able to be recycled. That means in one year around 4 billion beverage containers became waste, ending up in landfills or littering our environment.

Currently, there are multiple challenges to relying on our current system of recycling in the state of Maryland. Many recyclable aluminum, glass, or plastic containers never make it to a recycling facility. Plus, according to the National Waste and Recycling Association, roughly 25% of what is placed into the single-stream recycling system is too contaminated to go anywhere other than a landfill.

Additional negative impacts on the environment (beyond the litter and plastic pollution on our land and waterways) include wasted energy and resources. Greenhouse gasses are generated during the production and manufacturing of new beverage containers as well as during the transportation, processing, and disposal of containers. However, with

the expanded use of recycled scrap materials in new products we could reduce those emissions and the impact on our climate.

What the Bill Does

HB1089 requires that beginning January 1, 2025, a producer of beverage containers must register with Maryland Department of the Environment and pay a registration fee, as well as create a Beverage Container Stewardship Plan, in order to sell or distribute the containers in Maryland.

Additionally, HB1089 creates a deposit program of 10 cents for beverage containers 24 fluid ounces or less and 15 cents for beverage containers more than 24 fluid ounces. These deposits will go towards the State Recycling Trust Fund to implement this recycling refund program. Deposits on beverage containers have been enacted in 10 other states, and they have seen benefits, such as increased recycling redemption rates and in some cases, recycling rates for beverage containers reaching up to 90 percent. In these states, bottle bill programs produce recycling rates three times higher than single-stream recycling can.

How it Works

Distributors of beverage containers collect a deposit when they deliver their products to a retailer. Marylanders who choose to buy one of these beverage containers will pay a 10 or 15 cent deposit when buying their drink. When finished, they can return their empty bottles to a store and receive their 10 or 15 cent deposit back. This facilitates the transfer of the empty bottles to a recycling plant, which will sort the recyclables correctly and return the deposit to the retailer. The recyclable material is then used to make new beverage containers. Not only does this increase the actual recyclability of these products, it limits the creation of beverage containers that are using virgin resources.

HB1089 will help create a supply of recycled content in order for more containers to be made out of previously used and recycled items. The resources this bill provides supports the efforts of my companion legislation, HB342, the Postconsumer Recycled Content Program bill. That bill creates demand for food-grade recycled content for beverage and food containers by requiring a certain percentage of recycled content in plastic containers sold in Maryland.

HB1089 sets a goal to achieve a 90 percent recycle redemption rate, with benchmarks to reach a 70 percent redemption rate and 65 percent recycling rate by 2026 and an 80 percent redemption rate and 85 percent recycling rate by 2029.

Not only does this bill decrease waste, it will also support a new market in recycling-related jobs. The collection, processing, and remanufacturing of these beverage containers into other containers will stimulate the recycling market and increase local jobs. In Massachusetts, which has a similar program and population size as Maryland, there have already been 600 jobs created in redemption centers along with hundreds

more created in processing and secondary manufacturing. HB1089 should not have a negative effect on local curbside/single-stream recycling as it acts as a complement to curbside recycling pick-up and will not take away the jobs of those who currently collect recyclables.

Ultimately, the goal of this bill is to reduce the volume of single-use beverage containers sold in Maryland, which leads to decreased waste and litter around the state.

I respectfully urge a favorable report of HB1089.

SBCLT_ BOTTLE BILL SUPPORT.pdf
Uploaded by: Gregory Sawtell
Position: FAV

Testimony Supporting HB 1089

Economic Matters Committee

March 9th, 2023

Position: SUPPORT

Dear Delegate Barve and Members of the Committee,

The South Baltimore Community Land Trust (SBCLT), based in Baltimore, is writing to share the comments from hundreds of residents expressing strong support for proven policies, such as The Beverage Container Recycling Refund and Litter Reduction Program (HB 1089), as a critical piece in a systematic approach to climate change and advancing a just transition to Zero Waste that must:

BUILD AND STRENGTHEN LOCAL END MARKETS for compost, recycled commodities and truly renewable energy.

REDIRECT SUBSIDIES for the incinerators, landfills and dirty energy we are transitioning away from

STRONGER STANDARDS that protect our health, worker safety and our shared environment, including a Cumulative Impacts law that takes into account the pollution sources a community already has when considering new polluting developments.

HEALTH AND DEVELOPMENT FUNDING to mitigate the costs of hosting toxic waste infrastructure for decades --- paired with a “Just Transition for Zero Waste and green infrastructure Fund” to develop new community-owned compost, recycling, deconstruction, reuse and green infrastructure to end reliance on toxic waste and energy infrastructure.

PROTECTIONS for sanitation and other workers as we transition from outdated technologies to current approaches

Marylanders buy more than 5.2 billion beverage containers annually, but only about a quarter of them are recycled. Four billion containers every year end up in the environment – in the landfill, incinerated, or littering the landscape and waterways. This is not just a waste of resources: it

results in more greenhouse gas emissions and energy for new products, reduces water quality and perpetuates plastic pollution.

Beverage containers are half of the trash by volume in the Anacostia River watershed and are pervasive in Baltimore Harbor. Plastic bottles are the third most frequently littered plastic in beach cleanups. They break into microplastics, are consumed by wildlife, and move up the food chain. Humans are ingesting up to a credit card's worth of plastic a week!

The Beverage Container Recycling Refund and Litter Reduction Program (HB 1089) would reduce beverage container litter by more than two-thirds, reducing plastic pollution, and more than triple Maryland's recycling rate for beverage containers, to 90%. It would add a small deposit to the cost of beverage containers that is refunded to customers when the containers are returned for recycling. Under this program, you're buying the beverage, but borrowing the container. The deposit is a powerful incentive to return used beverage containers and to collect those that are littered for their refund value!

Ten states, covering about 90 million people, have longstanding, successful beverage container recycling refund programs. Michigan and Oregon have achieved recycling rates of 90% with a 10-cent deposit. These programs collect clean, source-separated materials that can be used in the production of new containers, reducing greenhouse gasses and saving energy compared to products made from virgin materials. Deposit programs are by far and away the most successful policy in existence in terms of reducing beverage container waste; they are critical for success in the next phase of waste reduction: promoting refillable and reusable beverage containers.

Please see the comments below from hundreds of residents from across the state of Maryland calling for urgent action in support of a comprehensive approach to addressing climate change and advancing a just transition to Zero Waste. We ask that you do your part and pass HB1089:

FIRST	***LAST***	***ADDRESS***	***COMMENT ON WHY A SYSTEMATIC APPROACH TO CLIMATE CHANGE AND ZERO WASTE SOLUTIONS MATTERS***
jeanne	***mccann***	***732 Light Street***	
Neil	***Seldman***	***3362 Tennyson Street, NW***	***Zero Waste leads to economic growth, environmental justice and a healthy city.***
Rev. Michele	***Ward***	***1316 Park Avenue Baltimore MD 21217***	
Marilyn	***Carlisle***	***1238 Ramblewood Road***	***We must reduce what we incinerate and what we put in the landfill.***

Twannesshia	*Thomas*	*904 Allendale Street*	*It's time that we start being fully responsible for our home, Earth. No longer can we be ignorant to the fact that we our destroying our planet.*
Valeska	*Populoh*	*3202 JUNEAU PL*	*This is a solution that is within reach and creates so many benefits for people and communities, while reducing toxic burdens on ecological systems as well!*
Nina	*Cardin*		*a healthy environment is an essential foundation for all other human rights!*
Nicole	*Davis*	*715 Argonne Drive Baltimore, Maryland 21218*	
Andrew	*Hinz*	*1427 Park Avenue*	*clean air is a human right*
Ursula	*Populoh*	*3708 Kimble Rd*	
Meleny	*Thomas*	*PO Box 19762*	*This commitment matters because we NEED to act now to stop even harsher effects of climate change*
Nicole	*Davis*	*715 Argonne Drive Baltimore, Maryland 21218*	
Ethan	*Hasiuk*	*3133 N Calvert St Apt 3*	
Kurt	*Schwarz*	*21042*	*The people downwind of Bresco have suffered from too long the polluted air created by the incinerator. End this greenwashing now, it is killing our neighbors.*
Johanna	*Wermers*	*9712 Delamere Ct., Rockville, MD 20850*	*We need to have clean, unpolluted air and not be contributing to climate change.*
Cleoda	*Walker*	*1200 D. Cherry Hill Road*	*Community, Public Health, Climate Change*
Malcolm	*Heflin*	*251 S Highland Ave, Baltimore, 21224*	*Because it means a lot to me and to the city to make sure that we implement the Zero Waste Plan, and a part of that process needs to lead towards a composting center that can serve communities all over the area.*
David	*Neun*	*246 Cinder Road, Timonium, 21093*	
Stephen	*Leas*	*2834 N Calvert St 21218*	*We need zero waste infrastructure ASAP*

Richard	*Reis*	*103 W 39thSt #A2, Baltimore MD 21210*	
Andrew	*Hinz*	*1427 Park Avenue*	*clean air is a human right*
ruth	*cassilly*		
Saul	*El-Or*		*Because it's time to think beyond $ and take in consideration what's good for our planet and what we are leaving to our grandchildren! It is time to stop chopping the branch we are sitting on!*
Rachael	*Mady*	*4870 Dorsey Hall Drive, Unit 8, Ellicott City, MD 21042*	*This matters to me because it is not only good practice to make less waste, but it also is crucial that we protect and lift up communities in Baltimore that bear the burden and literally lose their lives to the broken waste system.*
Chloe	*Ahmann*		
Phil	*Webster*	*21046*	
Kara	*Korab*	*2415 Eutaw Pl*	
nancy	*sawtell*	*3333 Burnet Ave*	*without clean air, the opportunity to grow and flourish is denied.*
Victoria	*Manogue*		
Hannah	*Brancato*	*3111 Berkshire rd*	*For our future!*
Onyịnye	*Alheri*		*Too many to name. Most simply, we deserve to live healthy full lives on a vibrant, thriving planet EARTH.*
Nicole	*Fabricant*	*403 Hollen Road*	*I have seen the health consequences of incineration.*
Megan	*Latshaw*	*202 Saint Dunstans Rd*	
Sya Buryn	*Kedzior*	*Dept. of Geography, Towson University, 8000 York Rd, Towson, MD 21252*	
Monica	*O'Connor*	*301 Avondale Circle*	
Amanda	*DeStefano*	*2802 Lake Ave, Baltimore, 21213*	

Leana	*Houser*		*Baltimore residents deserve clean air, safe and well paying jobs, and an environment that supports our health, well being and our future.*
Genee	*Smith*		
Sarah	*Merrow*	*2634 N. Calvert St.*	*Air quality in Baltimore is terrible, especially in the humid summer months. The BRESCO trash incinerator is a major source of air pollution here. Until we can evolve and eliminate the burn-and -bury approach to dealing with trash, we can teach everyone how to reduce waste. We can do SO MUCH better, and what is needed is education and leadership.*
Lori	*Rawle*	*13 Southfield Pl, Balto 21212*	*BRESCO should have been shut down, it can no longer claim to be a Green alternative. Food waste has value as compost and should not be increasing the need for landfills.*
Claire	*Knezevic*	*800 E 35th St Baltimore, MD 21218*	
Donna	*Eden*	*4 Seminary Dr*	
Alexis	*Stone*	*909 Walker Avenue Apt 3117*	
Cathy	*Eskey*	*5005 Boxhill Lane Baltimore Md 21210*	*Starve the incinerator to shut it down! Slow/Stop climate change!*
Fransiska	*Dale*		
Richard	*Reis*	*103 W 39th St A2, Baltimore MD 21210*	*Sustainable environment*
Martha	*Hollemann*	*4904 Wilmslow Road*	
Nicole	*Labruto*	*3905 Juniper Road, Baltimore, MD 21218*	*Exploitative waste management technologies adversely affect BIPOC community members' health outcomes and environmental landscapes. Viable alternative solutions exist, and we need to support them now!*

Dorothea	*Lankford*	*PO BOX 1333 Brooklandville MD 21022*	
Mary	*Odell*	*3213 Abell Ave. Baltimore, 21218*	
James	*Cleghorn*	*4000 N Charles ST*	
Amal	*Hussain*	*11708 Pindell Chase Drive*	
Kurt	*Schwarz*	*21042*	
Baltimore Peoples	*Climate Movement*		
Eric	*Miller*	*4906-1 Columbia Road, Columbia, 21044*	
Nina	*Cardin*		*a healthy earth caring for healthy people matters!!*
Marilyn	*Carlisle*	*1238 Ramblewood Road*	
Peggy	*Meyer*	*33 Andrew Place, Baltimore, Md 21201*	*We waste so much that can be used to improve our environment. Giving BRESCO 10 more years was disgusting and we need to help reduce their pollution.*
Jessica	*Berman*	*503 East Capitol ST SE Wash DC 20003*	
Melia	*Jannotta*	*2641 N Howard St*	*We need to start diverting waste so we can stop polluting our air and our communities and SHUT DOWN BRESCO!!!*
Andrew	*Hinz*	*1427 Park Avenue*	
Mansha	*Kapur*	*116 W University Pkwy, Baltimore, 21210*	
Spencer	*Ellsworth*	*Abell*	
Rodger	*Carter*	*Linden Chapel Rd, Clarksville, MD 21029*	*Clean air is important to health.*
Katherine	*Galbreath*	*2809 N Howard Street*	
Erin	*Ryan*	*600 South Paca, Baltimore, 21301*	

Charles	*Eubanks*	*2117 E Pratt St, apt 3A Baltimore, MD 21231*	*I want a clean city to live in.*
Hannah	*Lin*	*1321 North Calvert Street*	
Alex	*Baglione*	*1405 Andre Street, 21230*	*Baltimoreans deserve to live in a clean city! So do our tourists, visitors, guests, etc.*
Emilia	*Ochoa*	*2834 Guilford Ave*	*The burning and burying system is killing our planet and our community. The transition to zero waste will create better sustainable jobs that help our city*
Molly	*Pickel*	*21230*	
Angelica	*Brooks*	*1010 Cherry Hill Rd*	
Toby	*Harris*	*Baltimore MD 21201*	
Rachel	*Schmid-James*		
Mia	*Dyer*		
Nell	*O'Hara*		
Hannah	*Mitchell*		
Megan	*Latshaw*	*202 Saint Dunstans Rd*	
Thomas	*Potter*	*7844 Flintshire Ct., Pasadena, MD 21122*	
Gracie	*Chaney*	*16 Clinton Hill Ct, Catonsville, 21228*	*I want to help starve Bresco incinerator*
Matthew	*Humphrey*	*3045 Saint Paul Street*	
Robyn	*Stegman*	*2804 Huntingdon Ave.*	
Katherine	*Longabaugh*	*E 30th St, Baltimore 21218*	
Diane	*Wittner*		
Eric	*Smith*		
Kara	*Korab*	*2415 Eutaw Pl, Baltimore, 21217*	
Michelle	*Rockwell*	*730 Brookwood Rd*	

Cathy	*Eskey*	*5005 Boxhill Lane Baltimore 21210*	*I am a Baltimore City resident, and a mother of an asthmatic daughter and a grandmother of an asthmatic granddaughter, who have since relocated to the county. The lungs of Baltimore residents are breathing in the policy that our elected officials put through. I want to make sure they support policy that fills our lungs, their constituents' lungs, with clean air! An exodus to the suburbs needn't be my Family's clean air solution!*
Joanna	*Brandt*	*2525 Pot Spring Road, S713*	
Cecilia	*Plante*	*1021 HOLDEN RD*	
Mary	*Clarke*	*3911 Cloverhill Road baltimore MD 21218*	*I am a Zero Waste advocate who learned "how to help" from Ben Franklin students, neighborhood residents, and leaders of South Baltimore.*
Lee	*McNair*	*4707 Chevy chase dr apt 203*	*I see this as an opportunity to take equitable action to reduce the terrifying damage of current pollution while reducing the catastrophic risks of climate change.*
Joyce	*Bailey*	*21730 Beallsville Rd, Barnesville MD 20838*	*We need to work together to solve the challenge of climate change and air pollution. Having Baltimore move ahead with this helps it citizens and those of us in the surrounding areas and provides guidance to other jurisdictions who wish to do the same.*
Nanci	*Wilkinson*	*5502 Glenwood Rd Bethesda MD 20817*	
Lee	*McNair*	*4707 Chevy Chase Dr Apt 203*	*Climate change is complex but very real and very dangerous. Still it offers amazing opportunities for good paying jobs, for composting and regenerative farming, for a healthier economy, and much more. To me, this is a chance to do good in the world and set a shining example to the rest of the world.*
Jayden	*Johnstone*	*363 Schooner Lane*	
Diane	*Wittner*		

Monica	*OConnor*	*301Avondale Circle*	
Nina	*Cardin*		
Lore	*Rosenthal*	*2 Gardenway, Unit R*	
Diana	*Younts*	*206 spring avenue*	*Incinerator pollution kills*
Gwen	*DuBois*	*1817 Sulgrave Ave*	
Michelle	*Rockwell*	*730 Brookwood Road*	*Establishing a zero waste infrastructure in Baltimore city is critical for the well being of our citizens and our environment.*
Robert	*Frier*	*21231*	
Phil	*Webster*	*7553 Broadcloth Way*	*Burning trash is extremely harmful!!*
Mary	*Rodgers*	*7553 Broadcloth Way*	*This is a matter of justice for the people of Baltimore!!*
Nanci	*Wilkinson*	*5502 Glenwood Rd Bethesda MD 20817*	
dianne	*seiffert*		*Baltimore's leadership on Zero Waste influences actions by every other government and waste disposal entity in the State, and it's a great job creator! Do it now!*
Stephen	*Leas*	*2834 N Calvert St*	*We need zero waste infrastructure, good jobs, community management, and a just transition. My number one concern is climate justice and Baltimore can lead the way towards a Green New Deal.*
Sarah	*Jamieson*		
Kathleen	*Holmay*	*9607 Kingston Road - 20895*	*It's obvious.*
Sarah	*Preston*	*3109 Plyers Mill Rd.*	*We need to implement climate change solutions wherever we can.*
Patrice	*Gallagher*	*115 E 5th Street, Frederick, MD 21701*	*We fought an incinerator project in Frederick County for 8 years and learned along the way that there are many ways to divert materials away from the landfill and reuse or compost them. We are working to make organics diversion and compost production a robust system here in our county.*

Nancy	*Janssen*	*1900 Lyttonsville road, silver Spring MD 20910*	*Quality of life*
Katherine	*Jakuta*	*919 West 33rd Street, Baltimore MD 21224*	
Dorcas	*Robinson*	*8305 Meadowbrook Lane, Chevy Chase, 20815*	
Liz	*Feighner*	*10306 CHAMPIONS WAY*	*Howard County incinerates plastic waste from their recycling facility and it needs to stop. We live downstream and are affected by the incinerator - which needs to shut down. I don't want my tax dollars to subsidize the incinerator. Composting helps sequester carbon and we are in a climate emergency.*
George	*Jakuta*	*919 W. 33rd St.*	
Doris	*Nguyen*	*5101 Waukesha Rd*	*An opportunity to provide new jobs while reducing pollution and methane gas production is a no-brainer.*
A	*Loerke*		
Mary	*Ashanti*	*28684 Ocean Gateway*	*Environmental Justice issue.*
Lauren	*Greenberger*	*22810 W. Harris Road Dickerson Maryland 20842*	
Kathleen	*Sheridan*	*5103 Waukesha Road,, Bethesda, MD 20816*	*Influence on climate change, environmental health, public health*
Diana	*Conway*	*10600 River Rd*	
Julia	*DiMauro*		
Laurie	*McGilvray*	*7010 Woodland Ave.*	
Sya	*Kedzior*		
Kathleen	*McCord*	*104 St. Francis Ct. Apt, Suite, Bldg. (optional)*	
Lauren	*Greenberger*	*22810 W. Harris Road Dickerson Maryland 20842*	
Ann	*Jackson*	*124 Bay Park Way*	
Dick	*Williams*	*1300 Likden Green, Baltimore. 21217*	

Ola	*Adesunloye*	*7304 Willow Glen Way*	*It matters to me because we have an opportunity to incite a fundamental shift in the ways that the City looks at waste and treats it. It matter because by implementing a zero-waste system, we would be saving lives through the limits of toxic waste, and allowing communities the agency to choose what happens to not only their waste, but their land as well.*
Ellen	*Barfield*	*814 Powers St, Baltimore, MD 21211-2510*	*Jobs, reducing pollution, avoiding incineration. We must handle our waste differently.*
Dan	*Watson*		
Rachel	*Whiteheart*		
Andrew	*Hinz*	*1427 Park Avenue*	
Anna	*Crowe*		*Environmental justice is essential to health and safety of our current population. We must protect the members of our community that are being so significantly harmed by the current waste systems in place by implementing theses zero waste initiatives for health of the community members and the environment.*
Dave	*Arndt*	*1445 Haubert St. Baltimore MD 21230*	*We have to do better. The Incinerator is at the intersection of Climate, Environmental, and social Justice issues.*
Catherine	*Dees*		*All Marylanders deserve a cleaner environment. With our population density in central Maryland, this is especially critical.*
Diane	*Wittner*	*243 Stanmore Rd*	*I was on the team that fought the Energy Answers incinerator and own a zero waste business Echotopia LLC.*
Johanna	*Wermers*	*9712 Delamere Ct., Rockville, MD 20850*	
Katherine	*Galbreath*	*2809 N Howard Street*	
Mary Jo	*Kirschman*	*21214-3136*	*survival*

Ellen	*Barfield*	*814 Powers St, Baltimore, MD 21211-2510*	*We absolutely MUST end incineration, greatly reduce plastics and really recycle the rest, refill or recycle glass and metal.*
Taji	*Amani*		
Louise	*Gregg*	*5701 Chinquapin Pkwy, Apt. D, Baltimore, 21239*	
Anne	*Mesaros*	*1606 Latrobe St*	*Climate change is a human-made problem and we have a responsibility to the earth and ourselves to take action against it. IN PARTICULAR, communities of color are disproportionately negatively impacted by climate change and the harm caused to the environment. This is a justice issue in every way.*
Anand	*Pandian*	*3714 Beech Avenue, Baltimore, MD 21211*	*As a professor and teaching of environmental studies and anthropology at Johns Hopkins University, I believe strongly in the value and necessity of this commitment.*
Andrew	*Fisher*	*3133 Fait Ave*	
Valerie	*Bardhi*	*1150 Carroll st. Baltimore 21230*	
Keisha	*Allen*	*2218 Sidney Avenue Baltimore MD 21230*	
Heather	*Hax*	*1442 Redfern Avenue*	
Laurie	*Anderson*	*304 Washburn Ave, Baltimore, 21225*	
Anne	*Wilson*	*21210*	*The climate crisis is here and we need to do everything in our power to convert our polluting way of life to life-sustaining systems that do not threaten our health and safety. Low-income and majority-POC neighborhoods and individuals are disproportionately harmed by the status quo. Taking a bold step toward zero waste is one way to move toward shutting down our trash incinerator, which is a shameful blight on our city and a product of the systemic*

			racism that has shaped Baltimore since its earliest days.
Cameron	*Walkup*	*Westgate*	
Anna	*Word*	*2331 Guilford Ave. Baltimore 21218*	
Sarah	*Fouts*	*2624 St Paul Street 1b*	
Matthew	*Lewis*	*2118 Saint Paul St Apt 2, Baltimore, MD 21218*	*This matters because the incinerator is a public health and climate disaster. We need Zero Waste!*
Dillon	*Mahmoudi*	*225 S Collington Ave, Baltimore, 21231*	*Divert waste so we don't pollute our air!*
Stephen	*Leas*	*21218*	
Nicole	*Labruto*	*3905 Juniper Rd, 21218*	*Incineration is a violence against Black communities and the environment. Support Zero Waste in Baltimore and shut down the BRESCO incinerator NOW!*
Kiana	*Fok*	*4501 Worthington Manor Way*	
Christy	*Thornton*	*3811 Canterbury Rd Apt 908 21218*	
Thomas	*Potter*	*7844 Flintshire Ct., Pasadena, MD 21122*	*We all have such a tremendous impact on the disenfranchised communities around us! We need to do so much more in the pursuit of environmental justice.*
Elizabeth	*Luns*	*107 Bachtell Circle, Smithsburg MD, 21783*	*I am a very strong advocate for stopping climate change and creating sustainable waste removal and energy sources. This proposal would be extremely beneficial not only for the Earth's health, but for our own as the emitted CO2 and toxins would be cleared from our air.*
Emily	*Johnson*	*1802 Furnace Road Jarrettsville MD 21084*	*This should matter to everyone. Diverting and recovering waste impacts so many areas of life for everyone. However this makes the greatest impact for the population living in South Baltimore. Let's make an important choice and step to impact our community.*

Rachael	*Mady*	*4870 Dorsey Hall Drive, unit 8, ellicott city, md 21042*	*This matters to me this is intersectional, in that is important to combat waste, climate change, and health risks to our community.*
Colin	*Hickey*	*203 Smallwood Drive*	*We should all work to build a society that harms as the environment as little as possible.*
Alexandra	*Frieze*	*25 Acorn Circle, apt 304, Towson, MD, 21286*	
Richard	*Soucy*	*20 Bonbon Court*	*Incinerators are bad for the enviornment*
Briseyda	*Barrientos-Ariza*	*430 Towson Way, Towson, MD 21251*	*because I want people to have futures — good futures.*
Guelila	*Iyob*	*26033 Ridge Manor Dr, Damascus, MD, 20872*	*incinerators disproportionately affect black and brown communities and to ensure that these communities are kept safe, as well as the generations to come, we must find another way to get rid of waste*
Kendall	*Howze*	*440 Towson Way, Towson, Md 21036*	
Cooper	*Hoffman*	*101 York Road, Room 629B, Towson, MD, 20878*	*Removing harmful food waste, and a transition to a net-zero carbon footprint, is essential in maintaining the planet we still have.*
Jordan	*Warner*		
Colin	*Mullican*		
Jeb	*Pappas*	*8000 York road, Towson MD, 21252*	*I don't want pollution and people to die*
Jenna	*Hoogervorst*	*1627 Cottage Lane Towson, MD 21286*	*As a Towson University Student it is important to me that the institution I belong to stop contributing to the incineration process that is harming Baltimore residents and the planet at large.*
Seon	*Tromble*	*12 Aigburth rd*	*A clean environment benefits all of us. We're just dooming ourselves if we don't take these issues seriously.*
Kellie	*Anderson*	*1736 Patapsco Street*	
Julia	*Beall*	*25911 Clarksburg Rd, Clarksburg, MD 20871*	

Chris	*Ritzo*	*Highland Ave, Baltimore, 21224*	
Chris	*George*		
Jane	*Skillman*	*3632 Keystone Avenue Baltimore MD 21211*	
Nathaniel	*Sbar*	*1736 Patapsco St*	*I live in Baltimore*
Owen	*Andrews*	*21218*	
Elisabet	*Eppes*	*1402 Park Ave. Apt 1 Baltimore, MD 21217*	
Evelyn	*Hammid*	*2703 Montebello Ter. 21214*	*The BRESCO incinerator is a public health and climate hazard. We must compost our waste for our citizens' and our planet's safety!*
Corey	*Reidt*	*Towson University, Towson, MD*	
Bailey	*Hardwick*		
Virginia	*Graham*	*14028 Blenheim rd N Phoenix MD 21131*	
Rianna	*Eckel*	*2834 N Calvert St, Apt 3F, Baltimore, 21218*	
Amanda	*DeStefano*	*2802 Lake Ave*	
Nicole	*Fabricant*	*403 Hollen Road Batimire MD 21212*	*We need local green infrastructure now and we need to end our addiction to incineration*
Tanesha	*Davis*	*3413 Springdale Ave, Baltimore,21216*	*We NEED to stop burning food waste and create a local compost facility in Baltimore to send our food waste to. This will also create good job for residents.*
Shashawnda	*Campbell*	*3413 Springdale Ave, Baltimore ,21216*	*We know we have to stop burning and burying all our waste because it is putting people lives at risk. We can begin to step away from our past of smoke clouds from the Bresco Incinerator by creating local compost infrastructure. This local compost infrastructure will not only start to divert waste from BRESCO but, it will also create local jobs for residents.*

Ariel	*Richardson*	*2800 N Calvert St APT 3B, Baltimore, 21218*	
Twannesshia	*Thomas*	*904 Allendale Street*	*We must save our planet!!!*
Anderson	*Lemus - Del Cid*	*9318 Paragon way*	*I'll put it simply: We need to do everything possible in order to save our planet of the eminent environmental disaster if we don't take immediate action.*
Loraine	*Arikat*	*2420 Callow Avenue*	*Incineration of food waste is a public health crisis and environmental justice issue! There are clear alternatives that center the health of residents, create sustainable union jobs, and make our environments livable.*
Mae	*Hanzlik*	*1818 Eutaw Place, Baltimore, 21217*	
Derek	*Chapel*		
Clarissa	*Chen*	*15 Wt Vernon Pl. Baltimore, MD 21201*	
Sarah	*Kanchuger*		*Please take this progressive action for our children -- inaction is no longer an option!*
Perri	*DeJarnette*	*3412 Niner Road Finksburg 21048*	
Maria	*Smaldone*	*1912 Linden Avenue, Baltimore, MD 21217*	
Emily	*Ryan*	*2337 Cambridge Walk Baltimore MD 21224*	*If we are going to have any chance for normalcy in coming years for Baltimore, we treat climate action as a forefront issue and not a secondary one. Otherwise, all other issues in our city will be exasperated as a result. Furthermore, harmful waste management practices are dangerous to our residents and all of us have a right to cleaner air.*
Faith	*Hupp*	*7900 knollwood rd*	
Hannah	*Young*	*3834 Kimble Road Baltimore MD 21218*	
Farida	*Shourbaji*	*11825 Clarksville Pike Clarksville MD*	

Ellie	*Yanagisawa*	*1527 Bolton St #2*	
Madeleine	*Pope*	*4101 Frisby*	
Hannah	*Freedman*		
Steph	*Saxton*	*3125 N. Calvert St.*	
Hannah	*Lorincz*	*26300 Susan St Taylor, MI 48180*	*Environmentalism is something that everyone, no matter where they are from, should begin to care about. Anything, even the minute move I can do to help, I'll do.*
Isabel	*McLain*	*422 E Lanvale St Baltimore 21202*	*Because I was Baltimore to exist in the future*
Isabel	*Zapata*		
Gray	*Doney*	*26 Chesters Way, Elkton, 21921*	
Xitlali	*Ceballos*	*117 S Schroeder St. BALTIMORE, 21223*	*Because we need sustainable waste systems in the city that can benefit residents and also make communities money. Bmore can be THE CITY that blazes a trail for the rest of the country!*
Joshika	*Money*	*Mosher St, Baltimore, 21217*	
Yun-Yun	*Li*	*428 W 30th St, Baltimore, 21211*	
Ben	*Strigle*		*This will affect the health of generations of Baltimoreans to come. To not side with the people is to betray them and their lives.*
Nicole	*King*	*601 N. Eutaw st.*	*We need to do everything in our power to fight against climate change and for environmental justice in Baltimore.*
Elizabeth	*Greif*	*320 South Washington Street, Baltimore 21231*	
Samuel	*Winans*	*6 Sparrow Hill Ct, Catonsville, 21228*	
Brandon	*Beadle*		
Madyson	*Jones*		

Jacob	*Winans*	*11304 Wacomor Dr Germantown, MD 20876*	
Caitlin	*Winans*		
Thomas	*Winans*	*11304 Wacomor Drive, Germantown, 20876*	*Its a crucial first step to defending the future of the environment and, by extension, the youth*
Sheryl	*Winans*		
Lucy	*Kibuthu*	*1410 shadetree rd. Apt. G, Essex, md, 21221*	
Colin	*Hickey*	*430 Towson Way*	*The people of Baltimore should not have to suffer at the hands of a waste system that does not account for their needs.*
Dante	*Swinton*	*2634 N. Charles St. Apt. 1*	
George	*Buntin*	*913 Lemmon St. Baltimore, MD 21223*	*The environment matters!*
Dave	*Arndt*	*1445 Haubert St.*	*Clear air is good for everyone*
Daniel	*Arndt*	*720 S Ellwood Ave*	*Assist in reducing climate change*
Cindy	*Camp*	*505 Radnor Avenue*	*The health of our children and community matters to me*
Jocelyn	*Providence*	*3320 Lerch Drive*	
Maura	*Dwyer*	*1639 n Calvert st*	
Mark	*Edelson*	*3211 Fait Avenue*	*Achieving zero waste and reducing our carbon footprint are critical for the preservation of our planet.*
Karen	*DeCamp*	*406 Woodford Rd Baltimore, MD 21212*	*We need to invest in decreasing our waste stream - more recycling and composting is what other cites do!*
Kevin	*Gaughan*	*1335 Hull St, Baltimore, MD 21230*	*This is important to me as a resident of South Baltimore who's kid's are impacted by the degraded air quality caused by the local incinerator.*
Kelley	*Koeppen*		
Lillian	*Byington*	*1105 Haubert st Baltimore 21230*	
Elaine	*Arndt*	*1445 Haubert Street*	

Allison	*Blood*	*2818 E. Baltimore St. 21224*	
Annie	*Mesaros*	*1606 Latrobe St Baltimore MD 21202*	*Environmental justice is a racial, civil, and human justice issue! We must take care of our earth to take care of each other.*
Satay	*Israel*	*1014 36th St.*	*Pollution is bad*
Dan	*Watson*		
Chloe	*Ahmann*		*Baltimore has an incredible opportunity to take concrete steps in service of a zero-waste future, and could not be luckier to have youth leaders from South Baltimore leading the way.*
Mary Kate	*Schneider*	*Baltimore, MD 21230*	
Marilyn	*Julius*	*609 W 40th St 1211*	*Because it's the right thing to do*
Andrew	*Hinz*	*1427 Park Avenue*	
Alexa	*Gibbons*	*1470 WOODALL ST*	*A zero-waste system will directly benefit community, labor and our environment.*
Nicole	*Buchholz*	*1525 Cuba St, Baltimore, 21230*	
Benjamin	*Charlton*	*1651 Covington St*	
Lynn	*Cripps*	*126 West Lanvale St , Balto Md 21217*	
Michele	*Hasselberger*	*1362 Andre St. Baltimore, MD 21230*	
Kim	*Acton*	*1352 Andre St*	*It's critical*
Rebecca	*Charlton*		
Darlene	*Dunn*	*1338 And St*	*Our city and earth are too important not to.*
Ryann	*Constable*	*1346 Andre St. Baltimore 21230*	*Saving our environment should matter to everyone!*
Michelle	*Feeney*	*1328 andre street*	*My environment, my health, our city*
Monalisa	*Diallo*	*2101 Bryant avenue*	*Our children deserve better*

Valeska	*Populoh*	*3202 JUNEAU PL*	*I worked with communities in South Baltimore to stop the incinerator from being built near Curtis Bay and Brooklyn. I learned a lot about waste incineration and the impacts on poor communities in Baltimore (and beyond.) I also learned about how alternatives, like composting and recycling infrastructure, can create jobs and other kinds of economic opportunity. We are seeing climate chaos and its impacts. We have to act on all fronts to reduce methane and other greenhouse gases. We have to invest in cleaner infrastructure that also delivers economic benefit for poor and disenfranchised communities. This is a powerful way to move in service of all of those values.*
Matt	*Purdy*		
Salman	*Sheikh*	*7826 main falls circle*	*Because the environment should matter. It is a trust for us.*
Sarah	*Sullivan*	*1200 steuart st balti md 21230*	
Caroline	*Wayner*	*632 Saint Johns Road*	*This is such an obvious step to take to make our city greener and healthier for all citizens.*
Brian	*Megali*	*226 S. Ann St. Baltimore MD 21231*	
Liz	*Ensz*	*Baltimore, MD 21211*	
Katie	*Robinson*	*1425 E Clement St*	
Avionna	*Fitzhugh*	*1304 Eutaw Place, Apt 3,Baltimore MD, 21217*	
Maddie	*Taylor*		
Victoria	*Pass*	*113 Cross Keys Road, Unit F Baltimore, MD 21210*	*In addition to this being the right thing for the city to do to begin to address the dire effects of climate change, I have asthma and like so many other people the pollution from incinerating trash has a direct impact on my health. I've been taking my food scraps to the Sisson Street dump for composting,*

			with curbside collection I believe many of my neighbors would collect for composting as well.
Rani	*Duff*		
Lori	*Niehaus*	*1338 Decatur St, Baltimore MD 21230*	
Sarah	*Bluher*	*2118 Saint Paul St*	*Baltimore residents deserve clean air.*
John	*Walther*		
Kelly	*Berger*	*1432 Decatur St*	
Claudia	*Leight*	*2419 Briarwood Rd*	
Maria	*Brown*	*700 Anneslie Road, Baltimore, MD 21212*	*To reduce toxic exposures in communities of color who live next to the incinerator*
Grace	*Gleason*	*1254 Girard Ave*	
Danielle	*Choma*	*100 Cold Spring Lane Baltimore 21210*	
stacey	*fatica*	*1500 E Fort Ave*	*Because i live here*
emma	*smith*	*14 W Cold Spring Lane, Baltimore, MD 21210*	
Nancy	*Mead*	*107 W. Lee St.*	
Elena	*Conway*	*Remington*	
Lydia	*Hillman*		
Alistair	*Watson*	*2329 S Joyce St*	
Julia	*Gannon*	*1 Fellowship Ct Apt D 21286*	
Cristian	*Martinez*	*7 W Crost St Apt 302*	
Yael	*Bloom*	*891 N Howard St*	*To secure the health and future of Baltimoreans we need to move to a zero-waste system! This move would be healthier for the environment, our bodies, and the economic security of the city. I want to stay here and raise a family! This city needs to prioritize our climate future!*
Layla	*Horeff*	*2204 Essex St*	
Onyịnye	*Alheri*	*21217*	

Jamie	*Wood*		
Logan	*Stratton*	*21219*	
Hope	*Murphy*		
Bailey	*Cohen*		
Sophie	*Redmond*	*4501 N Charles Street Baltimore MD 21210*	*I am a current student at Loyola Maryland and I would like to see my school to reduce their waste and create more sustainable habits.*
Alexandria	*Munoz*		
Isabela	*Botto*	*Cold Spring, Baltimore 21210*	*This earth is our home and we don't need to continue to pollute and hurt the creatures here.*
Maya	*Lindsay*	*1631 old town road*	
Sarah	*Hunt*	*4501 N Charles St*	*Environmental pollution is killing our planet. We will lose our only home if we continue to pollute the way we are.*
Lauren	*Nowicki*	*8203 Royal Star Court*	
Deborah "Spice"	*Kleinmann*	*1208 Regester Ave Idlewylde 21239*	*This matters to me because we need to stop incinerating trash in MD and causing so much pollution and sickness in humans and other organisms!!*
Uta	*Allers*	*603 Scott St., Baltimore, MD 21230*	*Food is not for burning, but for returning to the earth.*
jeanne	*mccann*	*732 light street*	*anything that helps clean up our city!*
Robert	*Frier*	*21231*	*I want to breathe clean air.*
Richard	*Reis*	*103 W 39th St Apt A2*	*Convenience, less wastage, less pollution from incinerator*
Elizabeth	*Lewis*	*1208 Regester Ave*	*I have children and grandchildren and I want a good life for them.*
Jenelle	*Legge*	*4 Stonemark ct apt 9*	*I think that it is very important for ALL communities to be able to breathe cleaner air and have less pollutants that are toxic to our mental and physical state of being. We need to limit trash that is incinerated and in reference to Bresco; they are directly affecting the South West communities that*

			are closest to the incinerator. It has direct, negative health implications on those communities. Lower-income communities should not be forced to live next to these pollutants.
Beth	*Renwick*	*3309 Abell Ave*	*As a long time Baltimore City teacher I've seen the asthma cases that probably don't need to be from Baltimore's polluted air--a lot of it coming from burning waste. Also, there's only so much space on the planet, let's work with what nature already does to help keep Earth around longer in a more safe-for-everyone way.*
Kyra	*McDonnell*	*2001 West Cold Spring Lane, Baltimore, MD, 21209*	
Marie Bernadette	*del Prado*	*4501 N Charles St, Baltimore, MD 21210*	
Matthew	*Berta*	*2410 Eutaw place Baltimore 21217*	
Anna	*Beaulieu*	*2001 W Cold Spring Lane, Baltimore, 21209*	
Lily	*Norris*	*31 Strawberry lane Shelton ct*	
Sya	*Kedzior*		
Chloe	*Callahan-Flintoft*	*3907 Foster Avenue*	*I have a son and I want him to be able to do stuff like breath air and not hoard resources when he's older*
Elizabeth	*Dahl*	*3011 Oak Forest Dr. 21234*	*Waste is a huge source of pollution in many ways. Let's take this step to reduce our waste and work towards a sustainable system. Baltimore is an amazing place - let's be great at this too.*
Lauren	*Adams*	*2744 GUILFORD AVE*	
ida	*kenna*	*21218*	*pollution+waste sucks*
Laura	*Stokes*	*5921 Marluth Ave Baltimore 21206*	

Anand	*Pandian*	*3714 Beech Avenue, Baltimore, 21211*	*Our waste stream could be part of a healthy and regenerative economy rather than an unjust environmental health burden on some of the poorest and most disenfranchised residents of the city. It's time to build sustainable and socially just alternatives to incineration.*
Chad	*Cover*	*6014 Terrace Road*	
Chris	*Broome*		
Catherine	*Eskey*	*5005 Boxhill Lane, Baltimore, Md. 21210*	
Sydney	*Brooke*	*4501 N Charles St*	
Tom	*Eskey*	*5005 Boxhill Lane, Baltimore MD 21210*	*Don’t feed the incinerator*
Weber	*DuVal*	*3 Jackson Manor Court*	
ZaQuane	*Dozier*	*21009*	
Emily	*Faber*	*211 E Churchill St, Baltimore MD, 21230*	
Kayla	*Hickman*		*Since the Baltimore region has relied on trash incineration, their has been a consistent disinvestment in recycling and composting infrastructure. South Baltimore is a beautiful and vibrant community, who has consistently spoken up against the incinerator. Black and low income neighborhoods have disproportionately bared toxic air and water pollution. We need clean green union jobs in Curtis Bay and Brooklyn and that starts with this facility.*
Lydia	*Asisten*	*3461 Plumtree Drive Ellicott City 21042*	
Elana	*Wallach*	*1722 Bolton Street, Baltimore MD 21217*	*I would feel so at peace helping this cause, thank you so much for allowing me to sign!*
Jennifer	*Mizgata*	*2919 Saint Paul Apt 1, Baltimore MD 21218*	*Baltimore and its residents deserve to be taken care of and this action will help*
Paul	*Sturm*	*6618 Stirrup Ct*	
Joanna	*Brandt*	*2525 Pot Spring Road, S 713*	

Stephanie	*Ray*	*1423 Madison Ave, Baltimore, 21217*	*Environmental Justice for our communities*
Molly	*Pickel*	*1706 Belt Street*	
Jessica	*Herceg*	*2525 Guilford Avenue*	
Ben	*Roush*	*5502 Elsrode Ave, Baltimore, MD 21214*	
Greg	*Smith*	*4204 Farragut Street, Hyattsville 20781*	
Ahmina	*Maxey*	*5826 Stevens Forest Rd, Columbia, MD 21045*	
Martha	*Barss*	*3105 Tyndale Avenue, Baltimore, 21214*	
James	*Cleghorn*	*4000 N Charles St*	*The kids are leading us to a new future of caring for our planet, before it is too late. Reducing waste and stopping trash incineration for energy are part of that. We appeal to Mayor Scott to heed this petition.*
Andrew	*Szwak*	*501 S Clinton St Baltimore MD 21224*	
Kirsten	*Brinlee*	*1402 E. Fort Avenue, Baltimore, MD, 21230*	*We only get one planet.*
Joseph	*Parrish*	*300 E. 56th St.*	*Toxic fumes and nitrous oxides kill children, exacerbate asthma for all ages, and always increase lung and other cancer rates. After we got an incinerater third graders died before their parents could rush them to a hospital, so very tragic*
Nancey	*Kinlin*	*322 E Lafayette Ave*	*This initiative = long overdue equity*
LAUREN	*SIEGEL*	*3312 Shelburne Rd*	*we need to protect our environment.*
Liz	*Hoey*	*843 N Howard St apt 1 Baltimore md 21201*	
Anbar	*Oreizi*	*9704 Treyburn Court, Ellicott City, 21043*	
Neil	*Seldman*	*3362 Tennyaon STreet, NW, Washington, DC 20015*	*These steps are needed to get Baltimore to Zero Waste and economic and environmental justice.*
Leana	*Houser*		

Katharine	*Jenike*		
Jodie	*Zisow-McClean*	*2608 Hamilton Ave*	
Monalisa	*Diallo*	*2101 Bryant avenue*	*It matters because I'm charged to leave the earth better than I found it.*
Eric	*Miller*	*4906-1 Columbia Rd.*	
Joshua	*Rogers*	*1150 Carroll St, Baltimore, 21230*	
Brian	*Dolge*	*6 Wade Ave*	*composting is a fundamental component of a zero waste system. burning or burying food waste is not only bad for the world's carbon balance it is a waste of lad and pollutes the air. we need composting and waste recycling.*
Naijha	*Wright-Brown*	*840 North Eutaw Street*	*Stop the burning of food waste in the BRESCO incinerator. Eliminate pollution and toxins in the air that's negatively affecting poor communities.*
Darryl	*Jurkiewicz*	*937 S. Clinton St.*	*Common sense*
Chauna	*Brocht*	*2509 Guilford Avenue 21218*	
Bethany	*Gregg*	*5748 Cross Country Blvd, Baltimore, 21209*	*I have 3 children and I care about their future. We need to address climate change NOW to save their future!*
patricia	*halle*	*808 Gorsuch Ave*	
Marie	*Murphy*	*3903 Cloverhill Rd, Baltimore, 21218*	
Jasper	*Lewis*	*789 Grape Vine Loop, Baltimore 21225*	
Cinder	*Hypki*	*2103 Bank St. Baltimore md. 21231*	*As a city we need to act swiftly to be part of the solution to the climate crisis— my # 1 concern AND simultaneously to the need for decent jobs and the training to acquire them by young people in Baltimore's most vulnerable and beleaguered neighborhoods.*

			We must act now to put this into place. There is no time to hesitate.
Ellen	*Barfield*	*814 Powers St, Baltimore, MD 21211-2510*	*It is obscene to burn good soil nutrients and further pollute our air.*
Justin	*Park*	*310 Birkwood Place, Baltimore, MD 21212*	
Stephen	*Thomas*		
Erin	*Barry-Dutro*	*615 Parkwyrth Ave 21218*	
Sarah	*D'Adamo*	*3549 Sweet Air Street*	
Elizabeth	*Englemann*	*4000 N Charles ST*	
Caroline	*Wayner*	*632 Saint Johns Road*	*Not only is this the right thing to do for the Earth, but being a greener city will attract more residents. Thank you for doing the right thing.*
LEE	*BOOT*	*2312 E Baltimore St*	*What we are doing is neither healthy, cost-efficient, nor sustainable. Bold action such as this is required.*
Helen	*Atkinson*	*2105 Kentucky Ave, Baltimore MD 21218*	
Meredith	*Chaiken*	*2717 Saint Paul St.*	*It's time to take responsibility for our behavior.*
Nick	*Lindow*		
Graham	*Coreil-Allen*	*3210 Auchentoroly Terrace*	
Mike	*Wissner*	*713 Newington Ave, Baltimore, 21217*	*Nobody wants to live with trash nor unemployment!*
Maria	*Smaldone*	*1912 Linden Avenue, Baltimore, MD 21217*	
Regina	*Tassone*	*724 Walker Avenue*	
Kelsi	*Loos*	*923 Essex Square*	
Angela	*Cole*	*5221 Ready Avenue Baltimore, MD 21212*	*I am a Baltimore native and understand the impacts of systematic racism and how it affects generations of black and brown people. Blight , trash and pollution affects*

			property value , neighborhoods and most importantly the people who live there health and well being.
Jennifer	*Goold*	*4302 Wickford Road*	*It's the only way forward for our planet! The incinerator is poisoning our city and it's people.*
Sharon	*Davlin*	*327 Overbrook Rd*	
Robin	*Marquis*	*4912 Ross rd, baltimore, MD 21214*	
Chris	*Streb*	*2081 Clipper Park Road*	
Janan	*Broadbent*	*100 Harborview Drive Baltimore 21230*	
Alexandra	*Wick*	*302 Kingston Rd*	*Protect the vulnerable in our neighborhoods!*
Matt	*Hill*	*181 Hollen Road, Baltimore, MD 21212*	*Sustainable environment is important!*
Gwen	*DuBois*	*1817 Sulgrave Ave*	*Incineration is bad for the health of Baltimoreans. Composting is the single most important way to reduce incinerator waste and turn it into something that will always have value. Here in Mt. Washington we are doing that with the help of master composted Marvin Hayes .*
Quinn	*Caralle*	*4410 Falls Road, Baltimore, MD, 21211*	
Melia	*Jannotta*	*2023 Druid Park Dr*	*Diversion from incineration is the only way. We want to breathe clean air and live in a city that is responsibly disposing of waste. This is an issue of racial and environmental justice.*
Joanna	*Merry*	*Benninghaus Rd 21212*	
Barbara	*Metz*	*5401 Loch Raven Boulevard*	*This is crucial for the health of the earth and our community !*
Gracie	*Chaney*	*16 Clinton Hill Ct, Catonsville, 21228*	*As a student, I have very little power over what my institution does; however, I do not want to be inadvertently contributing to a public health and climate crisis.*

Amanda	*Wisniewski*	*15 E Eager St 21202*	
Annie	*Mesaros*	*1606 Latrobe St Baltimore MD 21202*	*We need to keep our planet healthy to keep our people healthy! This is a justice issue.*
Michael	*Dorsey*	*12 South Conkling Street*	
Naadiya	*Hutchinson*	*299 W 31st Street, Baltimore, MD, 21211*	
Elizabeth	*Sloand*	*309 Old Trail Rd*	*We need a cleaner environment for our future and less food waste.*
Allison	*Blood*	*2818 E. Baltimore St*	
Ava	*McCormick*	*6404 north centennial place, 21061*	*I want A cleaner community.*
JULIANNE	*OHANIAN*	*1406 Eutaw Place Apt. 9*	*It makes more sense! We need to clean up our own damn mess (and so do corporations)*
Jack	*Dotzler*	*4501 N Charles St, Baltimore, MD 21210*	
Colin	*Murphy*	*640 N Morton St*	
Spencer	*Ellsworth*		*let's turn our waste into a resource!*
Katherine	*Jenkins*	*203 South Tyrone Road*	*I am a teacher and a parent and care for our children's future. I think joining voices with the younger generation for a more just and sustainable future is one of the most important things we can do right now.*
Angela	*Quamina*	*6963 Blanche Rd Baltimore, Md 21215*	
Ametisse	*Gover-Chamlou*	*1717 Bolton Street, Baltimore City, 21217*	
Matthew	*Buening*	*5401 Loch Raven Blvd., Baltimore, MD 21239*	*Because the Earth is the only home we have and I'd like to leave in better for the next generation.*
Nivi	*Mariappan*	*3801 Paul Mill Road*	*There are a lot of people whose health has been negatively impacted by too much food waste, and composting can help alleviate this issue. This is also an act that will have a lot of benefits for Baltimore in the long run*

Genee	*Smith*	*1106 Windlass Glen Road*	*Baltimore's waste problems are an environmental justice issue.*
Luke	*O'Neill*	*5629 Ringwood Drive, Halethorpe, 21227*	
Alex	*Noel*	*3206 GUILFORD AVENUE*	
Liam	*Housenbold*		
Sam	*Dawley*	*3203 N Charles St, Baltimore, MD , 21218*	*We only have 1 biosphere!*
Tabor	*Roderiques*	*1714 baldwin drive, mclean, 22101*	*It's not smart to waste*
Steven	*Solar*		
Olin	*Shipstead*		
Sya Buryn	*Kedzior*		
Victor	*Tawansy*	*4000 North Charles, Baltimore 21218*	*It's important that we reduce waste and sustain our environment.*
Gonzalo	*Percovich*	*3203 n charles Street, 21218*	
Larry	*Williams*		
Carlos	*Tenreiro-Braschi*		
cheryl	*stehlik*	*21206*	
Connor	*Caputo*		
Erica	*Peery*	*2509 Madison Ave, 1A*	*The future of our planet depends on carbon sequestration, which should be available to all.*
Stephanie	*Lee*		
Naeem	*Sbaiti*		
Diane	*Wittner*	*243 Stanmore Road*	
Hanna	*Tran*		

Pat	*Cassidy*	*2406 HALCYON AVE*	*This is essential for our city and our earth and I'm hopeful that our city can take steps like this to create necessary change!*
George	*Slade Jr*		
Myeasha	*Taylor*	*2744 north rosedale st baltimore md*	*Because food doesn't belong in the trash! Incinerators are toxic. Composting can create jobs!*
ruth	*cassilly*		
Rebekah	*Lynn*	*146 George Street*	*The climate crisis is not going away any time soon. We need to take swift and radical action to stop it. Take action now!*
Katie	*Huffling*	*2901 Shepherd St Mount Rainier, MD 2012*	
Martha	*Ruffin*	*3 Bellemore Road, Baltimore, MD 21210*	
Brendan	*Burns*	*3600 Yolando Rd 21218*	
Anastasia	*Kupstas*	*123 Station North Mews, Baltimore, MD 21202*	
Eesha	*Patne*	*1111 Park Ave, Baltimore MD 21201*	
Alison	*Cain*	*Frederick MD*	
Alexis	*Stone*		
Devonie	*Doles*	*4529 Arabia ave*	
Kristian	*Bjornard*	*735 Bay Street*	*For the health of our city and the health of our planet we need city wide composting for all*
Beverly	*Bickel*	*741 Weatherbee rd Towson 21286*	*The economic and environmental justice needs and opportunities for ALL of Baltimore's communities are urgent and enormous. Now is the time to act boldly for our shared future.*
Kathy	*N*		
Ronald	*Hernandez*	*3719 Timahoe Cir*	
Jessica	*Croteau*	*2917 N Calvert St.*	*Black people deserve to breathe clean air*

sera	*fleishman*	*2605 Guilford Ave, Baltimore, MD 21218*	
John	*Bremerman*	*121 BURNETT ST*	*Baltimore has an obligation to its citizens to eliminate the burning of trash and to utilize every available natural resource at our disposal to do so.*
KellyAnn	*Callahan*	*100 HARBORVIEW DR*	
William	*Morrison*	*33Portshio Rd Baltimore, MD 21222*	
Diana	*Emerson*	*3205 Abell Ave, Baltimore, MD 21218*	
Niloofar	*Haeri*	*230 Stony Run Lane 21210*	
Naisa	*Rahman*		
Veronica	*Wallace*		
Aditi	*Varshneya*	*616 West 184th St, New York City, 10033*	*My aunt, uncle, young cousins live in Baltimore and I want them to live in a city with a clean environment that doesn't put their health and well being into jeopardy because of polluting facilities like incinerators. I want them to grow up in a city and world that boasts climate-friendly, equitable, community-centered solutions to the environmental and social problems created by the make-take-waste that must be left behind. As a young person, I believe that it's the responsibility for cities like Baltimore to take action, show other cities that better waste systems ARE possible, and contribute to the global reduction in climate emissions we need to ensure a livable world for young people like me and elementary-aged cousins in Baltimore.*
Morgan	*Thapa*	*1408 Belt St Baltimore MD 21230*	
Carl	*Latkin*	*6062 Red Clover Lane*	*This needs to be a collective effort*
Erin	*Kosloski*		
Michael	*Degani*		

Susan	*Talbott*	*3908 N Charles Street*	*I want to help save our environment so my grandchildren will be able to thrive.*
Gregory	*Cundiff*	*8 Charles PLZ Apt 501, Baltimore, 21201*	*We're drowning in waste. It is killing the land, the air, the water, and eventually the people.*
Ellis	*Woodward*	*21211-1415*	
Caitlin	*Wellman*	*19 W Ostend St.*	*It is imperative that we move to Zero Waste to ensure a better tomorrow for our city.*
Crystal	*Barrett*	*5911 SHADY SPRING AVE*	*If we do not do it, who will?*
Elizabeth	*Tipson*		
Elizabeth	*Lewis*	*1208 Regester Ave*	*I want to leave a functioning planet for my grandchildren*
Rejjia	*Camphor*	*21216*	*ENVIRONMENTAL JUSTICE IS JUSTICE FOR ALL*
Peggy	*Meyer*		*We are destroying the planet!*
Van	*Dixon*		
katherine	*moon*	*325 W 27TH ST*	*food waste, climate change, environmental justice, local economy*
Justyna	*Nicinska*	*2219 Arden Rd*	*Composting, and having the right infrastructure to do so on a wide scale, is a critical part of reducing landfill waste, pollution, and greenhouse gases generated by incinerated food. It is time for Baltimore to transition to a zero waste system and foster greater environmental sustainability that supports our communities.*
Leah	*Kelly*	*1507 Upshire Rd. Baltimore, MD 21218*	*It's past time to stop incinerating and landfilling our waste.*
Bernadette	*Krol, RN*	*814 Chumleigh Rd*	*We need action now! It's bad enough the waste incinerator has been kept in business. It's time to show you're behind efforts to change the trajectory towards more sustainable living!*
Ally	*Bartell*	*3900 N Chalres St, Baltimore, MD 21218*	*This a public health and environmental issue. This is about survival*

Sharon	*Krumm*	*100 Harborview Dr, Unit 314 Baltimore, MD 21230*	*This is essential to the health and well being of all Baltimore citizens!*
Lois	*Hybl*	*4107 Westview Rd, Baltimore 21218*	*I want to reduce pollution for south Baltimore neighborhoods and reduce greenhouse gases.*
Hannah	*Lin*	*1321 North Calvert Street*	
Emil	*Volcheck*	*3040 Guilford Ave*	*I support the Zero Waste Fair Development Plan for Baltimore, along with the whole Baltimore Ethical Society. Composting infrastructure is a key step toward achieving zero waste for our city.*
Kimberly	*Sheridan*	*1216 West Cross St.*	*I live within a mile of the incinerator. My lungs know when the filtration system isn't working properly. Especially on those still muggy summer days when the whole atmosphere oozes an aroma like rancid iron. Baltimoreans wrack up 55 million dollars in excess emergency asthma treatment because of this incinerator. I'm an asthmatic myself. I suppose 55 million dollars adds to the GDP. But being able to breathe a steady stream of fresh air would more than make up for that in greater productivity and job opportunities for city farming. I'd like to see Bresco gone before I die.* *Sincerely* *Kimberly Sheridan*
Casey	*Levitt*	*310 E University Parkway Baltimore 21218*	
Carol	*Fordonski*	*1612 Ebbotts Place*	*We all need to do these things!*
Ayla	*Frost*	*310 East University Parkway*	
Jackie	*Rittenhouse*	*310 E University Parkway, Baltimore 21218*	
Ciara	*Henry*		
Maddie	*Wells*	*Baltimore 21218*	
Hugh	*Taft-Morales*	*10 Pine Ave. Takoma Park, MD 20912*	

Vilde	*Ulset*	*21 W Preston St apt 102*	
Jacob	*Hamer*	*3925 Beech Ave #305, Baltimore, 21211*	
Oz	*Amram*	*3514 Beech Ave.*	
Lauren	*Nowicki*		
Christina	*Lindberg*	*4129 Roland Ave*	
Becky	*Slogeris*	*131 W North Ave*	
Thomas	*Gardner*		
Quinton	*Batts*	*2024 Jefferson St*	
Cameron	*Morgan*	*4429 Harcourt Rd, Baltimore, MD 21214*	*It matters because we need to be able to pour back into our communities while also holding what we owe to each other as a city. Curtis Bay, and many other areas, already see the negative health effects which incinerating trash carries — higher asthma rates; more generalized breathing issues, like poor air quality for elders. Why not create healthier soil and waste management for Baltimore communities while limiting the pollution that comes with food waste in trash streams? Also — if I can be so frank — what it currently marketed as compost by DPW and the Department of Planning goes to the county, not Baltimore. What is currently being done isn't supporting us, even though it's marketed by an attempt to start compost streams. Do better.*
Caleb	*DeMario*	*3204 Rosekemp Ave*	
Lee	*Davis*	*7 S Wolfe St Apt 401*	*This is an important public health, climate, and racial justice issue for the city.*
Vidisha	*Agarwalla*	*1111 park avenue, Apt 605*	
Baltimore Peoples	*Climate Movement*	*Baltimore, MD, 21217*	
Sydney	*Lewis*		
Meg	*Berkobien*	*2703 Parkwood Avenue*	

Matthew	*McGough*	*100 W University Parkway, Baltimore, MD, 21210*	
Caroline	*Storen*	*3301 St Paul Street Apt# 801C, Baltimore. 21218*	
Joseph	*Castagno*	*30 Tanglewood Lane Basking Ridge 07920*	*I go to college in Baltimore so I want the waste system to be improved.*
Jonik	*Surprenant*	*15718 allanwood drive silver spring md 20906*	*I go to college in Baltimore and I would like the waste system to have improved infrastructure.*
Emerson	*Davis*		
Hannah	*Fu*	*3339 N Charles street, Baltimore, 21218*	*By the developing the infrastructure, it can make a huge difference in Baltimore and set an example.*
Michelle	*Liu*	*3339 N Charles St, Baltimore, 21218*	
Eric	*Ji*	*52 Stoneyside Ln St Louis 63132*	*I, as a student in the Baltimore area, have an obligation to support any and all initiatives that work to further the economic and social upstanding of the region.*
Chase	*Lahr*	*12200 Cotswold Lane, Knoxville TN, 37922*	
Jay	*Heyman*	*3116 Pacific Avenue, Cannon Beach, Oregon*	*I care about sustainability!*
Steven	*Rua*	*3022 Guilford Avenue*	*Because we want to see clean water*
Emma	*McElrath*		*The earth is dying*
Richard	*Soucy*	*20 Bonbon Court*	*People are hurting from the incinerator*
Katherine	*Overbey*	*3900 N Charles St Baltimore MD 21218*	
Nancy	*Poznak*	*2310 Bright Leaf Way, Baltimore, MD 21209*	
Alex	*Welna*	*7127 Fairfax Rd*	
Myeasha	*Taylor*	*2744 N. Rosedale St*	
Nicole	*King*	*601 N Eutaw st*	*We need to all work towards zero waste to make Baltimore a more sustainable city … climate change is not going away. We need strong and decisive action.*

Judd	*Crane*	*931 S Linwood Avenue, Baltimore, 21224*	
Sam	*Lynch*	*108 E Preston St*	
Sean	*Jennings*		
Nicole	*Devlin*	*1615 belt st Baltimore, MD 21230*	*We need to work as a community to create sustainable infrastructure which helps reduce disparities within Baltimore City and Maryland in general*
Pickett	*Slater Harrington*	*5703 Cross Country Blvd Baltimore, MD 21209*	*Greener, cleaner, more prosperous city*
Nancy	*Poznak*	*2310 Bright Leaf Way, Baltimore. MD 21209*	*We must do everything possible to be envvironmentally-responsible.*
Karen	*Elliott*	*6106 Old Harford Rd., Baltimore, 21214*	
Grace	*Ware*	*609 S KENWOOD AVE*	
Lee	*Boot*	*2312 E Baltimore St*	*Great idea*
Alan	*Shapiro*	*1505 Eastern Ave. 21231*	*anything that help counter the enormous waste of our style of living needs to be done*
monique	*stins*	*503 Overbrook rd*	*I care about the environment*
Andy	*Collins*	*804 Starbit Ct, Towson, MD, 21286*	*I want my grandchildren to have a normal childhood like I did.*
Emma	*Cenicacelaya*	*402 David Court, Bel Air, 21015*	
Lucia	*Baran*		
Jason	*Lin*	*3339 N Charles St, Baltimore, MD 21218*	
Ellen E	*Barfield*	*814 Powers St*	
Nick	*Lindow*	*4138 Roland Ave*	*for me and the next seven generations to have the resources to survive and thrive*
Mansha	*Kapur*	*116 W University Pkwy*	

doug	*fuller*	*21217*	*people suffer greatly from the air pollution of incineration, and climate change is getting worse, municipal compost service has been in place successfully for many years and is a great service to humans and the environment as well as reducing pests and improper disposal of garbage in our most divested neighborhoods deeply affecting health of both bodys and minds of all who must face the stream of junk and consumerist waste created by companies who only think of profits for shareholders not the well being of others. Politicians need to gather the political will to stand with people not corporate interests, it's well past time to be on the right side of history.*
Erin	*Baeder*		
Caitlin	*Goldblatt*	*1210 Saint Paul St, 3A, Baltimore, MD 21202*	
Samuel	*Winans*	*7 Sparrow Hill ct*	*The residents of South Baltimore have been exploited, had their communities poisoned and destroyed, and suffered the consequences of government incompetence for far too long. It is time for the mayor and city government to act in the interest of the cities residents instead of the corporation in the industrial district.*
Sharyn	*Blum*	*440 E Oliver St, Baltimore, 21202*	*We're in a rapidly escalating climate crisis. Not only is it important to reverse that, it's beyond foolishness to let a useful resource end up in landfills rather than cycling back into beneficial agriculture.*
Jennifer	*Cookus*	*2005 E Lombard St Baltimore 21231*	
Eva	*Elbert*		*Toxic pollution from incinerators has caused millions of dollars of health damages in Baltimore's underprivileged areas when so much of this waste could be redirected. Using food waste for compost would provide many more jobs than landfills, and could be used in fresh soil to*

			help local farmers grow crops and to plant grasses that remove CO2 from the air. This legislation would help improve racial equity, public health, agriculture, and the economy in Baltimore.
Caitie	*Curtis*	*E 27th st, Baltimore, 21218*	
Mia	*Morrison*	*1502 McHenry Street Baltimore, MD 21223*	*I want to systemically reduce waste and repurpose that waste into helpful resources!!*
India	*Jones*	*407 S Gilmor St, Baltimore, 21223*	*I am promoting sustainability, starting in South Baltimore*
Nsedu	*Obot Witherspoon*	*2455 Tuckahoe Court*	*As a Maryland resident for over 2 decades and a public health leader that leads the Children's Environmental Health Network, I support any and all efforts to stop burning and burying food waste and organics in Black and poor communities. We know this practice is harmful to residents and continues to present a serious injustice situation.*
alice	*ferrari*	*1301 cambria st, baltimore, md 21225*	*it's my home and i care how the people in charge treat it*
Lucy	*Zhao*		
Lisa	*Avila*	*1604 cereal st,Baltimore, MD 21226*	*We have to stop putting public money to projects that make us sick.*
Sharon	*Brown*	*1612 Cereal St, Baltimore, MD 21226*	*Please listen to what residents have been saying for years and make this the end of giving money for burning trash.*
Bivek	*Povdyaz*	*2600 Madison*	
Pamela	*Glimore*	*1621 Filbert Street, Baltimore, MD 21226*	
Holly	*Loydd*	*1627 Locust St, Baltimore, MD 21226*	
David	*Mazan*	*1619 Cherry St, Baltimore, MD 21226*	
Faye	*wilsonburg*	*1603 Cherry St,Baltimore,MD 21226*	*Youth in our community already spent 5 years stopping a new incinerator from*

			making our air even worse…why are we still giving money to incinerators and calling it clean? It's not!
Liz	***Ottey***	***1603 Cereal St,Baltimore,MD 21226***	***Our community has been used as a dumping ground and a place for incinerators to pollute for way too long. We deserve better.***
Karen	***Vanstory***	***1611 Cereal St, Baltimore, MD 21226***	***Our money shouldn't be wasted on burning trash and calling it green.***
Chantelle	***Wills***	***4402 Fairhaven ave, Baltimore, MD 21226***	
Donna	***Chappell***	***1425 Filbert Street, Baltimore, MD 21226***	
Nathaniel	***Russell***	***4408 Fairhaven ave, Baltimore, MD 21226***	***We need clean air now***

Please support the community and worker led effort to initiate common sense approaches to sound materials management in Maryland. Thank you.

Sincerely,

Shashawnda Campbell, Environmental Justice Director
Shashawnda Campbell
Greg Sawtell, Zero Waste Communities Director
Greg Sawtell
Dr. Meleny Thomas, Executive Director
Meleny Thomas

HB 1089_CBF_FAV.pdf
Uploaded by: Julieta Rodrigo
Position: FAV

CHESAPEAKE BAY FOUNDATION

Environmental Protection and Restoration
Environmental Education

House Bill 1089

Maryland Beverage Container Recycling Refund and Litter Reduction Program

Date: March 9, 2023
To: House Environment and Transportation Committee

Position: Support
From: Julieta Rodrigo, Urban and Community Resilience Manager

Chesapeake Bay Foundation (CBF) **SUPPORTS** HB 1089 which establishes the Maryland Redeemable Beverage Container Recycling Refund and Litter Reduction Program to increase the reuse and recycling of beverage containers and reduce the litter, pollution, and costs associated with beverage containers.

Most plastic beverage containers in Maryland are not recycled.

Although recycling programs have existed in Maryland for many years, less than one-quarter of the 5.2 billion beverage containers sold in the state in 2019 were recycled and reused.[1] This means that the remaining 4 billion containers were left in the environment, to meet their fate of landfilling, incineration, or littering. In addition to the negative impacts of plastic pollution on the aesthetic and environmental health of our ecosystems, this is a large waste of resources, as virgin plastic requires large amounts of fossil fuels, the extraction and burning of which result in higher greenhouse gas emissions and energy use. Incineration of plastic bottles also contributes to poor air quality in Maryland, releasing nitrogen oxides, particulate matter, and other pollutants that worsen residents' health and affect the acidity and balance of our Chesapeake Bay.[2]

Plastic beverage bottles contribute to microplastic pollution and environmental damages.

Contrary to the dialogue that plastic pollution largely ends up in the ocean, most of the plastic pollution that makes its way into the rivers of the Chesapeake Bay stays in and along local waters Indeed, about 94% of microplastics — particles measuring 5 millimeters or less in diameter — that feed into the system via its rivers stay in the system, with an additional 5% carried to the ocean and 1% remaining in the water column.[3] Microplastics threaten the health of the biodiversity that lives within the Bay watershed, as well as the health of the residents that consume seafood. For example, microplastics can physically block or fill up an animal's gut, potentially reducing its ability or desire to feed. Microplastics can also cause behavioral changes as their presence changes a fish's buoyancy or swimming behavior, which can make the fish more

[1] Container Recycling Institute, 2022. "2019 Beverage Market Data Analysis."
[2] "CBF Study: Baltimore Incinerator Causes $55 Million in Health Problems per Year." *Chesapeake Bay Foundation*, 11 Dec. 2017, https://www.cbf.org/news-media/newsroom/2017/maryland/cbf-study-baltimore-incinerator-causes-55-million-in-health-problems-per-year.html.
[3] Pipkin, Whitney. "The Chesapeake Bay Is a 'Sink' for Plastic Pollution." *Bay Journal*, Bay Journal Media, 13 Oct. 2021, https://www.bayjournal.com/news/pollution/the-chesapeake-bay-is-a-sink-for-plastic-pollution/article_ca6f12ec-21fd-11ec-b0c4-cf096494dd62.html.

susceptible to predators. Microplastics also can carry toxic chemicals into the fish's body, which could bioaccumulate as the fish consumes other prey that have ingested plastics, and eventually make its way to human consumption.[4] All of these factors threaten the health of our ecosystem, as well as threaten the longevity and safety of Maryland's seafood industry.

Beverage container deposit programs are a proven, highly effective policy for recovering used beverage containers and reducing litter.

Ten states in the U.S., covering about 90 million people, have longstanding, successful beverage container deposit programs (California, Connecticut, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, Vermont).[5] Together, they average a 60% recycling rate for beverage containers, compared to 24% in states without these programs.[6] The recycling rate for deposit beverage containers is much higher than for containers not subject to a deposit, and it increases with a higher deposit amount. The two states that offer a 10-cent redemption refund, Michigan and Oregon, have the highest beverage bottle recycling rates in the nation, reaching 75%[7] and 80% recycling rates in 2021[8], respectively. Producer responsibility has been a successful approach toward providing a cleaner and safer future for residents, and we recommend that Maryland take this opportunity to protect its citizens and ecosystems from the harmful effects of abundant plastic production and consumption.

CBF urges the Committee's FAVORABLE report on HB 1089.

For more information, please contact Matt Stegman, Maryland Staff Attorney, at mstegman@cbf.org.

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[4] Pipkin, Whitney. "Picture of Chesapeake Microplastics Grows Clearer." *Bay Journal*, Bay Journal Media, 7 June 2021, https://www.bayjournal.com/news/pollution/picture-of-chesapeake-microplastics-grows-clearer/article_87bd3606-c3e1-11eb-bdc4-4f1a3864c6f9.html.

[5] "Redemption Rates and Other Features of 10 U.S. State Deposit Programs." *Bottle Bill Resource Guide*, Container Recycling Institute, https://www.bottlebill.org/images/Allstates/10-state%20Summary%208-5-22r.pdf.

[6] "Bottle Bills", Container Recycling Institute, https://www.container-recycling.org/index.php/issues/bottle-bills.

[7] "Michigan." *Bottle Bill Resource Guide*, Container Recycling Institute, https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/michigan.

[8] "Oregon." *Bottle Bill Resource Guide*, Container Recycling Institute, https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/oregon.

HB1089 MD Beverage Container Recycling Refund & Li

Uploaded by: Laurie McGilvray

Position: FAV

Committee: **Education, Energy, and the Environment**
Testimony on: **HB1089 - Maryland Beverage Container Recycling Refund and Litter Reduction Program**
Organization: **Climate Justice Wing of the Maryland Legislative Coalition**
Submitting: **Laurie McGilvray, Co-Chair**
Position: **Favorable**
Hearing Date: **March 9, 2023**

Dear Chair and Committee Members:

Thank you for allowing our testimony today in support of HB1089. The Maryland Legislative Coalition (MLC) Climate Justice Wing, a statewide coalition of over 50 grassroots and professional organizations, urges you to vote favorably on HB1089.

HB1089 will create the Maryland Beverage Container Recycling Refund Program, with a target of at least a 90% recovery rate and 85% recycling rate for plastic, glass, and aluminum beverage containers sold in Maryland. Customers will pay a small deposit when they purchase beverages in containers and will get a refund when they return the container to a retailer or redemption facility. Retailers and redemption facilities will be equipped with high-speed counting and sorting machines to help with container processing and will receive a handling fee. Local governments can set up their own redemption centers and receive the container handling fee.

About 5.2 billion beverage containers are sold annually in Maryland, i.e., 863 containers per person per year, and only 23% are recycled. Four billion containers end up in landfills, burned in incinerators, or as litter on roadsides and in streams and coastal waterways. Ten states have had successful beverage container deposit programs for many years, with much higher container recycling rates. In fact, Michigan and Oregon have recycling rates of 90% with a 10-cent deposit.

Beverage container deposit programs add only a small refundable deposit (5¢-10¢), and are proven to be highly effective for recovering used beverage containers and reducing litter. There are additional benefits of container deposit programs, including reduced costs to taxpayers for landfill fees, providing a source of high quality, food-grade recycled material that can be made into new food and beverage containers, stimulation of recycling markets in Maryland, and reduced costs for litter removal from roadsides, waterways, and storm drains.

For these reasons, we request a **FAVORABLE** report on HB1089.

HB1089_ENT_FAV_BEV_HoCoClimateAction.org.pdf
Uploaded by: Liz Feighner
Position: FAV

HoCoClimateAction.org
Howard County, Maryland

Testimony on HB1089 - Maryland Beverage Container Recycling Refund and Litter Reduction Program
Hearing Date: March 9, 2023
Bill Sponsor: Delegate Terrasa
Committee: Environment and Transportation, Economic Matters
Submitting: Liz Feighner for Howard County Climate Action
Position: Favorable

HoCo Climate Action is a 350.org local chapter and a grassroots organization representing more than 1,400 subscribers. It is also a member of the Climate Justice Wing of the Maryland Legislative Coalition.

Howard County Climate Action supports HB1089, the Maryland Recycling Refund and Litter Reduction Program (HB1089), which would increase beverage container recycling and reduce waste and litter. The plastic pollution crisis is part of the climate crisis.

Marylanders buy more than 5.2 billion beverage containers annually, but only about a quarter of them are recycled. Four billion containers every year end up in our environment – in the landfill, incinerated, or littering the landscape and waterways. Producing new single-use beverage containers with virgin materials emits more climate polluting gases and requires more energy than producing refillable beverage containers or containers made from recycled materials. Refillable glass bottles that are returned can be reused up to 50 times, and refillable PET plastic bottles up to 20 times. Beverage-container deposit programs also provide high-quality, food-grade materials for new containers.

The Recycling Refund and Litter Reduction Program (HB1089) would reduce beverage container litter by as much as two-thirds, reducing plastic pollution, and more than tripling the recycling rate for beverage containers in Maryland to 90%. Ten states, covering about 90 million people, have long-standing, highly successful beverage container recycling refund programs. These add a small deposit to the cost of beverage containers that is refunded to customers when the containers are returned for recycling. Under this program, we buy the beverage, but borrow the container. The deposit is a powerful incentive to return used beverage containers and to collect those that are littered, for their refund value.

The program would also lower the costs to local governments for recycling, landfilling, incinerating, and collecting of littered beverage containers, while creating new green jobs. Every year we wait, another 4 billion beverage containers enter the environment.

We urge a favorable report for HB1089.

Howard County Climate Action
Submitted by Liz Feighner, Steering and Advocacy Committee
www.HoCoClimateAction.org
HoCoClimateAction@gmail.com

CRI Support Maryland HB 1089 of 2023.pdf
Uploaded by: Mara Lam
Position: FAV

CONTAINER RECYCLING INSTITUTE

4361 Keystone Ave. • Culver City, CA 90232
Telephone (310) 559-7451 • Fax (888) 839-3857
www.container-recycling.org
www.bottlebill.org

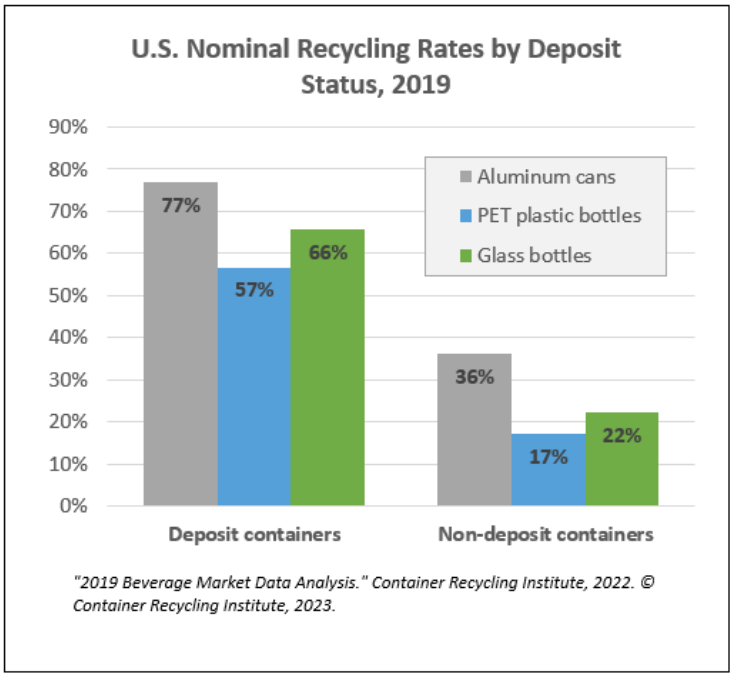
March 7, 2023

Environment & Transportation Committee
Delegate Kumar Barve, Chairman; Delegate Dana Stein, Vice Chair
House Office Building, Room 251
6 Bladen St., Annapolis, MD 21401

Dear Chair Barve, Vice-Chair Stein, and Members of the Committee,

We are writing in support of House Bill 1089, "Maryland Beverage Recycling Refund and Litter Reduction Program."

We applaud the bill for specifying **a minimum deposit of 10¢,** and for **setting a target of 90% redemption.** Michigan and Oregon, the two U.S. states with dime deposits, have achieved much higher redemption rates—89% and 86% respectively in 2019—than the deposit states with nickel deposits (where redemption rates range from 50% to 75%). *Ten cents is a strong financial incentive for people to return containers rather than throw them in the trash or litter them.* When consumers who purchased the beverage do not directly take bottles and cans in for refund, there are always other groups and individuals ready to step in and do the redemption for them as a means of generating supplemental income.



For over 50 years, beverage container deposit laws, or "bottle bills," have been successful in achieving recycling rates that are up to 3 times higher than those of bottles and cans without deposits. As the graphic at right shows, more than three quarters (77%) of aluminum cans with a deposit were recycled nationwide in 2019, in contrast to just over one third (36%) of cans lacking a deposit. The differences for bottles are more pronounced: 57% vs. 17% for non-deposit PET plastic, and 66% vs. 22% for non-deposit glass.

Increasing beverage sales nationwide has led to burgeoning bottle and can waste. **Based on national statistics, *CRI estimates that 79% of the 5.4 billion beverage bottles and cans sold in Maryland in 2017 were wasted:*** littered, landfilled, or incinerated. That level of consumption and wasting represents a significant burden on taxpayers: whether through city-run recycling programs or municipally-contracted trash pick-up and disposal.

Deposits have multiple benefits, including:

- **Achieving higher recycling rates** than municipal programs alone.

- **Transferring** the financial and operational responsibility for recycling from the local taxpayer to the producers of disposable beverage containers.
- **Adding value to local and regional economies** through the sale and processing of scrap materials.
- **Avoiding greenhouse gas emissions and reducing energy use** by displacing virgin materials in manufacturing.
- **Reducing litter** that is expensive for public and private entities to clean up, that causes injuries to people and domestic animals, and that adds to harmful ocean plastic waste.

If Maryland were to pass this deposit bill, CRI estimates that the state would recycle ***almost 3 billion additional containers annually—or more than 200,000 tons of metal, glass, plastic and paper—***over and above the recycling currently taking place. By reducing the need to make new bottles and cans from virgin materials, this additional recycling would eliminate about 195,000 tons of greenhouse gas emissions: ***an amount equivalent to taking more than 42,000 cars off the road for a year.***

We are optimistic that there will be strong markets for deposit containers generated in Maryland, in part because multiple global beverage brands have made public commitments to increase their use of recycled materials, as the below table 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

These lofty goals can only be met through the increased availability of high-quality beverage bottles and cans for use as feedstock in new containers. Deposit programs consistently generate such high-quality bottles and cans. For example, deposit-grade PET bottles have recently had a value of 17.75¢ per pound, ***twice the value of non-deposit, curbside PET*** (9¢ per pound).

With the announcement of multiple new deposit laws (including Uruguay, Spain, Ireland, and the United Kingdom), ***over 700 million people will have access to deposit programs by 2025***. This trend is projected to continue as more nations realize that deposits are a vital part of the solution to the problem of bottle and can waste and plastic pollution.

In sum, CRI strongly supports the passage of a beverage container deposit law in Maryland.

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.*

HB1089_MDSierraClub_fav 9Mar2023.pdf
Uploaded by: Martha Ainsworth
Position: FAV

SIERRA CLUB

P.O. Box 278
Riverdale, MD 20738

Committee: **Environment and Transportation**
Testimony on: **HB 1089 – "Maryland Beverage Container Recycling Refund and Litter Reduction Program"**
Position: **Support**
Hearing Date: **March 9, 2023**

The Maryland Chapter of the Sierra Club strongly supports HB1089. This bill would create a beverage container deposit program in Maryland with a 10- or 15-cent refundable deposit on aluminum, glass, and plastic beverage containers. The deposit would be refunded to the customer when the beverage container is returned for recycling. With convenient redemption opportunities for customers, the program would achieve a statewide redemption rate for beverage containers of 90%. The program would be implemented by producers of filled beverage containers, with substantial oversight by the Maryland Department of the Environment (MDE). An Advisory Council would advise MDE on approval of producers' Stewardship Plans and annual reports and on program implementation and performance. The program, including the cost of MDE oversight, would be funded from unclaimed deposits, and registration fees and penalties paid by producers. Ten percent of unclaimed deposits would fund a Recycling Refund Grant program to increase the reuse and recycling of beverage containers.

About 5.2 billion beverage containers are sold in Maryland every year, but only about a quarter (1.2 billion) are recycled.[1] Four billion containers annually are wasted – left in landfills, on roadsides, in waterways, or incinerated. Plastic beverage bottles are the third most frequently littered plastic in beach cleanups.[2] Beverage containers account for half of the trash by volume in trash traps on the Anacostia River watershed.[3] The failure to capture three-quarters of used beverage containers is a huge waste of resources, a major source of litter and plastic pollution, and harmful to wildlife and the environment. It limits the availability of recycled materials, which would displace virgin materials in new containers, reducing greenhouse gas emissions, and conserving energy. Global corporations have committed to increase the recycled content of plastic packaging to 25%-50% by 2025,[4] yet recycled content in plastic bottles reached only 11.5% in 2020.[5]

Beverage container deposit programs are a proven, highly effective policy for recovering used beverage containers and reducing litter. Ten states in the U.S., covering about 90 million people, have longstanding, successful beverage container deposit programs.[6] Recycling rates for beverage containers in these ten states in 2019 averaged 75%, ranging from 59% to 91%, compared with an estimated 23% in Maryland, with no deposit (Exhibit 1). The ten deposit states represent 17% of the U.S. population but contribute 48% of U.S. beverage container recycling.[7]

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[1] Container Recycling Institute (CRI). "2022 Beverage Market Data Analysis (BMDA)" for Maryland, based on 2019 data.
[2] 5 Gyres Institute. 2017. "Better Alternatives Now, B.A.N. List 2.0." https://static1.squarespace.com/static/5522e85be4b0b65a7c78ac96/t/5acbd346562fa79982b268fc/1523307375028/5Gyres_BANlist2.pdf
[3] Anacostia Watershed Society.
[4] Ellen MacArthur Foundation Global Commitment Progress Report 2022 (https://gc-22.emf.org/ppu/).
[5] CRI, calculated based on data from National Association for PET Container Resources (NAPCOR)/Association of Plastics Recyclers (APR). www.container-recycling.org.
[6] California, Connecticut, Hawaii, Iowa, Massachusetts, Maine, Michigan, New York, Oregon, Vermont.
[7] CRI. "2022 Beverage Market Data Analysis (BMDA)" for Maryland, based on 2019 data. *Op.Cit.*

The recycling refund program established through HB 1089 would increase Maryland's beverage container recycling rate fourfold, removing more than three billion containers annually from landfills, incinerators, and litter. Beverage containers comprise 6% of landfilled municipal solid waste in Prince George's County[8] and 8% or more in Wicomico County,[9] by weight. Experience in Michigan and Oregon shows that a 90% recycling rate in Maryland for beverage containers is feasible with a 10-cent deposit.

Further, beverage container recycling refund programs provide high-quality, food-grade materials for new containers, making possible a circular, bottle-to-bottle economy that maximizes the reduction in waste. Capturing more plastic beverage containers in deposit systems is particularly important for expanding availability of food-grade recycled content for new food and beverage containers. In mixed materials recycling, glass is a major contaminant and often has a negative value. Removing glass beverage containers from the curbside recycling stream would reduce contamination of other recycled materials in a single-stream system, raising their value. Glass in deposit programs is cleaner, sorted by color, with a higher value, and more likely to be recycled.[10]

The program would reduce Maryland's beverage container litter by more than two-thirds.[11] Increased interest in beverage container deposit programs over the past decade has been fueled by public concern about plastic pollution (Exhibit 3).[12] A study of coastal litter in debris surveys in Australian and U.S. states with and without container deposit legislation found that the share of containers in states with container deposit legislation was 40% lower than in states without the laws.[13] A 2011 analysis of the impact of a beverage container deposit system in Maryland concluded that "… there is little evidence that any other program, in and of itself, is nearly as effective as deposit programs at reducing litter rates."[14]

The program would produce substantial cost savings for taxpayers and local governments by diverting container waste from landfills and incinerators, reducing the number of beverage containers to be processed from curbside collection, and reducing costs for litter collection.[15] A review of more than 30 studies of the impact of beverage container deposit programs on costs to local governments worldwide found that in the context of the overall waste management system, *local governments saved costs from adoption of the deposit program.*[16] In states with beverage container deposit programs, deposits coexist

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[8] SCS Engineers. Waste Characterization Study, 2014/2015. Waste Management Division, Prince George's County, Maryland.

[9] EA Engineering, Science, and Technology, Inc. 2014. "Waste Composition Study: Newland Park Landfill, Wicomico County, Maryland." July, Table 3.

[10] According to the Glass Packaging Institute, in single-stream recycling streams, only about 40% of glass is suitable to be recycled into new containers, while in deposit systems where the consumer returns glass to a redemption facility and collects a refund, 98% of glass is suitable to be recycled into new containers. https://www.gpi.org/recycling-streams-infographic

[11] Reloop and CRI. 2021. *Fact Sheet: Deposit Return Systems Reduce Litter.* https://www.reloopplatform.org/wp-content/uploads/2021/06/DRS-Litter-Fact-Sheet-Summary-14June2021.pdf

[12] Collins, Susan. 2020. "International Embrace," *Plastics Recycling Update*, Winter. Pp. 38-43. There are currently 72 container deposit programs worldwide in 61 countries, serving more than 700 million people.

[13] Schuyler, Qamar, *et al*. 2018. "Economic incentives reduce plastic inputs to the ocean," *Marine Policy* 96: 250-255. October.

[14] University of Maryland, Environmental Finance Center (EFC). 2011. "2011 Impact Analysis of a Beverage Container Deposit Program in Maryland." December 15, p. 4.

[15] CRI. 2015. "Theoretical maximum recycling rate in Michigan from curbside recycling programs only," Memo, January. The calculations assume that 37% of consumption is away from home, with 14% loss of material in sorting and 21% loss of material to processing.

[16] Reloop. 2021. *Fact Sheet: Deposit Return Systems Generate Cost Savings for Municipalities*. https://www.reloopplatform.org/wp-content/uploads/2021/05/Fact-Sheet-Economic-Savings-for-Munis-8FEB2021.pdf

with curbside collection to maximize recycling by capturing containers for beverages consumed away from home. Even under ideal conditions (assuming that all households have access to curbside recycling collection and all of them use it all the time), curbside collection would capture at most only 38% of used beverage container materials.

Beyond these benefits, the recycling refund program supported by HB 1089 would provide:

- More opportunities to recycle, especially for people away from home or who live in areas where curbside recycling is not available;
- Financial incentives for recycling and collection of source-separated, high-quality recyclable materials, with minimum contamination;
- Greenhouse gas reduction with expanded use of recycled scrap materials in new products. Prevention of litter, reduction of waste, and reduced environmental impact of beverage containers on land, in our waterways, the Chesapeake Bay, and the ocean; and
- Creation of new green jobs in Maryland.

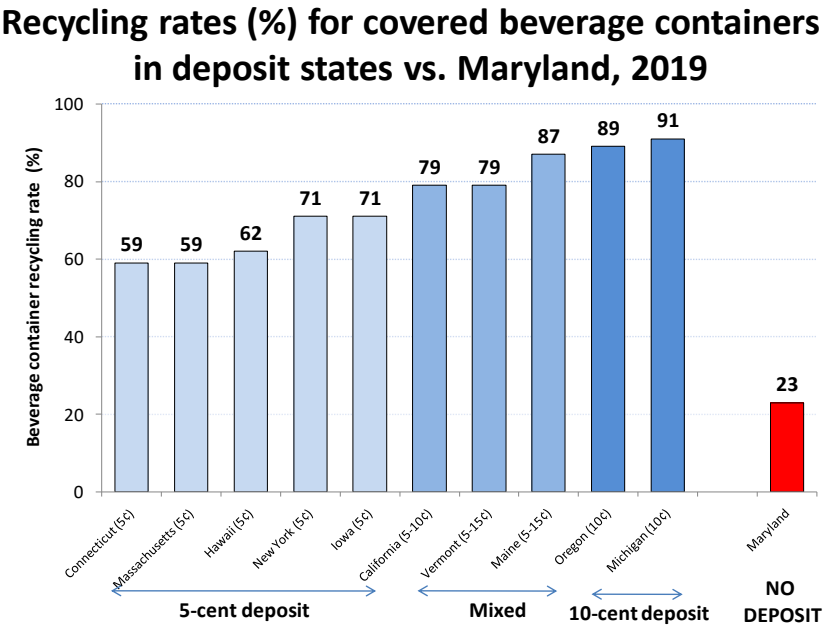
The first proposals for a Maryland beverage container deposit program were launched decades ago, in the previous century. Maryland's 2014 Zero Waste Plan recommended adoption of a deposit program to reduce waste and increase recycling. We need to act now. Every year we wait, another 4 billion containers are left in the environment. We respectfully request a favorable report on HB 1089.

Martha Ainsworth, Chair
Chapter Zero Waste Team
Martha.Ainsworth@MDSierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Attachments:
Exhibit 1 - Recycling rates in deposit states are several times higher than in Maryland and highest in states with at least a 10-cent deposit
Exhibit 2 - Recycling rates by material type in deposit and non-deposit states
Exhibit 3 – Global Growth in Container Deposit Laws, 2017-2021

Exhibit 1. Recycling rates in deposit states are several times higher than in Maryland and highest in states with at least a 10-cent deposit



Source: Container Recycling Institute, 2022 Beverage Market Data Analysis

Note: The statistic for Maryland is the estimated recycling rate for all beverage cans and bottles sold in the state in 2019.

Exhibit 2: Recycling rates by material type in deposit and non-deposit states

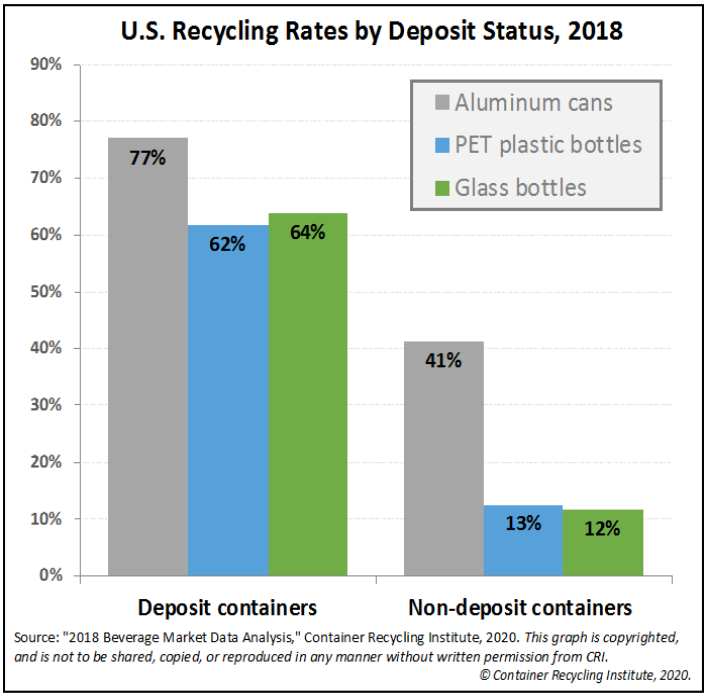
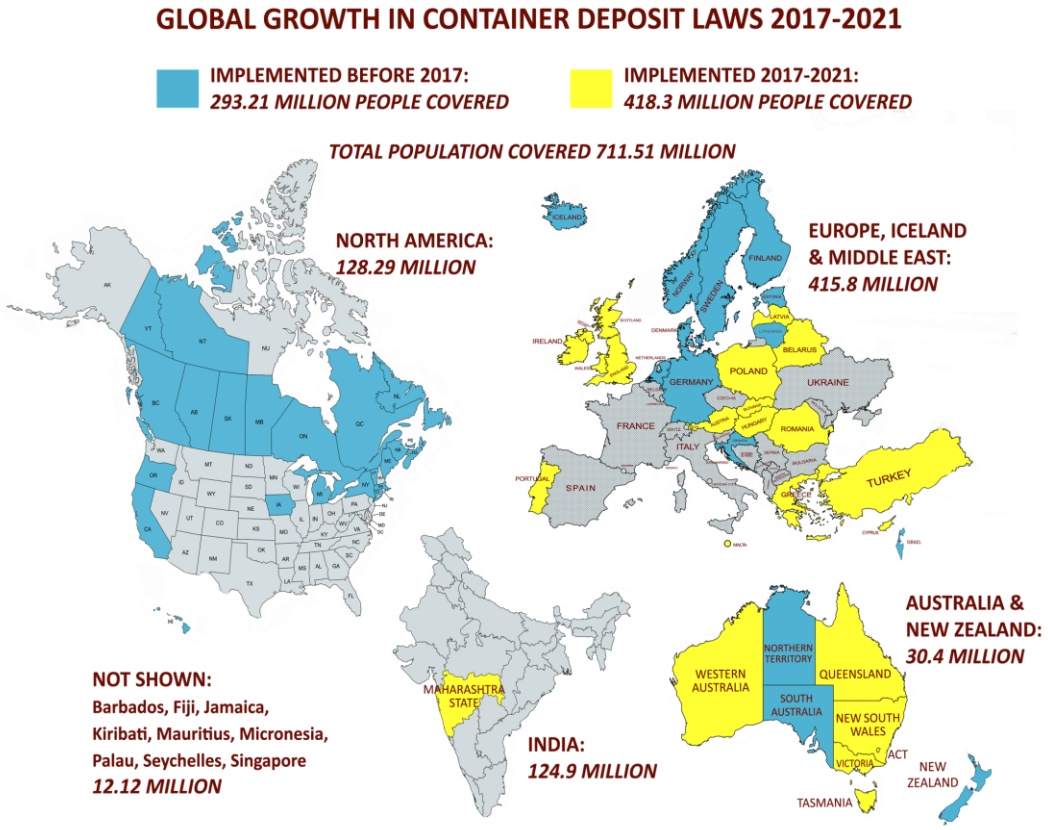


Exhibit 3:



Source: Container Recycling Institute, 2022.

Benefits of the MD Beverage Container Recycling Re

Uploaded by: nanci Wilkinson

Position: FAV

Hearing: March 9, 2023 1:00 pm
House Committee: Environment & Transportation
Chairman: Del Kumar Barve
Legislation: HB 1089 Benefits of the MD Beverage Container Recycling Refund and Litter Reduction Program
Sponsors: Del.Terrasa & Edelson
Cosponsors Del Love, Feldmark, Ruth & Solomon

HB 1089- the MD Beverage Container Recycling Refund & Litter Reduction Program-SB 1089 will motivate reuse & recycle of beverage containers. The Environmental Justice Ministry of Cedar Lane Unitarian Universalist Church strongly supports SB 1089. As people of faith, Unitarian Universalists recognize the interdependence of man and nature. Where nature is destroyed or corrupted, corrections must be made. Of all the bills submitted in this session on plastics, this is the most important one to pass immediately.

There are ten states that already have recycling refund bills.Two states-(Michigan and Oregon)-have achieved a 90 percent recycling rate with a 10 cent deposit bill. Maryland needs to join these other states in diminishing litter. Witness the huge number of single use plastic bottles & beverage containers that are seen floating in

our streams and rivers, lining our neighborhood roads and parks, blighting our oceans. The Recycling Refund Bill HB 1089 will substantially

1.improve water quality,

2.reduce greenhouse gas emissions,

3.reduce energy use and

4.encourage investment in reusable beverage systems

5.Reduce container litter

HB 1089 must be passed. Maryland needs to join the ten other states who have passed this law. Thank you.

Environmental Justice Ministry
Cedar Lane Unitarian Universalist Church

HB1089_Fani-Gonzalez_FAV
Uploaded by: Natali Fani-Gonzalez
Position: FAV

NATALI FANI-GONZÁLEZ
COUNCILMEMBER, DISTRICT 6

100 Maryland Ave
Rockville, MD 20850

CHAIR
Economic Development Committee (ECON)

MEMBER
Planning, Housing and Parks Committee (PH)

MONTGOMERY COUNTY COUNCIL
ROCKVILLE, MARYLAND

March 2, 2023

Delegate Kumar P. Barve, Chair
House Environment and Transportation Committee
House Office Building, Room 251
Annapolis, Maryland 21401

Dear Chair Barve:

I urge the Committee to fully support HB 1089, the "Maryland Beverage Container Recycling Refund and Litter Reduction Program."

The bill would place a small refundable deposit on beverage containers that are refunded to the customer when they are returned. With a 10-cent deposit, the program is expected to achieve a 90% recycling rate based on what has already been achieved in other states, a dramatic increase from the current recycling rate of 23% of the 5.2 billion beverage containers sold in Maryland. Equally important, it would reduce massive number of these containers, currently found in our watersheds. I have personally participated in stream cleanups, most recently in the Matthew Henson Park in Montgomery County, where we found numerous beverage containers flowing from a bus stop on Connecticut Avenue towards the stream. Furthermore, the program would be entirely funded by producers and unredeemed deposits, a portion of which would be used to finance a grant program to develop reuse and refill systems that can eventually replace single-use containers. An additional benefit to Montgomery County would be to help achieve compliance with the Trash TMDL for the Anacostia watershed and reduce the amount of beverage containers either incinerated or sent to landfills.

I urge the Committee to give full support to HB 1089, as it is urgently needed.

Sincerely,

Natali Fani-González
Chair, Economic Development Committee

HB1089-ET-FAV.pdf
Uploaded by: Nina Themelis
Position: FAV

BRANDON M. SCOTT
MAYOR

Office of Government Relations
88 State Circle
Annapolis, Maryland 21401

HB 1089

March 9, 2023

TO: Members of the House Environment and Transportation Committee

FROM: Nina Themelis, Interim Director of Mayor's Office of Government Relations

RE: HB-1089 – Maryland Beverage Container Recycling Refund and Litter Reduction Program

POSITION: Support

Chair Barve, Vice Chair Stein and Members of the Committee, please be advised that the Baltimore City Administration (BCA) **supports** House Bill (HB) 1089.

The bill establishes the Maryland Beverage Container Recycling Refund and Litter Reduction Program to increase the reuse and recycling of beverage containers. By providing the infrastructure for the stewardship of beverage containers, this bill supports local governments with meeting waste reduction goals and preventing post-consumer waste from entering the environment, especially our waterways. Beverage containers covered under the bill include glass, aluminum and plastic bottles.

The Baltimore City Office of Sustainability supports this bill as it aligns with a goal in the 2019 Sustainability Plan[i] to "investigate revising codes and/or creating ordinances to eliminate waste and maximize reuse of materials." and to "Develop and promote legislation and policy at the City and State level to reduce pollution of our waterways, including restricting the use of pesticides and herbicides and reducing the use of single-use plastics (such as plastic bags and beverage bottles).

The MD General Assembly has specified a goal to achieve a 90% redemption rate in the bill, which would be about 5 billion single-use beverage containers. Though the exact number that would be benefit Maryland is not known, this target will have significant impacts on Baltimore City's waste management approaches that divert and prevent waste holding the prospect of reducing the cost of litter and beverage containers collection, recycling and disposal currently posed on Baltimore City tax payers.

For the above reasons, the BCA respectfully requests a **favorable** report on HB 1089**.**

[i] https://www.baltimoresustainability.org/plans/sustainability-plan/

Follow_Up_Blair_HB_1089
Uploaded by: Peter Blair
Position: FAV

Fact Sheet: Deposit Return Systems Generate Cost Savings for Municipalities

In recent years, there has been renewed interest in deposit return systems (DRSs) for the recovery of beverage containers. These systems place a small deposit on beverage purchases, which is refunded to the consumer when the empty container is returned for recycling.

As more countries consider DRS as a means to reduce litter and encourage recycling, many are questioning the impacts that such a system would have on municipalities, particularly those that have an existing source separation program in place. The main argument put forward by opponents is that DRSs harm municipalities by diverting recyclables with the most value from the municipal recycling stream, resulting in a reduction of the cost-effectiveness of municipal curbside programmes. To support this argument, evidence is provided to show loss of material revenues as well as the industry contributions from extended producer responsibility schemes for packaging where they exist. However, one of the key elements missing in the majority of these analyses is the savings resulting from the reduced or avoided costs of collection, treatment, and disposal by the municipal waste management system.

We wanted to learn more about how municipalities are impacted by the implementation of a DRS, and so we set off on a task to compile all of the research done on the subject over the years. What we found was compelling, and sufficiently closes the case that container deposit systems are good—not bad—for municipalities.

The following table presents a compilation of 33 studies that examined the costs and benefits to municipalities of implementing (or expanding) a DRS for beverage containers. It is noteworthy that, although different in scope, location, author and year, nearly every study reported significant net cost savings to municipalities.

Table 1 Key Findings from Studies That Examined the Costs and Benefits to Municipalities of Implementing or Expanding a Deposit Return System

	Study Title, Author and Year	Summary of Findings
1	An In Medias Res Economic Cost-Benefit Analysis of ACT Container Deposit Scheme Sarah Yanyue Yu, 2020[i]	The study found that over a 20-year time frame, the costs/benefits of the CDS would be as follows: Benefits: • Avoided waste collection and transportation costs: $8M • Avoided ACT MRF processing costs: $2M • Avoided landfill cost: $1.7M • Avoided street sweeping cost: $4M • Value of avoided litter: $71M • Value of recyclates: $3M • Total benefits: $89.7M Costs: • Scheme design and administration: $2.5M • Scheme administration and coordination cost: $2M • Beverage industry compliance cost: $0M • Household participation cost: $2M • Business participation cost: $3M • Container redemption infrastructure & operating costs: $40.7M • Total costs: $50.2M Net benefit: $39.5M
2	Better Together: How a Deposit Return System Will Complement Ontario's Blue Box Program and Enhance the Circular Economy Eunomia Research and Consulting in association with Reloop Platform, 2019[ii]	This study looked at the financial impact on all stakeholders, from a combination of a DRS for non-alcoholic beverages and optimized household recycling. Collectively, it found that municipalities across Ontario will save approximately $12.87M. This represents the difference between the current system cost and the cost of the system in the future: • Cost of current system (curbside collection only): $312.94M • Cost of future service (with a DRS for non-alcoholic beverages and a move to every other week curbside collection): $300.07M
3	A Deposit Return Scheme for Scotland: Full Business and Regulatory Impact Assessment Scottish Government, 2019[iii]	• Reduced revenue from sale of materials and increased sorting costs as a consequence of valuable materials being removed: £46.3M • Savings from handling reduced tonnage, lower disposal costs and waste and litter collection efficiencies: £237.5M Overall net benefit to local authorities: £191.1M
4	Bottle Bill Expansion: The Numbers Behind Governor	• $6.1M loss in curbside revenue

	Study Title, Author and Year	Summary of Findings
	Cuomo's Bottle Bill Proposal Eunomia Research and Consulting, 2019[iv]	• $4.3M savings in avoided disposal costs to municipalities • $7.2M additional value of material captured from disposal as a result of the deposit program Net annual savings: $5.4M (does not include potential collection cost benefits from reduced tonnage or reduced MRF operating and processing costs)
5	A Deposit Refund System for the Czech Republic Eunomia Research and Consulting, 2019[v]	• Municipalities will save at least €113,000 (if only PET is included in the DRS) or €250,000 (if the DRS includes PET and metal) in disposal costs. These savings could increase to €345,000 (PET DRS) or €768,000 (PET & metal DRS) if the landfill tax increases, or a landfill ban is introduced. • Municipalities are very likely to share some of the €6,949,000 (PET only) or €7,009,000 (PET and metal) collection cost savings. Likely but undermined savings from reduced litter clean-up costs
6	Real Price of Deposit: Analysis of the Introduction of the Deposit-Refund System for Single-Use Beverage Packaging in the Slovak Republic Institute for Environmental Policy, 2018[vi]	• Avoided costs of litter removal: €628,895/year to €2,710,086/year • Avoided costs of landfilling mixed municipal waste: €53,739/year to €689,655/year • Avoided costs of separate collection of waste: €6,566,099 • Lost revenues from the sale of PET material in separate collection: €5,720,893 Lost revenues from the sale of aluminum cans in separate collection: €1,825,354
7	Container Deposit Scheme – Consultation Regulation Impact Statement ACT Government, Transport Canberra and City Services Directorate, 2017[vii]	The benefits transferred from the ACT Government in its capacity as a provider of municipal services to customers of those services are estimated to be $9.7M over the 20-year period.
8	Consultation Regulation Impact Statement – New South Wales Container Deposit Scheme (NSW CDS) NSW Environment Protection Authority, 2017[viii]	Avoided waste collection and transport costs: The benefits transferred from local government to customers are estimated to be $272M over a 20-year period.
9	Costs and Impacts of a Deposit on Cans and Small Bottles in the Netherlands – Extended Summary CE Delft, 2017[ix]	• Cost savings on current collection systems: €5.5 to €8.0 million • Maximum reduction in costs of litter clean-up: Approx. €80M (up to 3 eurocent per packaging) Cost savings on emptying public litter bins: €3 to €10 million (0.10 to 0.37 eurocent per packaging)
10	Deposit Return Evidence Summary Zero Waste Scotland, 2017[x]	• Residual disposal savings: £2.6M to £6.2M • Recyclate savings costs: £2.8M to £3M (assuming no change in gate fees or material revenue) Aggregated treatment and management costs savings: £5.3M to £9.2M
11	Cost-Benefit Analysis of a Container Deposit Scheme Sapere Research Group (prepared for the Auckland Council), 2017[xi]	• Councils could expect to save $12.5M-$20.9M/year in collection costs ($2,645 to $4,424 per 1,000 pop.)[xii] • Reduced litter collection and public space maintenance costs: $2.9M-$4.4M ($614 to $931 per 1,000 pop.) Reduced landfill disposal costs: $1.3M-$3.7M ($275 to $866 per 1,000 pop.)

	Study Title, Author and Year	Summary of Findings
12	Impacts of a Deposit Refund System for One-way Beverage Packaging on Local Authority Waste Services Eunomia Research and Consulting Ltd. (Report Commissioned by Keep Britain Tidy, Campaign to Protect Rural England, Marine Conservation Society, Surfers Against Sewage, Reloop Platform, Melissa and Stephen Murdoch), 2017[xiii]	• Estimated net annual savings: £35M/year (£1.47/household) • Impact on collection costs: Savings of up to £152,000/year (£1.65/household) • Impact on sorting costs: Savings of £800 to £220,000/year (£0.01 to £3.14/household) • Lost materials revenue: £58,000 to £160,000/year (£0.67 to £1.63/household) • Impact on residual waste treatment/disposal costs: estimated savings of £31,000 to £555,000/year (£0.54 to £4.55/household) Savings on street cleaning costs: for more urban authorities, £25,000 to £50,000/year (£0.22 to £0.45/household). Rural authorities may see smaller savings.
13	Massachusetts Container Deposit Return System – 2016 Employment and Economic Impacts in the Commonwealth Container Recycling Institute, 2016[xiv]	Absent the current bottle bill, cities and towns across the state would face an additional cost on the order of $20 million in collection, sorting, and disposal of containers currently managed under the system.
14	Summary Review of the Impacts of Container Deposit Schemes on Kerbside Recycling and Local Government in Australia[xv] MRA Consulting Group (prepared for Container Deposit System Operators (CDSO)), 2016	• Reduced landfill gate fees: $10.1M/year ($5,465 per 1,000 pop.)[xvi] • Increased material value: $23M/year to $62M/year (NSW only) • Reduced collection costs: undetermined Reduced litter collection costs: $59M/year ($31,922 per 1,000 pop.)
15	The Incentive to Recycle: The Case for a Container Deposit System in New Zealand[xvii] Envision New Zealand Ltd., 2015	• Refuse transport/ disposal savings: significant but undetermined • Refuse collection savings: $26.7M/year to $40.1M/year ($5,918 to $8,887 per 1,000 pop.)[xviii] • Reduced litter control costs: undetermined Reduced kerbside collection costs: up to $19.26/household/year
16	A Scottish Deposit Refund System[xix] Eunomia Research & Consulting (prepared for Zero Waste Scotland), 2015	Net annual savings (from reduced collection and disposal costs) of: • £5M for local authority kerbside services (£931 per 1,000 pop.)[xx] • £7M for reduced litter (£1,303 per 1,000 pop.)
17	Cost Benefit Study of a Tasmanian Container Deposit System[xxi] Marsden Jacob Associates (prepared for the Department of Primary Industries, Parks, Water and the Environment (DPIPWE)), 2014	• From 2014/15 to 2034/35, a CDS would benefit local government by $28M NPV (Net Present Value) ($54,139 per 1,000 pop.)[xxii] through the receipt of refunds on collected material & avoidance of some costs associated with existing kerbside recycling • (undetermined).
18	Cost-Benefit Analysis of a Recycling Refund System in Minnesota[xxiii] Reclay StewardEdge (prepared for Minnesota Pollution Control Agency (MPCA)), 2014	Estimated net annual savings for local governments: • $5.6M ($0.27/household/month) ($1,027 per 1,000 pop.)[xxiv] • Undetermined savings from reduced litter clean-up costs •
	Executive Summary: Implementing a Deposit and Return	• Reduced treatment costs: final treatment (€6,029,686, or

	Study Title, Author and Year	Summary of Findings
19	Scheme in Catalonia – Economic Opportunities for Municipalities[xxv] Retorna, 2014	€803 per 1,000 pop.)[xxvi]; Waste Disposal Tax (€607,170, or €81 per 1,000 pop.); OFMSW (€565,042, €75 per 1,000 pop.) • Return of the waste disposal tax/collection fee: €1,105,523 (€147 per 1,000 pop.) • Reduced street cleaning costs: €13,175,737/year (€1,755 per 1,000 pop.) • Reduced beach cleaning costs: €580,481/year (€77 per 1,000 pop.)
20	An Assessment of the Potential Financial Impacts of a Container Deposit System on Local Government in Tasmania[xxvii] Equilibrium (prepared for the Local Government Association of Tasmania), 2013	• Reduced collection costs: $257,000/year ($1.31/service/year) ($497 per 1,000 pop.)[xxviii] • Reduced processing costs: $340,000/year ($1.73/service/year or $8.70/tonne) ($657 per 1,000 pop.), • Improved material value: $750,000/year ($1,450 per 1,000 pop.) • Net savings: $1.3M/year ($2,514 per 1,000 pop.), up to $26.8M ($51,819 per 1,000 pop.) over 20 years • Reduced litter management costs: $160,000/year
21	Executive Summary: Report on the Temporary Implementation of a Deposit and Refund Scheme in Cadaques[xxix] Retorna, 2013	• Reduced collection costs: €24,242/year (€8,536 per 1,000 pop.)[xxx] to €35,372/year (€12,455 per 1,000 pop.) • Reduction in compensation by Ecoembes: €1,240/year (€437per 1,000 pop.) to €1,766/year (€622 per 1,000 pop.) (This would be offset by the reduction in collection costs). • Reduced maintenance costs: €1,742/year (€613 per 1,000 pop.) to €2,420/year (€852 per 1,000 pop.) • Net savings: €23,000/year to €33,605/year (€8,099 to €11,833 per 1,000 pop.) •
22	Comparison of System Costs and Materials Recovery Rates: Implementation of Universal Single Stream Recycling With and Without Beverage Container Deposits – Draft Report[xxxi] DSM Environmental (prepared for Vermont Agency of Natural Resources), 2013	• Estimated value of litter reduction: $815,000 to $1.2M ($1,301 to $1,917 per 1,000 pop.)[xxxii] • Avoided disposal savings: $11.1M to $11.3M ($17,730 to $18,050 per 1,000 pop.)
23	The Impacts (Cost/Benefits) of the Introduction of a Container Deposit/Refund System (CDS) on recycling and councils[xxxiii] Mike Ritchie & Associates (prepared for Local Government Association of NSW), 2012	• Recycling savings: $9 to $24/household • Potential savings for local governments: $23M/year to • $62M/year ($3,010 to $8,115 per 1,000 pop.)[xxxiv]
24	Understanding the Impacts of Expanding Vermont's Beverage Container Program[xxxv] CM Consulting (prepared for Vermont Public Research Interest Group (VPIRG)), 2012	• Increased material revenues: $2.3M ($3,674 per 1,000 pop.[xxxvi]) • Reduced garbage, recycling, and litter management costs: beyond the scope of this study, however, materials management in Vermont is estimated to cost $90/ton to $108/ton for disposal

	Study Title, Author and Year	Summary of Findings
		and $1,200/ton to $2,300/ton for litter collection.
25	Examining the Cost of Introducing a Deposit Refund System in Spain[xxxvii] Eunomia Research & Consulting (prepared for Retorna), 2012	• Total savings to municipality: €57M/year to €93M/year (€1,237 to €2,019 per 1,000 pop.[xxxviii]). 76% to 81% of these savings are derived from the reduction in costs associated with residual waste collection; ~20% come from reduced litter collection costs; and <1% come from reduced costs of collecting from household waste collection points where residents can take their recycling waste (puntos limpios).
26	Packaging Impacts Consultation Regulation Impact Statement[xxxix] Standing Council on Environment and Water 2011	Over 20 years, a CDS is estimated to result in: • Avoided collection, transport and recycling costs: $2.72 billion ($112,933 per 1,000 pop.[xl]) • Other avoided costs (landfill and litter clean up): $247M ($10,255 per 1,000 pop.)
27	Turning Rubbish into Community Money: The Benefits of a 10 cent Deposit on Drink Containers in Victoria[xli] Office of Colleen Hartland MLC, 2011	• Reduced recycling/MRF processing costs: $6,577,919 ($1,102 per 1,000 pop.[xlii]) • Reduced waste costs (landfill gate fee and levy): $5,070,851 ($850 per 1,000 pop.) • Reduced litter collection costs: $8.8M ($1,475 per 1,000 pop.) • Net savings: $32,625,183/year (($5,468 per 1,000 pop)
28	Have We Got the Bottle? Implementing a Deposit Refund Scheme in the UK[xliii] Eunomia Research & Consulting (prepared for the Campaign to Protect Rural England), 2010	'Complementary' DRS scenario: • Reduced recycling collection costs: £129M/year (£1,982 per 1,000 pop.[xliv]) • Reduced bringsite costs: £3M/year (£46 per 1,000 pop.) • Reduced Household Waste Recycling Centers (HWRC) costs: £1M/year (£15 per 1,000 pop.) • Reduced litter collection costs: £27M/year (£415 per 1,000 pop.) • Net savings: £159M/year (£2,443 per 1,000 pop.) (£7/household/year) 'Parallel' DRS scenario: • Reduced collection, treatment and disposal costs:£143M/year (£2,198 per 1,000 pop.) •
29	Analysis of the Impact of an Expanded Bottle Bill on Municipal Refuse and Recycling Costs and Revenues[xlv] DSM Environmental (prepared for Massachusetts Department of Environmental Protection (MassDEP)), 2009	• Avoided collection costs: $4,214,071/year to $5,033,112/year ($620 to $741 per 1,000 pop.[xlvi]) • Avoided disposal costs: $482,372/year to $2,334,863/year ($71 to $344 per 1,000 pop.) • Reduced litter clean-up costs: $536,772 ($79 per 1,000 pop.) (distributed between state and local litter collection efforts; no data available on what this

	Study Title, Author and Year	Summary of Findings
		distribution is) • Net savings: $3,797,011/year to $6,468,544/year ($559 to • $952 per 1,000 pop.)
30	Analysis of Beverage Container Redemption System Options to Increase Municipal Recycling in Rhode Island[xlvii] DSM Environmental (prepared for Rhode Island Resource Recovery Corporation), 2009	• Reduction in municipal material revenues: $1.4M/year ($1,325 per 1,000 pop.[xlviii]) statewide • Reduced litter collection costs: $267,500/year ($253 per 1,000 pop.) • Reduced disposal costs: $870,000/year ($824 per 1,000 pop.) • Reduced collection costs: $1.3M/year ($1,231 per 1,000 pop.) • Net savings: $1,037,500/year ($982 per 1,000 pop.)
31	Beverage Container Investigation[xlix] BDA Group (prepared for the EPHC Beverage Container Working Group), 2009	• Deposits collected by local government: $78M/year to $147M/year ($3,239 to $6,103 per 1,000 pop.[l]) • Kerbside savings: $24M/year to $25M/year ($996 to $1038 per 1,000 pop.) • Landfill cost savings: $13M/year to $17M/year ($540 to $706 per 1,000 pop.) • Landfill levy savings: $7M/year to $9M/year ($291 to $374 per 1,000 pop.) • Material values lost by local government: $47M/year to $48M/year ($1,951 to $1,993 per 1,000 pop.) • Net savings: $75M/year ($3,114 per 1,000 pop.) to $150M/year ($6,228 per 1,000 pop.), depending on level of deposit ($0.10 or $0.20/container)
32	City of Toronto Staff Report: Amendments to Processing Fees Due to LCBO Deposit Return Program[li] City of Toronto General Manager, Solid Waste Management Services (prepared for Public Works and Infrastructure Committee), 2008	The implementation of a DRS resulted in: • Reduced processing costs: $657,700 ($236 per 1,000 pop.[lii]) in 2007 and $869,975 ($312 per 1,000 pop.) in 2008 • Reduced glass disposal costs: $490,000 ($176 per 1,000 pop.) in 2007 and $393,250 ($141 per 1,000 pop.) in 2008 • Net savings: $447,989 ($161 per 1,000 pop.) in 2007 and • $381,126 ($137 per 1,000 pop.) in 2008
33	Economic & Environmental Benefits of a Deposit System for Beverage Containers in the State of Washington[liii] Jeffrey Morris (Sound Resource Management Group), Bill Smith (City of Tacoma), and Rick Hlavka (Green Solutions) (prepared for City of Tacoma Solid Waste Management), 2005	• Reduced garbage collection costs: $78,150 ($381 per 1,000 pop.[liv]) • Reduced disposal costs: $150,500 ($734 per 1,000 pop.) • Reduced recycling collection costs: $69,400 ($338 per 1,000 pop.) • Reduced litter costs: $34,300 ($167 per 1,000 pop.) • Loss of market revenues for recycling programs: $68,300 (333 per 1,000 pop.) • Net savings: $264,050 ($1,287 per 1,000 pop.)

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Impacts of Increasing Vermont's Bottle Bill Scope and Deposit Value

Sarah Edwards

John Carhart

February 25, 2020

Report for the Vermont Public Interest Research Group

Prepared by Sarah Edwards and John Carhart

Approved by

Sarah Edwards

(Project Director)

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Eunomia Research & Consulting Inc.
33 Nassau Avenue
New York City
NY 11222

Tel: +1 646 256-6792

Web: www.eunomia-inc.com

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1.0 Introduction

Since 1973, Vermont has had a deposit refund system (DRS), also known as a bottle bill, on select beverage containers. This DRS system places a deposit on beverage containers that consumers pay when purchasing beverages; they receive the deposit back when they return their empty beverage containers to redemption centers.

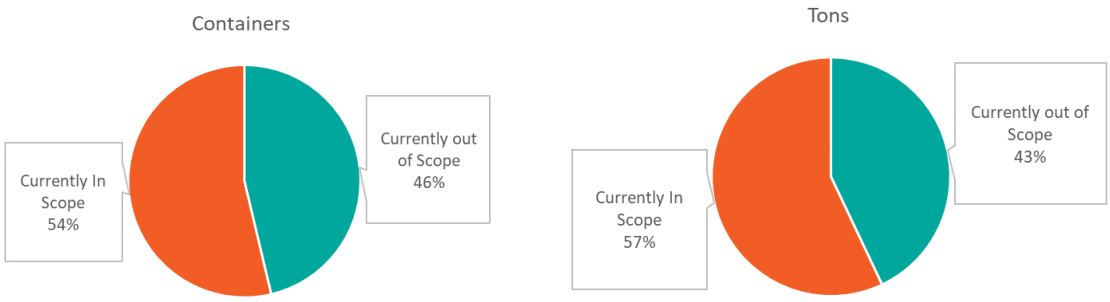
At its inception, the Vermont bottle bill covered beer, carbonated soft drinks and mixed wine drinks. In 1991, liquor was added to the list of covered beverages. No additional beverage types have been added since.

The deposit value is 15 cents for liquor and 5 cents for all other in-scope containers.[1] The deposit value has not changed since the program inception. If the 5-cent level of deposit was pegged to inflation in 1973, today the deposit would be 30 cents.[2]

Both the devalued deposit and the limited scope of the program, specifically the omission of wine and water, is limiting the program's effectiveness in Vermont.

Figure 1-1 shows the number of containers in and out of scope, both by number and weight as a percentage of all beverage containers sold into Vermont. 270 million beverage containers sold in Vermont are currently not covered by the DRS, which equates to 19,000 tons, much of which is going to landfill.

Figure 1-1: Number of Beverage Containers in Scope and Out of Scope



Source: Eunomia calculations and CRI BMDA Data

Other states in the US with deposit systems have increased their deposit values to 10 cents and have subsequently seen redemption rates rise to over 90%. In comparison, Vermont's

[1] http://www.bottlebill.org/index.php/vermont-history

[2] United States Bureau of Labor Statistics Inflation Calculator, https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=0.05&year1=197301&year2=201912

redemption rate is approximately 75%.[3] Between 2017 and 2018, Oregon expanded its bottle bill scope and increased its deposit value from 5 to 10 cents and subsequently saw its redemption rate rise from 73.3% to 90%.[4]

Members of the Vermont General Assembly are in the process of evaluating policies that will address packaging, and plastics specifically. DRSs are being seen globally as the only reliable measure to reduce the impact of single use plastics bottles, and to ensure that high grade material is available for brands to meet their minimum recycling content commitments. In 2010, 36 countries and states had container deposit laws, affecting 279 million people. By 2019, 58 container deposit laws were in place, affecting 612 million people. For these reasons, Vermont is considering the potential of both increasing the level of deposit on beverage containers and expanding the scope of beverages that are covered.[5] A comprehensive bottle bill should ideally be expanded to include non-sparkling water, sports drinks, energy drinks, fruit and vegetable beverages, ready to drink tea & coffee and wine. 250 million beverages are sold into Vermont in plastics bottles, currently only 50 million are covered by the current DRS; 200 million plastic bottles are currently out of scope.

This paper considers the environmental and financial impacts of changing the program under three different scenarios:

- Scenario 1 – No change in scope, deposit increase to 10 cents;
- Scenario 2 – Expanded scope, deposit remains at 5 cents;
- Scenario 3 – Expanded scope and deposit increase to 10 cents.

Sections 2.0 and 3.0 provide an overview of the key findings with Appendix A.1.0 detailing the cost benefit analysis carried out.

2.0 Analysis of Impacts

The overarching impacts of broadening the scope and/or increasing the deposit of Vermont's DRS will be as follows:

- *Environmental Benefit*: Containers will move from the trash, litter and curbside recycling streams into the deposit system. Proportionally, more material will move from the trash stream than from the recycling stream, because there are currently

[3] http://www.bottlebill.org/index.php/current-and-proposed-laws/usa/vermont

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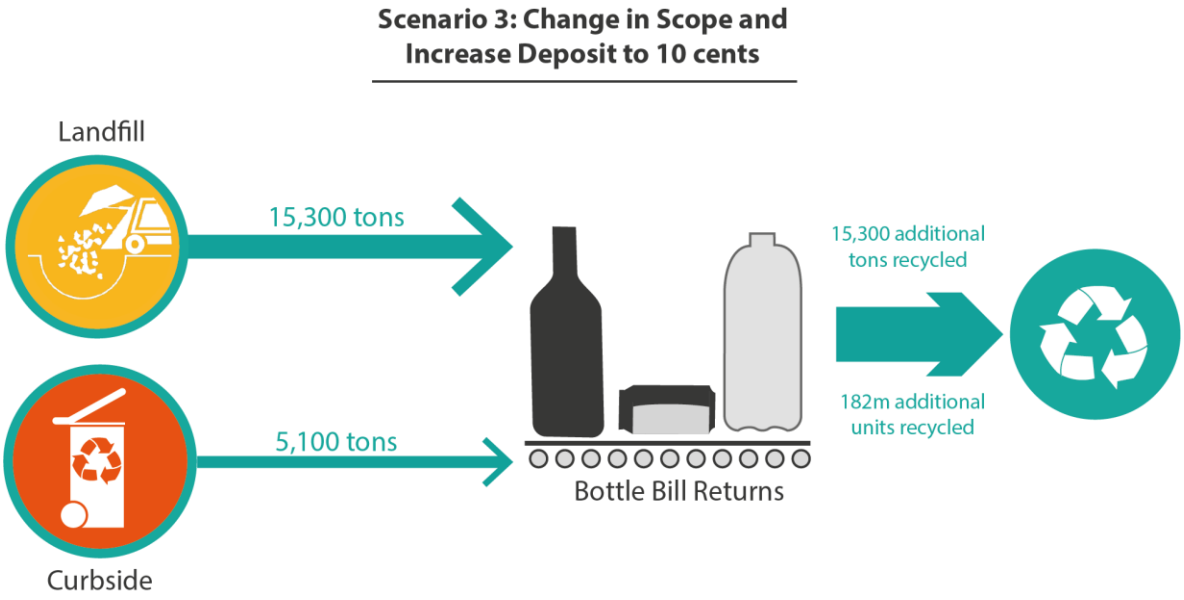
more containers in the trash than in the recycling stream with the potential to be captured by the DRS. Additionally, there will always be a proportion of containers that continue to be recycled through the curbside system as a result of consumer choice. Recycling more containers, thereby diverting them from landfill, will help maintain the life of Vermont's landfill and also reduce greenhouse gas emissions associated with both avoided waste to landfill as well as that associated with the replacement of virgin material with recycled material in the production of goods. Figure 2-1 illustrates the tonnage of material that will be taken out of the landfill as well as that which will likely move from curbside programs into the deposit system under Scenario 3. The diagram shows that if the deposit is increased to 10 cents and the scope is broadened to its maximum[6] there will be an estimated 397m additional containers recycled. This equates to an additional 15,300 tons of material that would be recycled increasing Vermont's diversion rate by 3%. The same diagram is provided for scenario 1 and 2 in Appendix A.2.0

Figure 2-1: Overview of Environmental Benefits Resulting from Increasing the Deposit Value and Expanding the Scope.



- *Financial loss*: A decrease in material, specifically PET and aluminum collected at the curbside, will result in less material being tipped and processed at the state's two main single-stream MRFs. The impact of this change will be a loss in tipping fee revenue and material income due to less PET and aluminum being available to sell.

[6] Excluding milk and dairy based beverages and wellness and functional drinks

- *Financial benefits*:
    - Expanding the scope of the DRS to include wine will reduce the amount of glass that needs to be managed at the MRFs. Glass in 2019 was costing CSWD almost $6[7] per ton to be sent to the glass aggregator. This cost is in addition to the processing costs. The cost to Casella is somewhat less, however there is still a cost.
    - Reduced landfill costs, resulting from less waste being sent to landfill. Because containers will be removed from the trash stream, haulers will be collecting less trash, therefore sending less to landfill, saving on landfill tipping fees.
    - Under scenarios 2 and 3, despite more containers being recycled due to the scope increase (Scenario 2) and deposit increase (Scenario 3), the value of the unclaimed deposits, which supports the State's clean water program will increase.

The benefits and cost impacts on different stakeholders, and ultimately the householder, cannot be 100% predicted; however, in a market-driven environment, our experience is that that the following occurs:

- MRF losses: MRF operators have three options to recover tipping fee and material losses:
    - Reduce operating costs – this is likely to be difficult, because there will always be a fixed cost for operating the plant and the quantity of material that would be removed as a part of an amended DRS is between 2-6% (depending on the scenario) of the total tonnage processed.
    - Attempt to fill the loss in tonnage (and therefore revenue) through other sources. This might be difficult in the relatively small Vermont market.
    - Pass through the increased cost to haulers using the facility via an increase in the tipping fee. We have assumed this is what would happen in our modelling.
- Landfill savings: Haulers will have reduced landfill costs due to less material collected in the trash and subsequently disposed in the landfill. If increases in MRF processing costs are passed on to customers, landfill savings should also be passed on. You

[7] Please note that CSWD is temporarily paying $115/ton but expects to be reverting back to 2019 recycler in the near future. VTRANS is also looking at making it MRF output an approved material that it will list for contractors to use which will possibly allow CSWD to charge for the material but this is a medium term solution and is not the equivalent of bottle to bottle recycling that is possible from glass collected through a DRS system.

would hope this would be the case when the MRF operator and the hauler are the same company, as is the case for some of Casella's customers in Vermont.

Taking the losses in MRF revenue and the disposal savings together, Figure 2-2 shows the net system changes across each of the alternative scenarios. In Scenario 3, CSWD and Casella will see a combined loss in revenue of $945,000 resulting from reduced tipping fees and material revenue. The saving in landfill costs to haulers on the other side will be an estimated $1,791,000. This provides a net system benefit of $847,600.

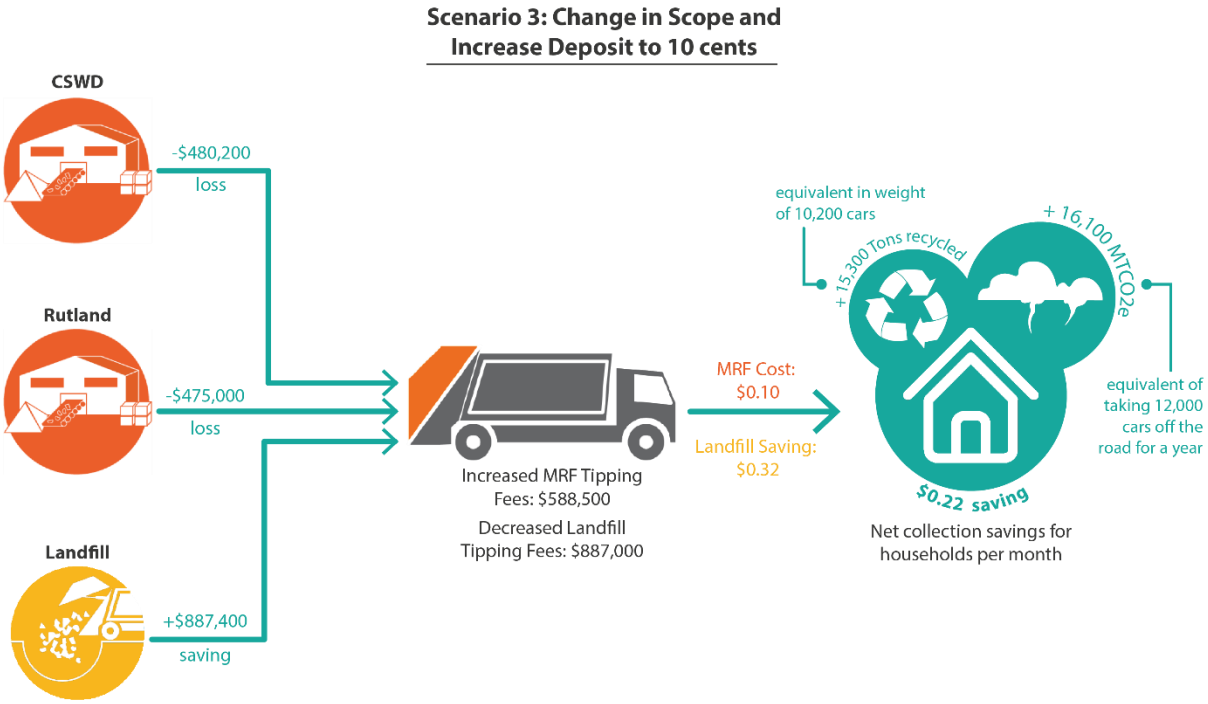
Figure 2-2: Industry System Cost Changes across Scenarios

Source: Eunomia Modelling

In the system infographic in Figure 2-3, we present all losses and benefits for Scenario 3. The equivalent diagrams for Scenarios 1 and 2 are provided in Appendix A.2.0. In the infographic, we assume all MRF losses are passed through to the haulers via an increase in tipping fees, and that this increase is ultimately passed through to the householder. The extent to which this increase will be passed onto the householder will in part be conditional on the amount of competition in the market and the ability for haulers to increase prices and still retain their customers. We also assume that any landfill savings are passed through from the hauler to individual households. The diagram shows that the net benefit of Scenario 3 if both MRF losses and landfill savings are passed onto the householder would be a 22 cents per month saving. If the savings resulting from reduced landfill costs are not passed on to the household by the hauler then the estimated additional cost to the

householder would be 7 cents per month. The graphic also shows that an estimated 15,300 additional tons of material would be recycled, equivalent in weight to 10,200 cars, plus a further reduction in GHG emissions of 16,100 metric tonnes of CO_2e.[8]

Figure 2-3: Costs, Savings and Benefits



3.0 Findings

The analysis of the environmental and financial impacts of each scenario (described more fully in Appendix A.1.0) results in the following environmental and financial impacts (also shown in Figure 3-1:

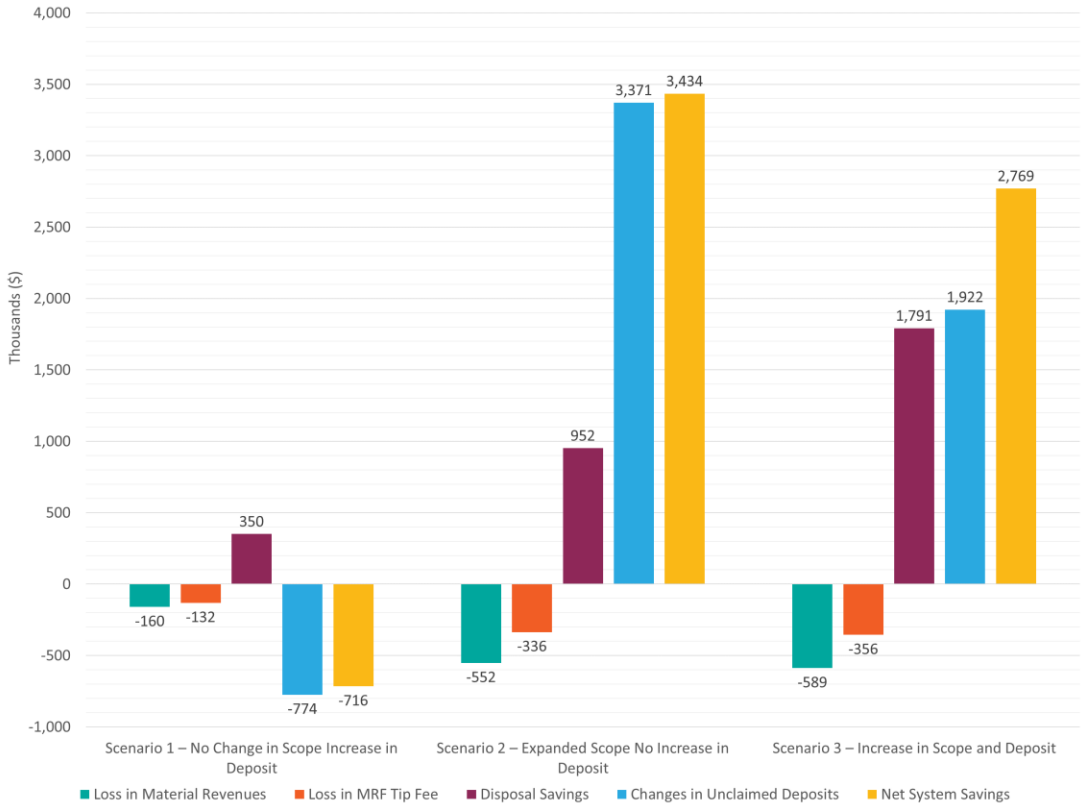
- Scenario 1:
  - Environmental:
    - 3,350 tons of additional material, equivalent to the weight of 2,200 cars, would be captured for recycling;
    - GHG savings would increase to 54,100 metric tonnes of CO_2e from 48,400 metric tonnes of CO_2e.

[8] Eunomia Modelling

    - Financial Impact:
        - MRFs could lose approximately $291,000 in revenue;
        - Haulers would pay approximately $353,000 less in landfill disposal fees;
        - The value of the unredeemed deposits decreases from $4 million to $3.1 million;
        - If MRF costs and landfill savings were passed through to the householder, the total cost to households would decrease by over $150,000 a year, a saving of approximately 5 cents per household per month;
        - Net whole system financial loss of $716,000.
- Scenario 2:
    - Environmental benefit
        - 10,100 tons of additional material, or equivalent to the weight of 6,700 cars, would be captured for recycling from the landfill;
        - GHG savings would increase to 57,400 metric tonnes of CO_2e from 48,400 metric tons of CO_2e.
    - Financial Impacts
        - MRFs would lose approximately $888,000 in revenue;
        - Haulers would pay approximately $952,000 less in disposal fees;
        - The value of the unredeemed deposits increases from $4 million to $7.3m;
        - If MRF costs and landfill savings were passed through to the householder; total cost to households would decrease by over $366,000 a year, a saving of approximately 11-12 cents per household per month;
        - Net whole system financial benefit $3,434,000 (including unclaimed deposits).
- Scenario 3:
    - Environmental Benefits
        - 15,300 tons of additional material, or equivalent to the weight of 10,200 cars, would be captured for recycling;
        - GHG savings would increase to 64,500 metric tonnes of CO_2e from 48,400 metric tonnes of CO_2e.
    - Financial Impacts
        - MRFs would lose approximately $944,000 in revenues;
        - Haulers would pay approximately $1.7 million less in disposal fees;
        - If MRF costs and landfill savings were passed through to the householder, total costs to households would decrease by over $688,300 a year, a saving of approximately 22-23 cents per household per month;

- The value of the unredeemed deposits increases from $4 million to $5.8 million.
- Net system financial benefit of $2,796,000 (including unclaimed deposits)

Figure 3-1: Whole System Financial Impacts



Source: Eunomia modelling

Appendix

A.1.0 Cost Benefit Assessment

A.1.1 Modelled Scenarios

The three future scenarios modelled are provided alongside the current system in Table A 1, below. This assessment sets out to examine the costs, benefits and other implications on various stakeholders of each scenario compared to the current system.

Table A 1: Scenario Designs

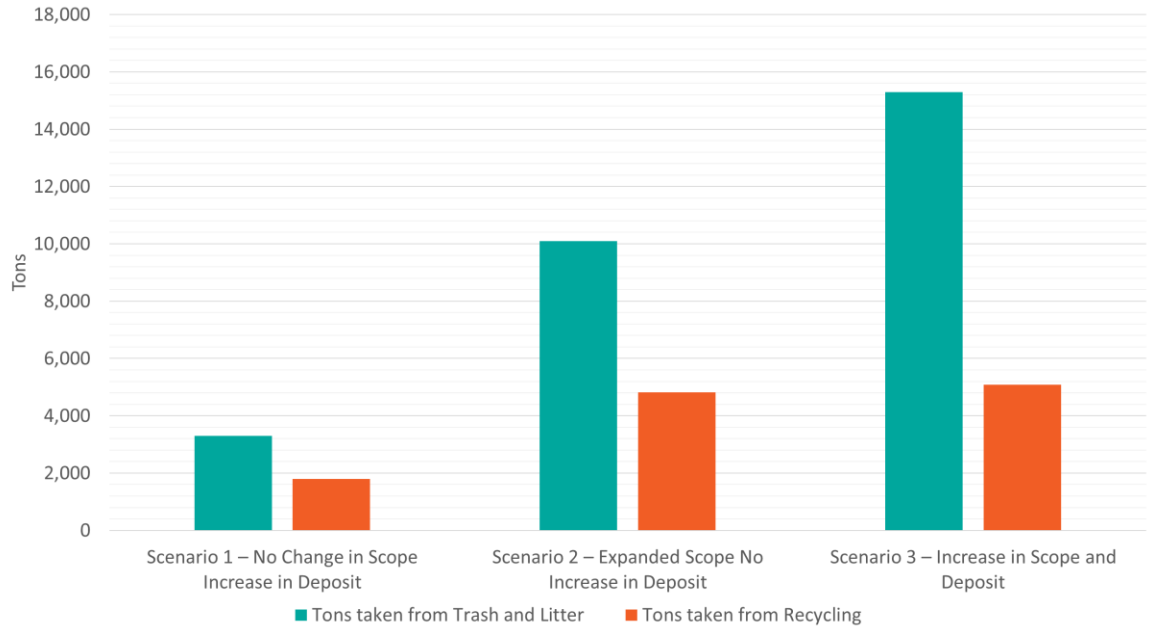
	Current Scenario	Scenario 1 – No Change in Scope Increase in Deposit	Scenario 2 – Expanded Scope No Increase in Deposit	Scenario 3 – Increase in Scope and Deposit
Deposit Level (Cents)	5	10	5	10
Redemption Rate	75%	90%	75%	90%
Beverages Covered	Carbonated Soft Drinks, Beer, Domestic Sparkling Water, Spirits	Carbonated Soft Drinks, Beer, Domestic Sparkling Water, Spirits	Carbonated Soft Drinks, Beer and Hard Cider, Domestic Sparkling Water, Spirits, Domestic Non-Sparkling Water, Sports Drinks, Energy Drinks, Fruit & Vegetable Drinks, Ready to Drink Tea & Coffee, Wine	Carbonated Soft Drinks, Beer and Hard Cider, Domestic Sparkling Water, Spirits, Domestic Non-Sparkling Water, Sports Drinks, Energy Drinks, Fruit & Vegetable Drinks, Ready to Drink Tea & Coffee, Wine
Containers Covered	Aluminum, PET, Glass	Aluminum, PET, Glass	Aluminum, PET, Glass, Cartons, Aseptic	Aluminum, PET, Glass, Cartons, Aseptic

A.1.2 Material Flow Changes

When the scope is expanded and the level of deposit increased, containers will move from the trash, litter and curbside systems into the DRS. This change in flow is due to households having an increased incentive to return their beverage containers to recover their deposit under the new bottle bill scenarios.

A 1 below shows the additional tons from each waste stream that are redeemed under each alternative scenario.

A 1: Flow of Tons into DRS System



Source: Eunomia Modelling

The tonnage and container impacts under each scenario are as flows:

- Scenario 1:
  - Around 3,350 tons will come from trash and litter
  - Almost 2,000 tons will come from the recycling stream
  - A total of 38,000 tons (1.8b units) will be captured for recycling
- Scenario 2:
  - 10,100 tons will come from trash and litter
  - 4,000 tons will come from the recycling stream
  - A total of 33,500 tons (2.1b units) of material will be captured for recycling
- Scenario 3:
  - 15,300 tons will come from trash and litter
  - 5,100 will come from recycling
  - A total of 50,600 tons (2.4b units) of material will be captured for recycling

A.1.3 Impacts Summary

A.1.3.1 Environmental

Recycling Rate

The additional tons of each material that will be diverted from landfill and recycled as a result of changes to the DRS under each alternative scenario are shown in Table A 2 below:

Table A 2: Additional Tons Diverted from Landfill by Material

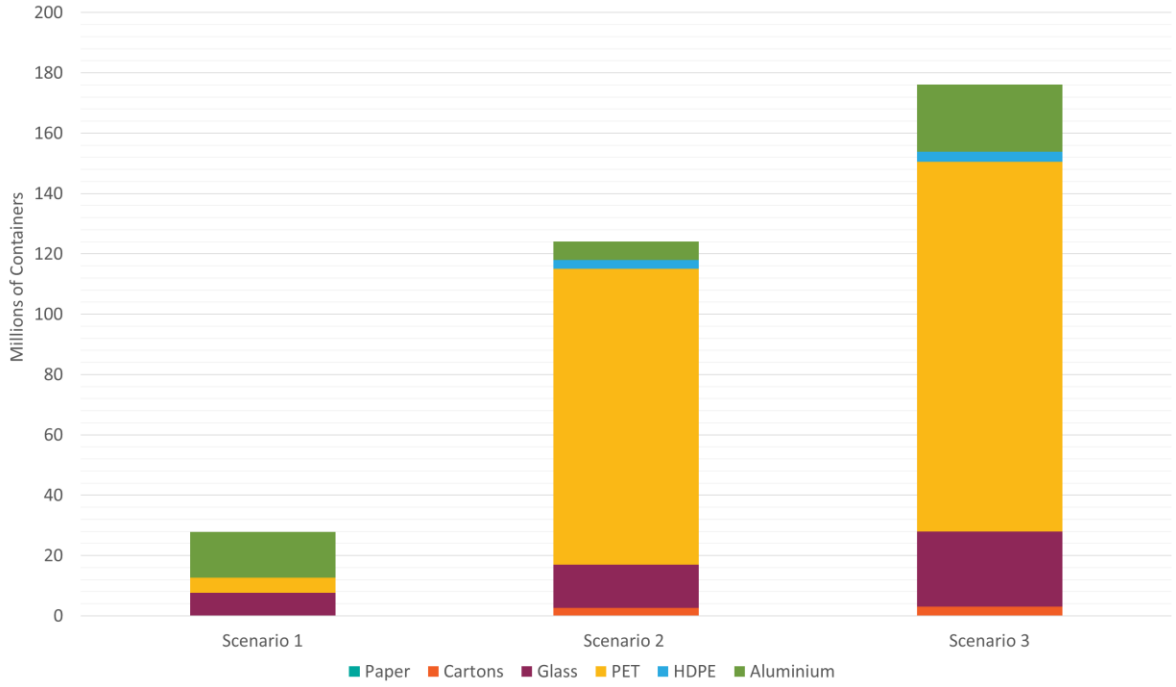
	Scenario 1 – No Change in Scope Increase in Deposit	Scenario 2 – Expanded Scope No Increase in Deposit	Scenario 3 – Increase in Scope and Deposit
Paper	0	0	0
Cartons	0	60	70
Glass	2,800	5,250	9,100
PET	230	3,520	4,400
HDPE	0	160	190
Aluminum	320	130	470
Total	**3,350**	**9,120**	**14,230**

Source: Eunomia Modelling

Depending on the scenario, the increase of diverted tons would result in a 1 to 3 percentage point increase in the state's diversion rate. Additionally, as outlined in Section A.1.3.2, less material will be littered.

A 2 below shows the number of additional beverage containers that are diverted from the landfill every year for each scenario, compared to the current system. As the figure shows, nearly 100 million more containers are diverted by expanding the bottle bill scope than would be diverted by only increasing the level of deposit (i.e the difference between scenarios 1 and 2). Under Scenario 3, 180 million additional containers will be collected for recycling, 120 million of these containers would be plastic bottles.

A 2: Number of Additional Containers Diverted from Landfill Under Each Scenario



Source: Eunomia Modelling

Although glass has the most weight diverted from landfill under the alternative scenarios, PET bottles account for the greatest amount of volume diverted from landfills.

Greenhouse Gas Emission

Increasing the number of containers redeemed under a DRS system results in fewer container tons being sent to landfills, and can reduce the number of containers that are littered.

Beverage containers which are not recycled cause GHG emissions for two main reasons:

- Some containers release GHG, such as methane, as they decompose in the landfill, however more importantly
- GHG emissions are also produced as a result of extracting and using virgin material to create new containers. Using virgin material, as opposed to recycled material, releases more GHG per ton of product made.[9] Therefore, the material in landfills could have saved GHG emissions by being used in the production of new product

[9] EPA WARM Model v15

replacing virgin material. Deposit systems provide high quality material that can be used in a circular way to produce new beverage containers.

The current bottle bill, and each subsequent alternative scenario, captures and recycles beverage containers that would have otherwise be disposed at landfills via the trash stream. As a result, GHG emissions are avoided for that material for the aforementioned reasons. These savings are in addition to the avoided GHG emissions that the curbside recycling system delivers.

Table A 3 below shows the environmental benefits of the current and alternative scenarios, in terms of both tons recycled and the corresponding GHG emission reductions.

Table A 3: Environmental Benefits under Alternative Scenarios

	Containers Recycled through Deposit System (tons)	Containers Recycled through Curbside (Tons)	Total GHGe Savings ($MTCO_2e$) from Recycling Containers
Current Scenario	24,700	11,000	48,400
Scenario 1 – No Change in Scope Increase in Deposit	29,400	9,200	54,100
Scenario 2 – Expanded Scope No Increase in Deposit	38,000	6,200	57,400
Scenario 3 – Increase in Scope and Deposit	45,500	4,800	64,500

Source: Eunomia Modelling and EPA WARM Model v15[10]

A.1.3.2 Litter

DRS programs have been shown to reduce container litter by as much 75%[11]. The European Commission, in its Single Use Plastic Directive developed to address terrestrial and marine litter, specifically lists DRSs as a means of ensuring 90% of plastic bottles that are sold are collected for recycling.

Raising the level of deposit and increasing the scope of the current Vermont bottle bill is likely to decrease the number of beverage containers littered by as much as 66%.[12] That is approximately 13 million fewer containers littered under Scenario 3. A reduction of

[10] Note a small percentage has been taken off the total containers redeemed for conservative GHG savings to account for minor contamination

[11] Eunomia 2018, Modernizing Connecticut's Bottle Bill

[12] Eunomia Modelling based on comparing littering rates for non-deposit containers and then used separate littering rates for in scope containers to assess the likely reduction

beverage container litter has implications for reduced cleanup costs, as well as the potential to reduce marine litter.[13]

A summary of these effects can be found in Table A 4.

Table A 4: Effects on Litter

	Total Tons of Containers Littered	Reduction in Litter (tons)	Reduction in Number of Containers Littered	% Decrease in Litter from Current
Current Scenario	1,510			
Scenario 1 – No Change in Scope Increase in Deposit	1,470	-40	550k	-2%
Scenario 2 – Expanded Scope No Increase in Deposit	580	-930	12m	-62%
Scenario 3 – Increase in Scope and Deposit	520	-990	13m	-66%

Source: Eunomia Modelling

A.1.3.3 Financial

Material Recovery Facilities Cost Impact

Vermont has two main single stream MRFs, CSWD and the Rutland Casella MRF. MRFs rely on two main sources of revenue to cover their operating costs: tipping fees paid by the waste haulers and material sales revenue of the MRFs' sorted recyclables.

Table A 5 summarizes the per ton tipping fee and material revenue for each MRF for the two-single stream MRFs in the state. It can be seen that while PET and aluminum result in an income, there is a cost for managing glass and this fluctuates according to market conditions and material quality.

[13] Comparison of litter rates in non- deposit regions compared to deposit regions, data drawn from Zero Waste Scotland (2013) *Scotland's Litter Problem, Quantifying the Scale and Cost of Litter and Flytipping*, July 2013, http://www.zerowastescotland.org.uk/sites/default/files/Scotland's%20Litter%20Problem%20-%20Full%20Final%20Report.pdf

Table A 5: Current Assumed Revenue per Ton

MRF	Tipping Fee	PET	Alu	Glass	HDPE Colored	HDPE Natural
Casella	$110	$324[14]	$1,224[15]	-$20[16]	$337[17]	$703[18]
CSWD	$65[19]	$324	$1,224	$-5.84[20]	$337	$703

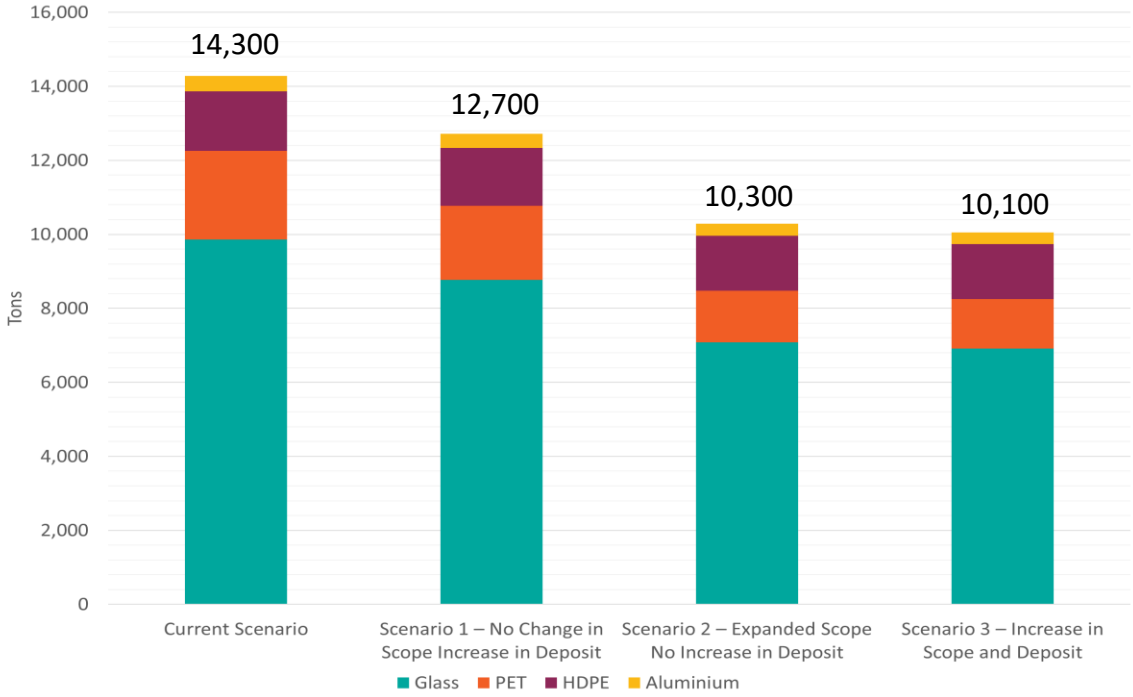
Source: Data received from CSWD and Casella

After accounting for valuable material being taken out of the PET stream as a result of changes to the DRS, we calculate future plastic material value per ton to fall to $257 per ton under Scenario 2, and $247 per ton under Scenario 3.

A 3 below shows the tons of glass, PET, HDPE and aluminum that is currently and will be processed by the two MRFs under each scenario. Under Scenario 1 there will be a reduction in processing tons of 1,600 tons, compared to Scenario 3, which will reduce the amount of material processed through both MRFs by 4,300 tons - approximately just under 6% of the total amount currently processed through the MRFs.

[14] Provided by CSWD, assumed the same for Casella as was not provided
[15] Provided by CSWD, assumed the same for Casella as was not provided
[16] Budgeted by CSWD, assumed the same for Casella as was not provided
[17] Provided by CSWD, assumed same for Casella as was not provided
[18] Provided by CSWD, assumed same for Casella as was not provided
[19] Believed to be the rate that will be introduced shortly
[20] Report from Seven Days https://www.sevendaysvt.com/vermont/glass-action-a-burlington-startup-aims-to-turn-recyclables-into-building-material/Content?oid=29525125,

A 3: Tons of Beverage Container Material Processed at Vermont MRFs Under Each Scenario



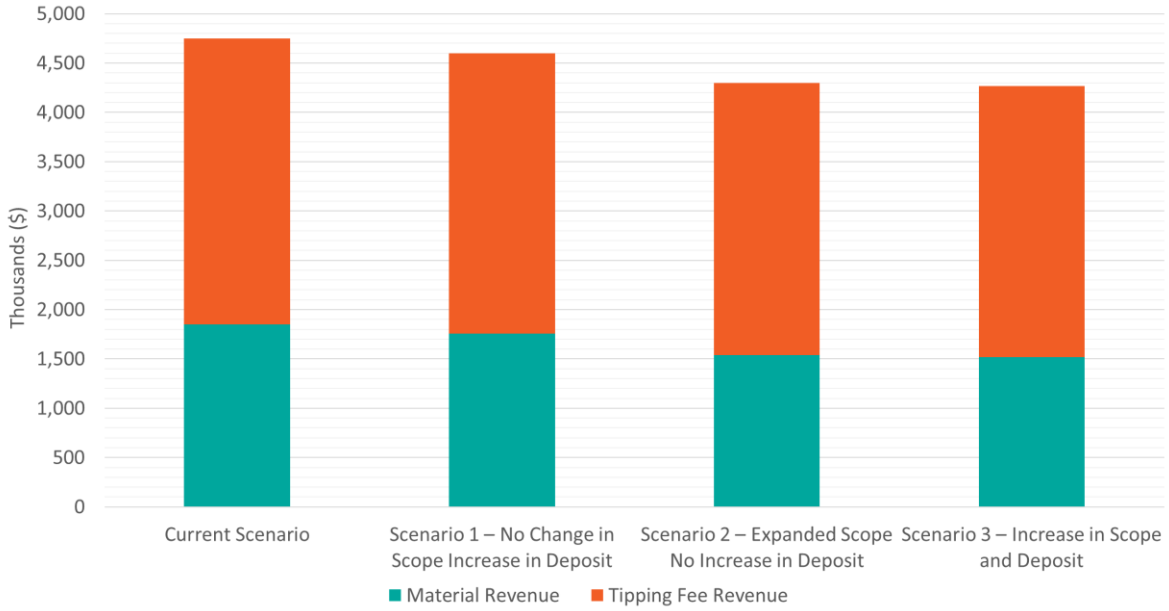
Source: Eunomia Modelling

The reduced quantity of material processed will reduce material revenue associated with PET and aluminum, as these two materials have high values on the recycled material market. However, there will also be savings for the MRFs associated with not having to process and market glass. A 4 below shows the anticipated overall revenue reduction at the CSWD MRF and A 5 shows the same at Casella's MRF in Rutland.

The calculated revenue loss for CSWD resulting from Scenario 3 is expected to be approximately $480,176 (10% of current total revenue). If CSWD wanted to recover the revenue loss, they would have to increase tipping fees by between $2.30 (scenario 1) - $11.30 (scenario 3) per ton.

Overall, expanding the scope of the bottle bill and increasing the deposit level (Scenario 3) would lead to a reduction in revenue of around 10%.

A 4: Total CSWD MRF Revenue Under each Scenario

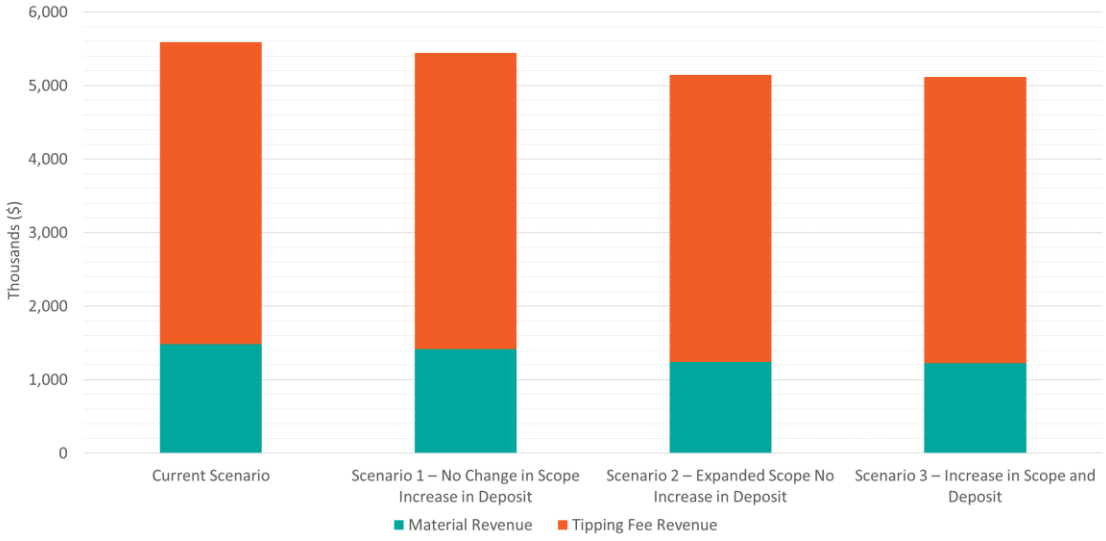


Source: Eunomia Modelling and CSWD Data

A 5 below shows the overall changes in revenue to the Casella MRF under each scenario.

Casella is expected to lose approximately $475,000 in revenue, 4.5% of current total revenue. This is less than for CSWD, because their tipping fees are higher. It would have to increase tipping fees by between $4.10 (Scenario 1) - $13.40 (Scenario 3) per ton to recover losses in revenue resulting from changes to the bottle bill.

A 5: Total Casella Rutland MRF Revenue under each Scenario



Source: Eunomia Modelling

Under Scenario 3, Casella would see a revenue decrease of around 10%.

When MRFs lose material and revenue they can either a) make operational efficiencies to reduce impact; b) seek to replace the lost tons with new tonnage from out sources; or c) pass through their costs to haulers in the form of tipping fee increases.[21] If the Vermont MRFs pass through these costs to the haulers, the impact on the tipping fee per ton for each scenario at the CSWD and Casella MRFs would be:

- CSWD:
  - Scenario 1: $65 - $68 (5% Increase);
  - Scenario 2: $65 - $75 (16% Increase);
  - Scenario 3: $65 - $76 (17% Increase).
- Casella:
  - Scenario 1: $110 - $114 (4% Increase);
  - Scenario 2: $110 - $123 (10% Increase);
  - Scenario 3: $110 - $124 (11% Increase).

The increase in tipping fees appear as a range, as MRFs will not necessarily increase their fees to the exact amount needed to cover costs, but the upper bound of the range represents that possibility.

The impact of MRFs passing through the additional costs to haulers and potentially, ultimately households is discussed in Section A.1.5.

Landfill Savings

Currently, Vermont sends 379,000 tons of MSW to landfills for disposal.[22] Redeemed material under an expanded bottle bill will be primarily drawn from the trash stream, as that stream has the greatest amount of the material currently. By modernizing its bottle bill, Vermont could avoid sending between 2,000 and 15,000 tons of containers to landfill from the residential sector. This relates to disposal cost savings of between $353,000 and $1.7 million per year.

A 6 displays the comparative number of tons of material sent to landfills in Vermont across each of the study scenarios, as well as the cost of sending that material to landfills.[23]

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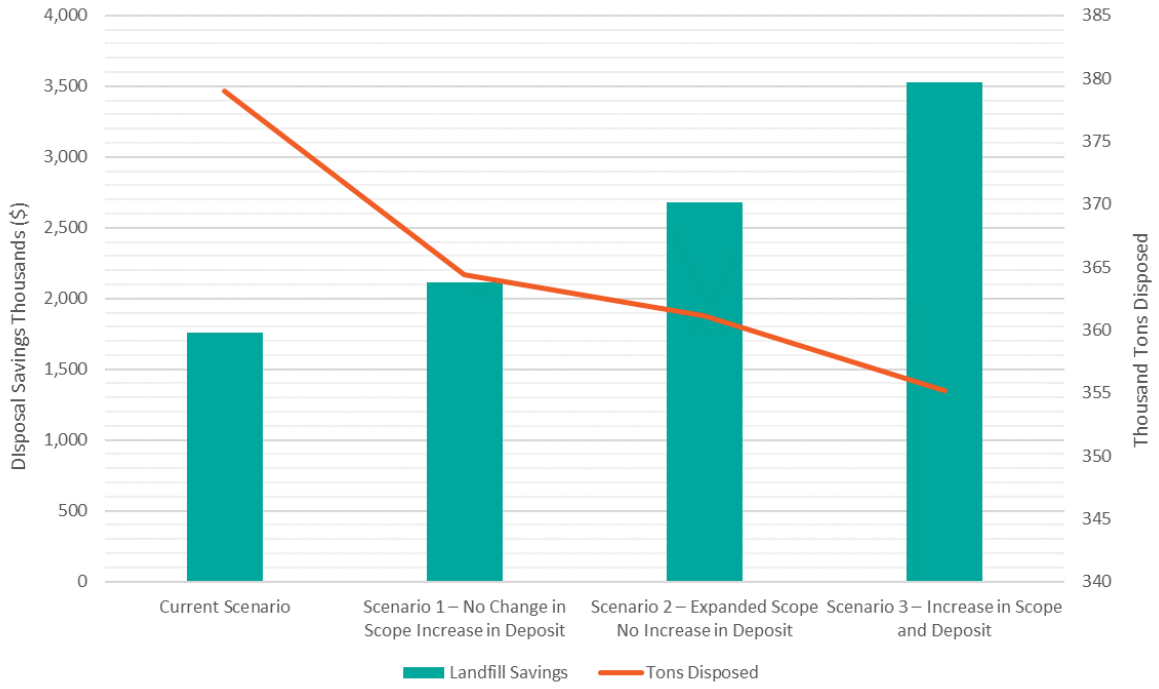
[21] In order to keep revenues constant with lower average material sales value and lower throughput tonnages, MRFs can resort to increasing their tipping fee cost per ton to make up the difference.
2020 Recycling Partnership State of Curbside Recycling in 2020,
https://recyclingpartnership.org/stateofcurbside/

[22] 2018 Vermont DEC Diversion and Disposal Report
https://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/2018%20Diversion%20and%20Disposal%20Report.pdf

[23] 2018 Vermont DEC Diversion and Disposal Report
https://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/2018%20Diversion%20and%20Disposal%20Report.pdf

A landfill tipping fee of $120 per ton is assumed for modelling. This is based on current costs at the Coventry Landfill.[24]

A 6: Changes in Disposal Savings and Total Tons Disposed



Source: Eunomia Modelling and Vermont DEC Data

As the deposit level and the scope of the DRS increase, tons of material disposed at landfill fall between 1 and 4 percent, depending on the scenario. As a result, total disposal costs fall by the same percentage.

The reduction in the number of tons that are disposed at landfills resulting from changes to the bottle bill will reduce costs on haulers, as they will effectively not be collecting this material from households, as well as not disposing of it at landfills – thereby paying fewer landfill fees. While haulers may see the tipping fees, they must pay at MRFs increase, they will also be paying less in landfill costs. Appendix A.1.6 assesses the net impact of increases in MRF processing costs versus savings in landfill costs.

[24] Interview with Kimberly Crosby of Casella Waste Systems, January 16th, 2020

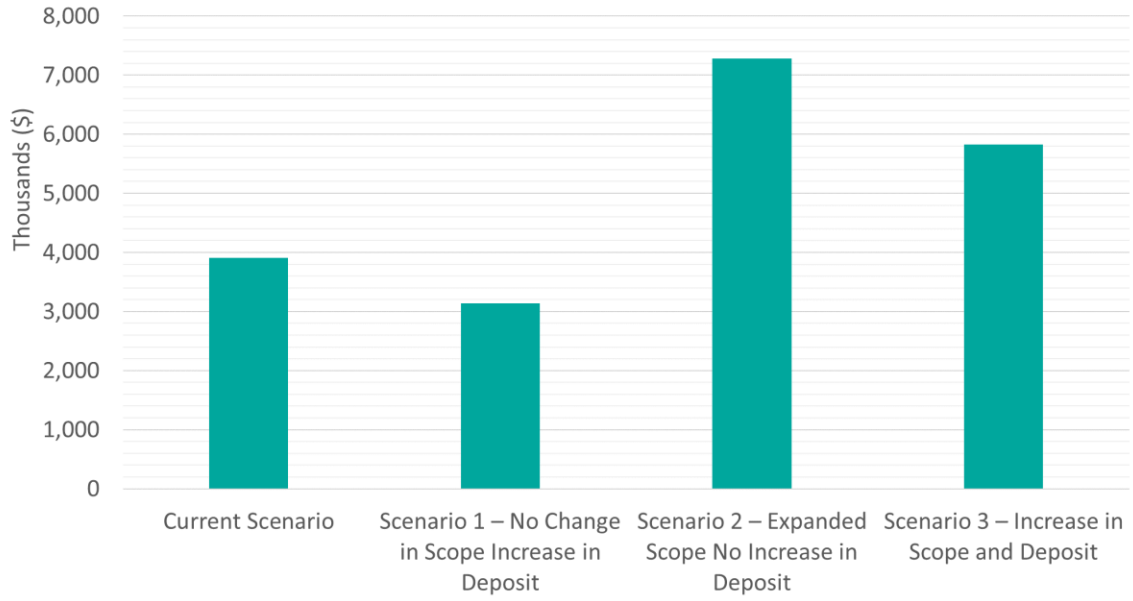
A.1.4 Unclaimed Deposits

As of Oct 1st, 2019, all unredeemed deposits are the property of the State of Vermont, to be used for clean water programs.[25] Therefore, changes in the level of deposit and redemption rates will have effects on the amount of unredeemed deposits available for these programs.

The change in value of unredeemed deposits under each scenario is shown in A 7 below.

Under Scenario 1, there is no scope change, but the deposit increases. As such, we predict the redemption rate to increase from 75% to 90%, which is seen by programs in Oregon and Michigan that have a 10 cent deposit. This results in less unclaimed deposits. Under Scenario 2, the scope increases so there are more containers in the DRS; however, the deposit does not increase, and as such, the redemption rate remains at 75%, which means there are significantly more unclaimed deposits. Finally, in Scenario 3, more containers are part of the DRS and the deposit increases thereby increasing redemption rates to 90% these factors combined result in the value of the unclaimed deposits being less that under Scenario 2 however still significantly higher than it is currently, at almost $6 million compared to the current $4 million.

A 7: Value ($) of Unclaimed Deposits Across Scenarios



Source: Eunomia Modelling and Vermont DEC Data

A.1.5 Households

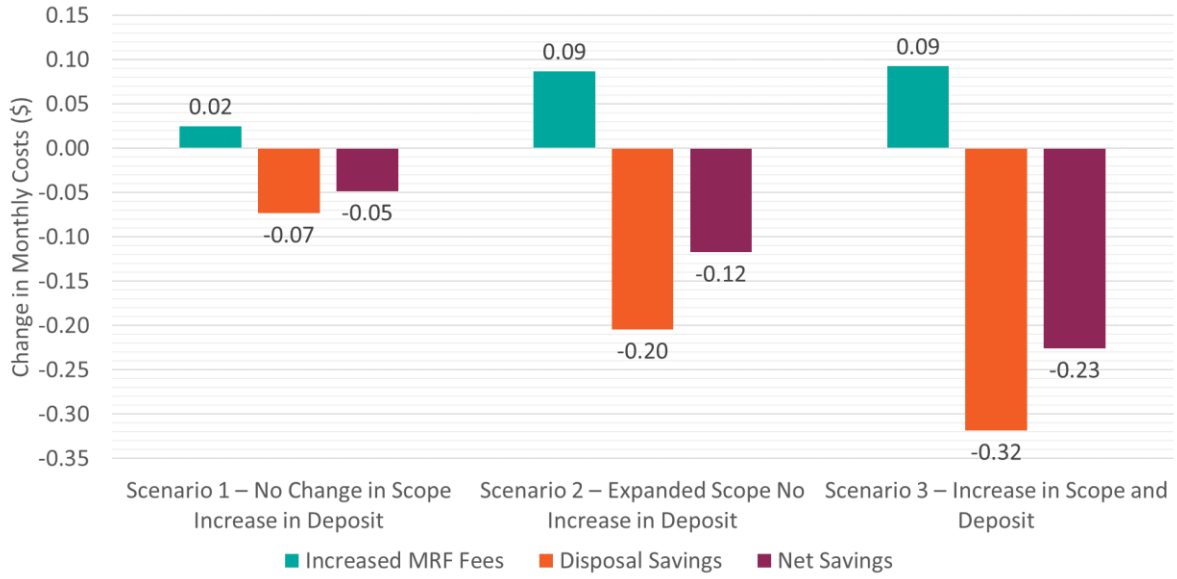
Households rates are based on the cost for collection plus MRF processing and landfill tipping fees. If both MRF tipping fee increases and landfill costs decreases are passed from the hauler to the household through a change in rate there is a net benefit to the household under each scenario as seen in A 8 (CSWD MRF) and A 9 (Casella Rutland MRF).

Under each future scenario, the net change in waste collection system costs for households is negative, signifying that if haulers were to pass the additional costs and savings they receive as a result of the bottle bill onto households, then households would be better off financially. This is due, in most part, to landfill disposal rates being higher than MRF tipping fees, as well as the fact that more tons would be drawn from the trash stream than the curbside recycling stream. If the landfill savings are not passed through to the households, then the potential cost impact on household rates would be between 7 and 30 cents per month.

A 8: $ Changes in Monthly Household Collection Rates for Household whose Hauler uses the CSWD MRF

Source: Eunomia Modelling

A 9: Changes in Monthly Household Collection Rates for a Household whose Hauler used the Casella Rutland MRF



Source: Eunomia Modelling

A.1.6 Summary

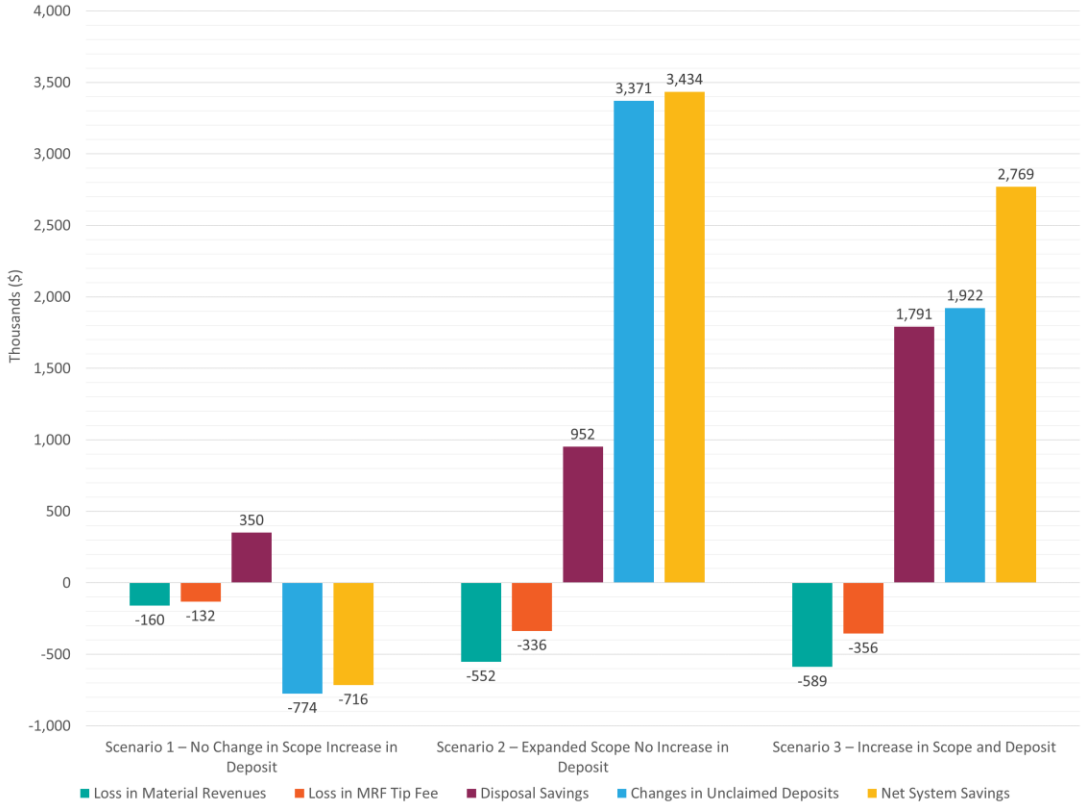
When taking into account the costs and savings of the waste management system, the alternative scenarios provide a net cost benefit. A summary of the system costs and savings can be found in A 10 below. While there are greater savings in Scenario 2 than Scenario 1, they are close due to the large number of PET tons that would be removed from MRFs under Scenario 2.

A 10: Summary of Cost Changes to Industry

Source: Eunomia Modelling

Expanding the scope of the Vermont bottle bill, as well as increasing the level of deposit on the containers, yields a net savings across the waste management system. When taking into account the changes in unclaimed deposits, the savings rise for Scenarios 2 and 3, but Scenario 1 becomes a cost, as seen in A 11.

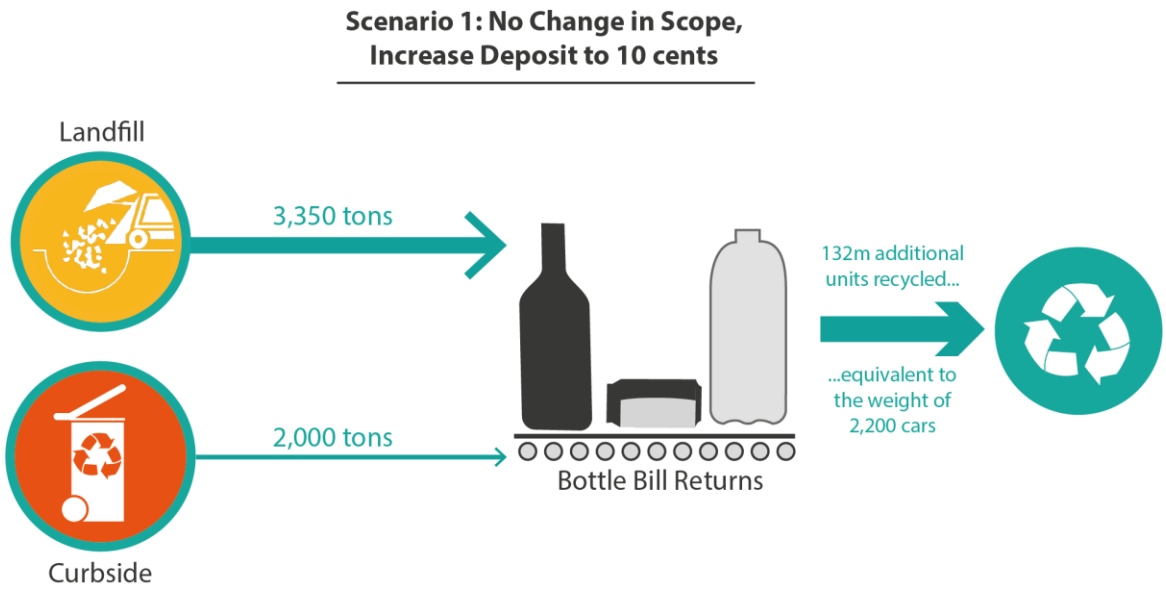
A 11: Cost Changes Including Unclaimed Deposits

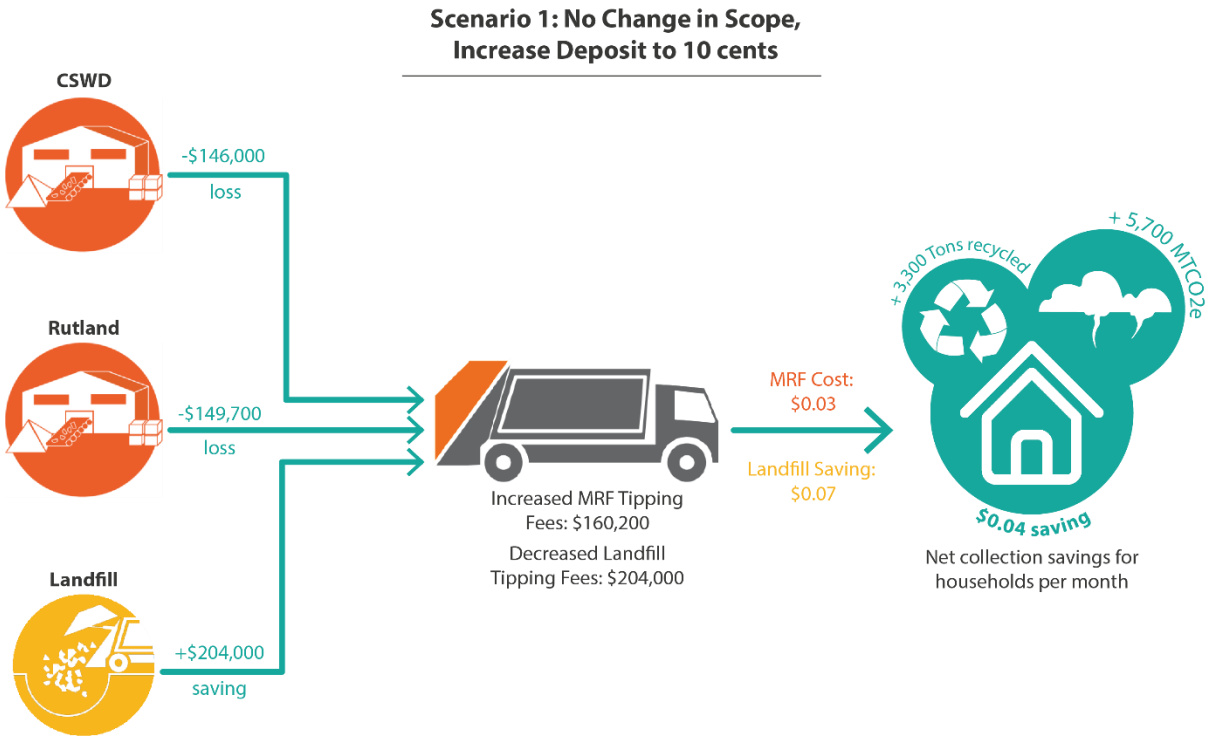


Source: Eunomia modelling

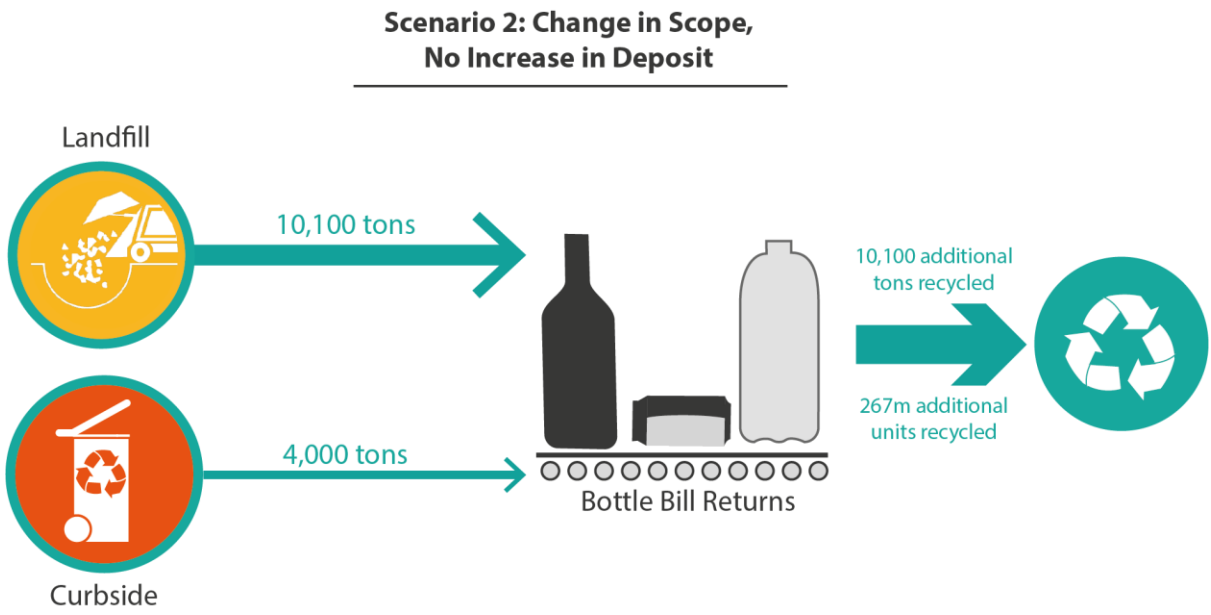
A.2.0 Scenarios 1 and 2 System Cost Benefit Diagrams

A.2.1 Scenario 1 Graphics

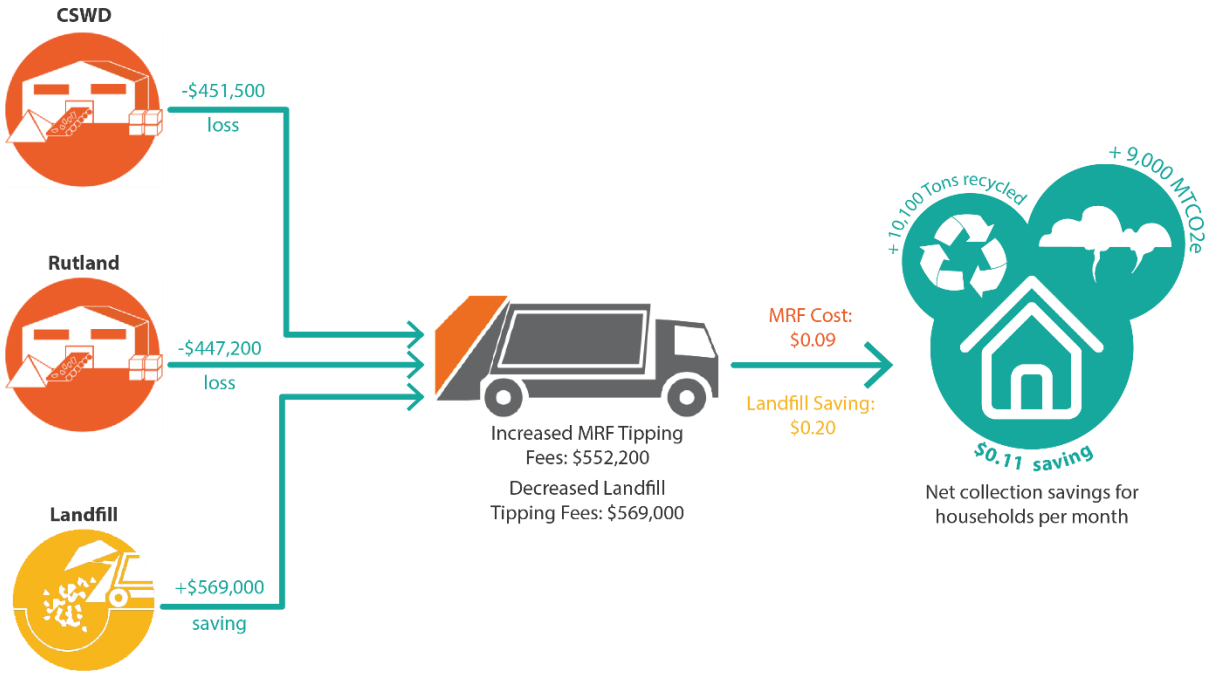




Scenario 2 Graphics



Scenario 2: Change in Scope, No Increase in Deposit



Just Zero Testimony in Support of Maryland HB1089

Uploaded by: Peter Blair

Position: FAV

March 9, 2023

Chair Kumar P. Brave
Environment and Transportation Committee
Maryland House of Delegates
6 Bladen St.
Annapolis, MD 21401

RE: HB 1089 – An Act Concerning Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Chair Brave and Members of the Environment and Transportation Committee:

Thank you for the opportunity to provide testimony on House Bill 1089, *An Act Concerning Maryland Beverage Container Recycling Refund and Litter Reduction Program*. **Just Zero strongly supports this bill.**

Just Zero is a national environmental non-profit advocacy organization that works alongside communities, policy makers, scientists, educators, organizers, and others to implement just and equitable solutions to climate-damaging and toxic production, consumption, and waste disposal practices. We believe that all people deserve Zero Waste solutions with zero climate-damaging emissions and zero toxic exposures.

HB 1089 would create a container deposit return system – more commonly known as a "Bottle Bill" – in Maryland. Bottle Bill programs have been implemented in dozens of jurisdictions across the world, and for good reasons. These programs have been shown to consistently increase recycling rates, reduce litter, create jobs, and develop the infrastructure and consumer culture necessary to develop reusable beverage systems. Adopting HB 1089 will assist Maryland in meeting its waste diversion and recycling goals.

I. How the Program Works

Through this program, customers would pay a 10 or 15 cent deposit, depending on the size of the container, on every single-use beverage container they purchase. Customers would get the deposit back when they return the container to a point of redemption such as a retailer or redemption center. Those retailers and redemption centers turn over the collected containers to a beverage distributor (or "deposit initiator"). The distributor reimburses the retailer or redemption center for the deposits, and pays them a fee on a per container basis – called a handling fee - that is designed to cover the costs of collecting, sorting, and managing all the empty containers. The distributors then sell the source-separate containers to recyclers where they are recycled and used to manufacture new consumer products like beverage containers.

As a form of producer responsibility, HB 1089 requires the beverage distributors to pay for the costs of the program. At a time where recycling systems are struggling and plastic production and waste is increasing, the idea at the core of all Bottle Bill programs is that the companies that manufacture and distribute these single-use containers should ultimately be responsible for the end-of-life management of them. HB 1089 would also require the newly created Stewardship Organization to cover the Maryland Department of Environmental Protection's costs associated with planning, implementing, administering, monitoring, and enforcing the program. This ensures that the entire costs of the program will be covered by regulated beverage companies and not Maryland residents.

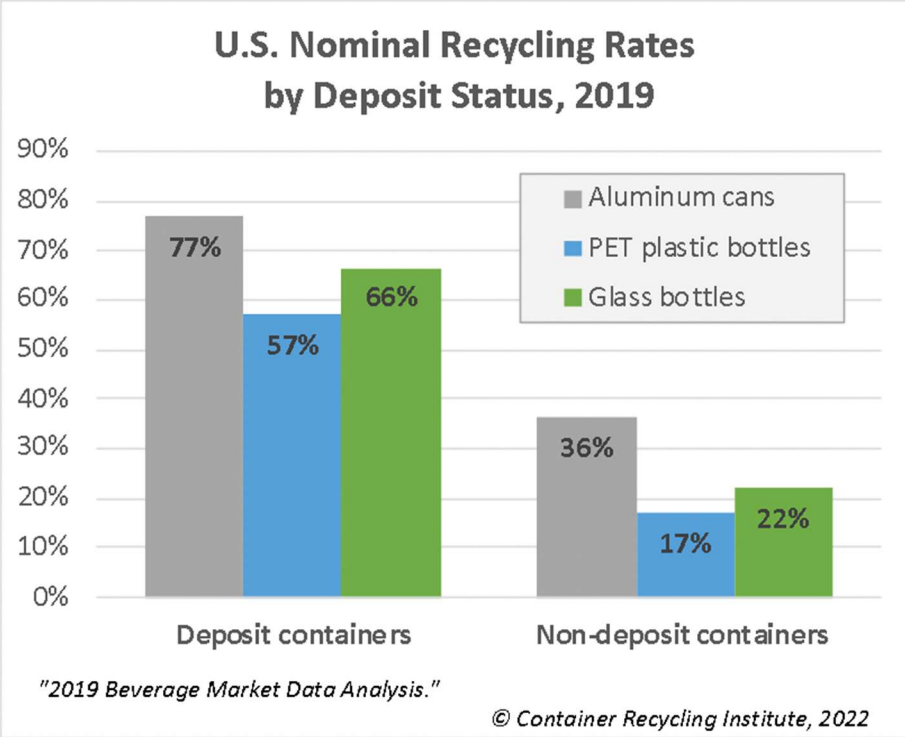
II. Understanding the Benefits of Bottle Bills

Decades of evidence all points in the same direction. Bottle Bills are extremely effective at increasing recycling rates and reducing litter. The success of these programs is well documented both nationally and internationally. In fact, the success of these programs is spurring a renewed interest in passing new Bottle Bills. In 1970, British Columbia became the first jurisdiction in the world to implement a Bottle Bill program. Now, over 45 jurisdictions have adopted these programs including most parts of Canada, Australia, and the European Union.[1] As a result, over 290 million people worldwide now have access to these programs.[2] This number is expected to grow as more countries continue to adopt new programs. For instance, Scotland recently passed a Bottle Bill which is expected to take effect on August 16, 2023.[3] England, Northern Ireland, Wales, Jamaica, New Zealand, and Portugal are also considering programs.[4] This session Illinois, Minnesota, Rhode Island, and Washington are considering adopting Bottle Bills.[5]

A. Bottle Bills Incentivize Participation in Recycling Efforts and Reduce Litter

Placing a refundable deposit on every single-use beverage container sold in the state incentivizes consumers to recycle. The refundable deposit creates an understanding that while you are buying the beverage, you are renting the container. On average, states with Bottle Bills have double the recycling rates than those that rely solely on single-stream recycling.[6] In terms of plastic beverage containers and glass bottles, Bottle Bill programs produce recycling rates three times higher than single-stream recycling.[7]

[1] Samantha Millette and Jason Wilcox, Deposit Data, Resource Recycling (Feb. 22, 2021).
[2] *Id.*
[3] Zero Waste Scotland, Deposit Return Scheme (2023).
[4] Samantha Millette and Jason Wilcox, Deposit Data, Resource Recycling (Feb. 22, 2021).
[5] See, Illinois Senate Bill 85, Rhode Island House Bill 5502, and Washington Senate Bill 5154
[6] Container Recycling Institute, U.S. Nominal Recycling Rates by Deposit Status (2019).
[7] *Id.*



The incentive the deposit creates is extremely important because single-use beverages are frequently consumer on-the-go and outside of the home. Given that most businesses do not offer recycling services and public spaces often lack adequate recycling receptacles many beverage containers end up in the trash or improperly discarded as litter.

In fact, reducing litter is one of the core benefits associated with Bottle Bill programs. After Hawaii implemented a Bottle Bill program in 2005, the number of beverage containers collected during Hawaii's Coastal Cleanup fell from in 2004 to 10,905 in 2007 – a 53.5% drop over just three years.[8] Moreover, in 2020, Keep America Beautiful compared litter in states with and without Bottle Bills. Unsurprisingly, non-Bottle Bill states suffered from significantly more beverage container litter than Bottle Bill states.[9] The study found that non-Bottle Bill states had double the amount of beverage container litter compared to Bottle Bill states.[10] What's more, the study found that non-Bottle Bill states also had more non-container litter as well.[11]

[8] Haw. Department of Health, Report to the Twenty-Fifth Legislature, p. 9, (2009).
[9] Keep America Beautiful, 2020 National Litter Study, p. 3. May 2021.
[10] *Id.*
[11] *Id.*

B. Bottles Bills Create a Steady Stream of High-Quality Recycled Material

Bottle Bills don't just increase the number of containers that are returned for recycling. They also create a higher quality of recycled material which significantly increases the likelihood that the container is actually used to manufacture a new product.

The convenience of single stream recycling comes with a cost -- contamination. Single-stream recycling depends first and foremost on educated consumers making the right choice about what can and cannot go into the blue bin. From there, the burden is on Material Recovery Facilities ("MRFs") to remove any unrecyclable materials that made their way into the recycling stream while also processing and sorting the commingled recyclables into separate streams. These sorting processes are imperfect. According to the National Waste and Recycling Association, roughly 25% of what is placed into the single-stream recycling system is too contaminated to go anywhere other than a landfill.[12]

Additionally, the materials that are properly sorted are unlikely to be recycled as effectively as possible. The overall quality of the recycled material is the leading factor that determines what that material is ultimately used for. This difference in quality is often the difference between recycling and downcycling. Downcycling refers to using recycled material for projects and purposes that fail to capture the full environmental and economic benefits associated with recycling a product. In the case of beverage containers, the highest and best uses is bottle-to-bottle recycling, where containers are recycled directly into new beverage containers. Common examples of downcycling with beverage containers includes turning plastic beverage containers into carpet and textiles, as well as using crushed glass for road improvement projects. While this is preferential to directly landfilling the material, it still means the materials can only be used once as opposed to being recycled repeatedly.

III. HB 1089 Will Create a Modern and Effective Bottle Bill Program That Will Benefit Maryland Now and For Years to Come.

HB 1089 contains several essential requirements necessary for a truly effective Bottle Bill program, including setting clear and enforceable performance standards, in-statute measures to adjust the deposit value as needed to optimize program performance, robust return to retail requirements, transparent oversight of the Stewardship Organization, and mechanisms to establish refillable and reusable beverage container systems.

A. Strong Performance Standards That Are Enforced by the Department

HB 1089 sets minimum redemption and recycling rates which the beverage-industry run Stewardship Organization is required to achieve. The minimum redemption rate starts at 70% before increasing to 90%. Similarly, the minimum recycling rate starts 65% and

[12] Maggie Koerth, The Era of Easy Recycling May be Coming to an End, FiveThirtyEight (Jan. 10, 2019)

increases to 85%. These rates are both realistic and achievable. High-performing Bottle Bill programs can and have achieved redemption rates of 90% and above. A report from Eunomia on Bottle Bill programs in Europe found that the redemption rates vary between 84% and 96%, with a median rate of 91%.[13]

Moreover, the bill authorizes the Department to take enforcement actions against the Stewardship Organization for failure to meet the minimum rates for two consecutive years. Each subsequent year where the minimum rates are not met constitutes an independent violation. This will ensure that the Stewardship Organization is incentivized to operate the program effectively.

Additionally, HB 1089 requires the Department to increase the deposit value by five cents if the minimum redemption rate is not achieved for two consecutive years. This provides an in-statute fail safe that would automatically increase the deposit value if the system is underperforming. Declining redemption rates mean that either there are not enough points of redemption or that the value of the deposit is not high enough to incentivize participation.

Oregon adopted this approach and it proved to be extremely successful. In 2011, the Oregon legislature adopted language that would require the deposit value to increase from five cents to ten cents if the redemption rate fell below 80% for two consecutive years.[14] The redemption rate dropped to 64.5% in 2014, and 68.3% in 2015.[15] In response, the deposit value increased, and the redemption rate skyrocketed to 90% in 2018.[16] The inclusion of this requirement in HB 1089 will provide a necessary check on the system that can automatically address falling redemption rates without the need for new legislation.

B. Strong Return to Retail Requirements to Maintain Equitable and Convenient Access to Redemption Services.

Just Zero strongly supports HB 1089's focus on requiring retailers to provider redemption services. Retail oriented approaches to redemption consistently achieve redemption rates of 90%. This approach is intuitive and convenient for consumers who can return their empty containers at the same types of stores they typically purchase beverages from in the first place. This also reduces the need for additional trips or stops for redemption. Additionally, many retail stores, especially larger stores and grocery stores, are located along public transit routes which makes redemption convenient and equitable for residents without cars and in urban areas.

[13] Eunomia, PET Market in Europe State of Play: Production, Collection, and Recycling Data, pg. 14. (2020)
[14] Talia Richman, Oregon Bottle Deposit Will Go From Nickle to Dime Next Year, Oregon Live. (Jan 9, 2017).
[15] *Id.*
[16] *Id.*

C. Transparent Oversight of the Stewardship Organization

Just Zero also strongly supports the balance HB 1089 has created between the Stewardship Organization and the Department. Stewardship Organizations are a common feature in most producer responsibility systems across the world, including Bottle Bills. In addition to funding the program, these organizations provide technical and compliance services to regulated beverage companies while also facilitating streamlined oversight and enforcement by the Department.

HB 1089 correctly balances the need to give the Stewardship Organization the flexibility to determine how it will meet the requirements of the law while reserving the role of determining core program requirements for the Department. This ensures the Department is responsible for changing the deposit value, setting the rate of compensation redemption service providers, and determining convenience standards for points of redemption.

D. Mechanisms to Establish Reusable and Refillable Beverage Systems

The increased recycling rates associated with a Bottle Bill program are extremely important. An additional underrepresented benefit is that these programs create both the infrastructure and consumer culture necessary for the development of reusable and refillable beverage systems.

In fact, before the introduction of one-way disposable containers, beverage companies relied on consumers to return bottles to be refilled. Glass bottles were expensive to manufacture and refilling them saved costs. To incentivize refilling, beverage companies utilized a deposit-return program to ensure glass containers were brought back and refilled.

Bottle Bill programs can, and must, return to this approach. Oregon is currently exploring this. In 2018, Oregon begun utilizing its existing deposit return infrastructure to launch a statewide refillable bottle system.[17] This system utilized approximately 245,000 refillable beer bottles.[18] The bottles can be refilled up to 40 times and were made primarily from recycled glass.[19] The bottles are designed to be easily separated from the rest of glass collected through the deposit return system.[20] Once separated, the bottles are not processed for recycling but sent to a cleaning facility and then eventually sent back to participating breweries where they are refilled. For consumers, nothing has changed. Since launching in 2018, 410,155 bottles have been diverted from recycling for reuse.[21]

[17] Jared Pablen, Oregon Group to Launch Refillable Bottle Program, Resource Recycling. (Feb. 7, 2017).
[18] *Id.*
[19] Cassandra Profita, Oregon Launches First Statewide Refillable Bottle System in U.S, NPR, (Sept. 17, 2018).
[20] *Id.*
[21] Oregon Redemption Center, Bottle Drop.

Unfortunately, Oregon's program stalled because the program was entirely voluntary. HB 1089 shows that is has learned from Oregon's mistakes by requiring that at least 10% of all beverage containers sold by a beverage companies must be in returnable and refillable bottles beginning in 2033. This is an important mechanism that will ensure Maryland's program works to develop and incorporate reuse and refill components. Additionally, the minimum refillable requirement is aligned with commitments made by several of the largest beverage companies. Pepsi has pledged that 20% of its total beverage sales will be covered by reusable programs by 2030. Coca-Cola has pledged to reach 25% in the same timeframe.

IV. Maryland Should Keep Extended Producer Responsibility for Packaging and Bottle Bill Programs Separate

Finally, we understand that this session the Maryland Legislature is also considering SB 0222/ HB0284, which would create an Extended Producer Responsibility ("EPR") for Packaging program. This proposal would include beverage containers under the EPR for Packaging Program. Just Zero strongly supports EPR for Packaging proposals. EPR for Packaging is a commonsense policy tool that will help fund improvements in recycling infrastructure while requiring companies to redesign their products and packaging to be more environmentally friendly. However, it is important that the Maryland Legislature keep these important – but distinct – policies separate.

Including beverage containers in Packaging Reduction and Recycling laws gets messy. And that's because it keeps beverage containers in curbside recycling bins rather than separating them out and managing them through their own dedicated system. Remember, beverage containers are highly recyclable when kept clean and free of contamination. In the curbside system, they just won't be recycled as effectively as through an independent program.

When beverage containers are included in Packaging Reduction and Recycling laws you also lose the litter reduction benefits that come with Bottle Bills. A central part of Bottle Bill programs is that every container sold has a refundable deposit placed on it. Consumers pay that deposit when they purchase the beverage. And they get that money back when they bring the empty container back for recycling. This creates an incentive for consumers to participate in the program, which reduces the likelihood that these containers become litter. Why? Because they now have an economic value. That isn't the case with Packaging Reduction and Recycling laws.

V. Conclusion

The time to act is now. HB 1089 would improve recycling, create green jobs, and reduce litter which will protect Maryland's land, rivers, lakes, and oceans. It will also help Maryland address the growing plastic pollution crisis. In 2017, less than 6% of the 5.9

billion pounds of PET bottles sold in the U.S. were recycled.[22] The failure to meaningfully recycle plastic bottles contributes to the exponential growth in worldwide plastic production, which is projected to rise from 837 billion pounds produced in 2015 to almost 4 trillion in 2050.[23]

With HB 1089, Maryland can create a robust and effective Bottle Bill program that will protect the environment and the economy. For these reasons, Just Zero urges you to support this bill. Thank you for your time and consideration of this testimony.

Respectfully submitted,

Peter Blair, Esq.
State Policy Director
Just Zero

[22] NAPCOR, Report on Postconsumer PET Container Recycling Activity, pg. 4 (2018).
[23] David Azouly, Plastic & Health: The Hidden Costs of a Plastic Planet, pg. 6 (2019).

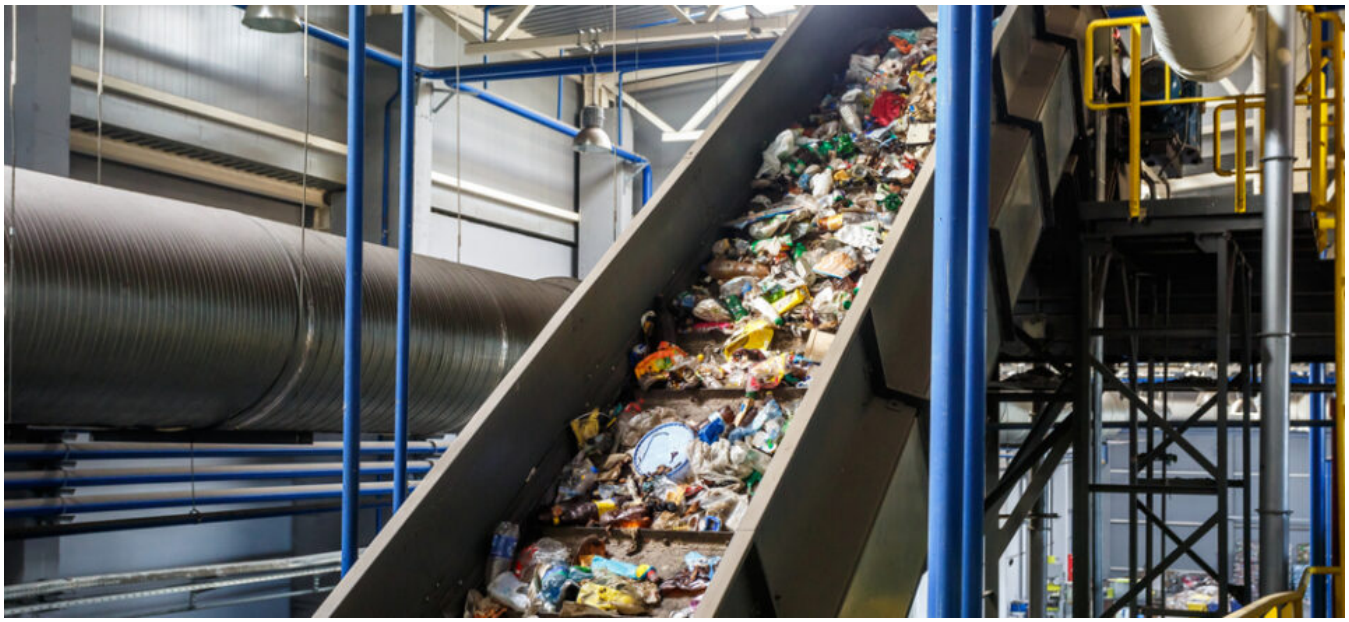
Attachment A:

Just Zero – Fixing Recycling One Step and One Policy at a Time (Jan. 31, 2023).

Explainer

Fixing Recycling One Step and One Policy at a Time

By Peter Blair | January 31, 2023



The plastic pollution crisis has reignited conversations about both Bottle Bills and Packaging Reduction and Responsibility laws. Collectively, these policies can create the foundation of a new wave of recycling reform.

Photo Credit: jantsarik via Shutterstock

Our Recycling System Needs a Makeover

Our recycling system isn't working. It's expensive, confusing, and in many places inaccessible. This is especially true when it comes to plastic recycling. Right now, the U.S. has a **5% plastic recycling rate**. Unfortunately, there isn't a magic wand that will fix our failing system. Overhauling recycling in the U.S. will take time, effort, and an array of new policies targeting specific materials and problems with how we collect, sort, and manage waste.

Thankfully, there are two policies that can do most of the leg work: **Bottle Bills** and **Packing Reduction and Recycling Laws**.

Both policies are a form of extended producer responsibility, an unnecessarily complex name for a straightforward concept. Extended producer responsibility holds companies that manufacture specific products accountable for the waste they create.

Many states across the country have successfully developed and implemented producer responsibility programs for hard-to-manage products like **paint**, **car batteries**, **carpets**, and **electronics.** These policies have helped increase access to recycling services and created specialized recycling and waste management programs for hard-to-manage products. However, these programs only focus on a small portion of the waste stream. That's where Bottle Bills and Packaging Reduction and Recycling laws come into play.

New Policies Can Reform Recycling

Packaging makes up a significant portion of the waste stream. Roughly **a third of all household waste is packaging** – things like cardboard boxes, cans, plastic containers, bags, and glass jars. Some of these materials, like cardboard, glass, paper, and PET plastic bottles, are highly recyclable. We just need good systems to collect, sort, and recycle them. Other packaging materials like plastic film, plastic bags, Styrofoam, and most other forms of plastic are not, and will never be, recyclable. But with Bottle Bills and Packaging Reduction and Recycling Laws, we can create comprehensive programs to make sure the materials that are recyclable get recycled. The materials that aren't recyclable? Those should be phased out of production completely.

Bottle Bills

Bottle bills have been around for decades. And they've proven to be among the most **impactful recycling programs** ever created. Why? Because beverage containers are highly recyclable when kept clean. Bottle Bills remove beverage containers from curbside recycling systems and instead, collect and sort those containers through their own system. This means the containers are clean and free of contaminants, and ready to be recycled into new beverage containers. Even better, beverage companies pay the cost of collecting, sorting, and recycling these containers, not consumers.

The results speak for themselves. Nearly **60% of all the glass** that is recycled into new bottles in the U.S. comes from the ten states that currently have bottle bill programs. And a third of all aluminum cans that are recycled in the U.S. come from those same states. But the benefits of Bottle Bills don't end with increased recycling. These bills also **reduce litter**, and they can kickstart **reusable and refillable beverage container programs**.

Packaging Reduction and Recycling Laws

Packaging Reduction and Recycling Laws focus on fixing curbside recycling. How? By handling hard-to-manage materials like plastic containers, paper, cardboard boxes, and others, in a more efficient way. Right now, consumers – not corporations – pay the cost to manage all this packaging waste. As a result, corporations have no incentive to 1) redesign their products to use less packaging or 2) make the packaging reusable or

recyclable. Instead, corporations just focus on packaging their products as cheaply as possible.

Packaging Reduction and Recycling Laws change this. These laws require companies to manage the packaging waste they create. Now, companies will pay fees based on the amount of packaging their products use. The fees go towards paying for recycling and waste management services. On top of that, the laws require the companies to reduce the amount of packaging they use to sell and market their products. It also forces them to make that packaging recyclable. Most important of all, for packaging reduction and responsibility laws to achieve their goals, **they must not be undermined** by the industry that created this problem in the first place.

It's Not Enough to Have One Law or The Other

The plastic pollution crisis has reignited conversations about both Bottle Bills and Packaging Reduction and Responsibility laws, which is great! Collectively, these policies can create the foundation of a new wave of recycling reform.

However, it's important that states pursue both policies and more importantly, that they develop those policies separately. That means passing a Bottle Bill to create and implement a modern bottle recycling program that covers all beverage containers. It also means passing a Packaging Reduction and Recycling law that manages all other packaging material.

Including beverage containers in Packaging Reduction and Recycling laws gets messy. And that's because it keeps beverage containers in curbside recycling bins rather than separating them out and managing them through their own dedicated system. Remember, beverage containers are highly recyclable when kept clean and free of contamination. In the curbside system, they just won't be recycled as effectively as through an independent program.

When beverage containers are included in Packaging Reduction and Recycling laws you also lose the litter reduction benefits that come with Bottle Bills. A central part of Bottle Bill programs is that every container sold has a small refundable deposit placed on it.

Consumers pay that deposit when they purchase the beverage. And they get that money back when they bring the empty container back for recycling. This creates an incentive for consumers to participate in the program, which reduces the likelihood that these containers become litter. Why? Because they now have an economic value. That isn't the case with Packaging Reduction and Recycling laws.

Managing beverage containers through Packaging Reduction and Recycling laws also limits the development of reusable and refillable beverage container programs. The independent and specialized recycling system created by Bottle Bills can easily be transitioned to have beverage containers sterilized, refilled, and put back into circulation. While recycling is an important waste reduction component, it is not as good as reuse.

All Hands on Deck

There is no one-size-fits-all approach to fixing our recycling system. That said, the best approach to reforming recycling is to pass a variety of policies targeting the specific failures of our recycling system. We need policies that ultimately reshape how we produce, consume, and ultimately dispose of goods.

Bottle Bills and Packaging Reduction and Recycling Laws represent two critical tools at our disposal, and ones that should be adopted by all states. While these policies are impactful on their own, they work better in tandem. Simultaneously, the two take the burden of managing packaging off communities and place it onto the companies that create all this waste.

Just Zero is working to implement these bills in several states across the country. **Sign up for our emails** to stay connected and learn how you can help advocate for these bills.

HB1089_IndivisibleHoCoMD_FAV_RuthAuerbach.pdf
Uploaded by: Ruth Auerbach
Position: FAV

HB1089 – Maryland Beverage Container Recycling Refund and Litter Reduction Program

Testimony before House Environment & Transportation Committee
March 9, 2023

Position: Favorable

Mr. Chair, Mr. Vice Chair and members of the committee, our names are Ruth Auerbach and Crystal Konny, and we represent the 750+ members of Indivisible Howard County. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members). We are providing written testimony today in ***support of HB1089***, Maryland Beverage Container Recycling Refund and Litter Reduction Program. We appreciate the leadership of Delegate Terrasa for sponsoring this important legislation.

The bill establishes a program that will collect a small deposit for each bottle purchased. The deposits will be refunded when the container is returned to the retailer or a redemption facility. Retailers and redemption facilities receive a handling fee for processing the returned bottles. The program will be self-financing, creating no new costs for the taxpayers.

Approximately 5.2 billion beverage containers are sold in Maryland annually, and fewer than a quarter are recycled. Three-quarters of the beverage containers end up as litter, or are incinerated or dumped in landfills. Containers that are left in the wild are very problematic. Such containers, especially plastic ones, are harmful to both the environment and to wildlife, particularly in marine environments like the Chesapeake Bay.

This legislation will increase the source of recycled materials for use in new bottles, and will work hand in hand with HB342, Maryland's Postconsumer Recycled Content Program bill which will stimulate the demand for materials to be recycled.

Ten states in the U.S., covering about 90 million people, have longstanding, successful beverage container deposit programs. The states with a 10-cent deposit, such as Michigan and Oregon, have a 90% recycling rate. It would be fantastic if Maryland could say the same.

Ruth lives in a neighborhood of townhomes and garden apartments. The view from her home includes a drainage ditch that shortly leads to the Little Patuxent River and, eventually, to the Chesapeake Bay. Litter washes up in this ditch, including many beverage containers. This bill would give the neighbors an incentive to keep the bottles out of the ditch, keeping Maryland's waterways and neighborhoods cleaner.

For all of these reasons, we urge you to pass the Maryland Beverage Container Recycling Refund and Litter Reduction Program. It is long-overdue. Thank you for your consideration of this important legislation. **We respectfully urge a favorable committee report.**

Ruth Auerbach
Columbia, MD 21046

Crystal Konny
Columbia, MD 21044

Via testimonyHB1089.pdf
Uploaded by: Sara Via
Position: FAV

March 6, 2023

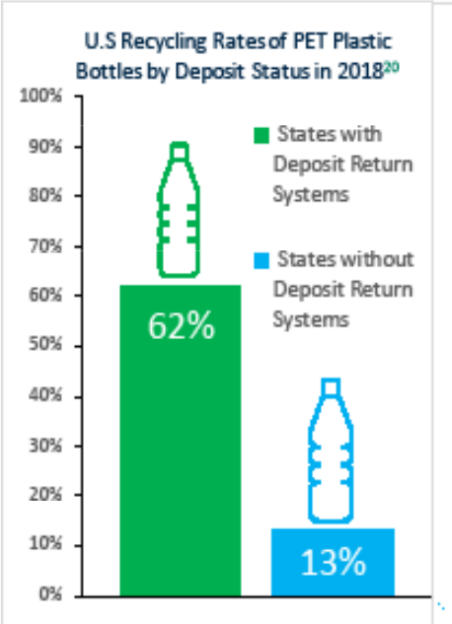
To: House Environment and Transportation Committee
Re: Testimony in support of HB1089

Position: SUPPORT

From: Dr. Sara Via, Professor and Climate Extension Specialist,
University of Maryland College Park
svia@umd.edu

I strongly support HB1089 as a mechanism to reduce the overall magnitude of municipal solid waste while simultaneously boosting the involvement of Marylanders in recycling.

We know that "bottle bills" are effective in reducing the number of plastic and glass bottles that are thrown away[1]. This is an important tool to add to Maryland's arsenal of waste reduction strategies.



Yes, people are likely to complain about the effort it takes to bag up and return their bottles. I participated in a similar plan in Ithaca, NY in the early 1990s and I can certainly sympathize with the time it takes. However, I also noticed a dramatic decrease in bottles left along roadsides because people pick them up for the deposits.

I continue to hope that the residents of Maryland are increasingly realizing that the simple "buy and toss" strategy is no longer a real option. We are at a turning point.

It is absolutely essential that Maryland remove as much trash as possible from the ever-increasing magnitude of municipal solid waste. We must

- Improve recycling methods and markets so that more plastic can be reliably recycled rather than incinerated or landfilled.

- Develop and implement programs to increase recycling rates among Maryland residents. This includes boosting outreach as well as making curbside recycling and composting of food and yard waste available in every county.

HB 1089 is an important step toward moving Maryland toward a viable circular economy. Let's make Maryland a national leader in both resident participation and recycling effectiveness!

[1] Center for Sustainable Systems, University of Michigan. 2022. "Plastic Waste Factsheet." Pub. No. CSS22-11. Accessed at: https://css.umich.edu/sites/default/files/2022-07/CSS22-11.pdf

HB 1089_PRKN_Support.pdf
Uploaded by: Serena Moncion
Position: FAV

Bill: HB 1089
Date: March 9, 2022
Position: Support

HB 1089 Environment – Maryland Beverage Container Recycling Refund and Litter Reduction Program

Chair Barve, Vice-Chair Stein and members of the Environment and Transportation Committee:

Potomac Riverkeeper Network is an organization that protects the public's right to clean water in the Potomac watershed through enforcement of federal, state, and local clean water laws. We are testifying on behalf of over 2,000 members in strong support of HB 1089, which establishes a recycling refund program to consumers for beverage containers. The bill would make a huge impact on litter in the Potomac watershed and in the state of Maryland.

Beverage containers are one of the top items we find polluted at our river cleanups. In the past two years in fact, volunteers have pulled nearly 30,000 single-use plastic bottles from the Potomac River.[1] 100% of those bottles should have been recycled. In states with a deposit-return system for bottles, the recycling stream is cleaner and feedstock from the separated materials can be sold at a premium for that reason. Michigan, which has had a 10 cent deposit on bottles since the 1970s, boasts a 90%+ recycling rate for beverage containers, compared to around 23% in Maryland. We can do better than that, but not without a deposit-return system.

The reality is we are living with more plastic than we ever needed or wanted. Production of plastic has surged from 15 million tons in 1964 to 311 million tons in 2014.[2] Alarmingly, more than half of all plastic ever produced have been made just in the last 20 years.[3] Plastic does not biodegrade. Sunlight and wave action in water can break plastic products into smaller and smaller pieces, which are referred to as microplastics. Microplastics bioaccumulate in fish tissue and have been shown to impact the health of several species.[4] Further, certain organic chemicals and pesticides, such as

[1] See attached photo of plastic bottle litter in Prince George's County, MD.
[2] McKinsey, the Ellen MacArthur Foundation, and the World Economic Forum, *The new plastics economy: Rethinking the future of plastics, available at: https://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf*
[3] *See*: https://www.theatlantic.com/science/archive/2017/07/plastic-age/533955/
[4] Mak, Chu Wa, Kirsten Ching-Fong Yeung, and King Ming Chan. "Acute Toxic Effects of

chlorpyrifos and polyfluoroalkyl substances (PFAS), have a synergistic effect with microplastics and can cause higher toxic effects in organisms in comparison to isolated, individual exposure.[5]

Plastic pollution does not impact people proportionally and is an environmental justice issue. Many low-income people rely on fishing to feed their families, and fishing is an important part of many indigenous cultures. These communities face a higher potential pollution load from eating fish that have ingested microplastics.

Marylanders are increasingly concerned about the human health impacts of microplastics, which have been discovered in human lungs, blood, breastmilk, and placenta. Scientists estimate that the average human ingests a credit card's worth of microplastics each week. These tiny pieces, which shed from all of the plastic products around us into our air and drinking water, degrade the quality of our fisheries, beaches, and local economies that are dependent upon the Chesapeake Bay and Potomac River.[6] The vast majority of microplastic pollution (upwards of 94%) that makes its way into the rivers of the Chesapeake Bay stays in and along the waters and is not exported out to the ocean. [7] The Scientific and Technical Advisory Committee (STAC) for the Chesapeake Bay Program (CBP) determined "microplastic pollution in the bay and watershed is an urgent issue that may affect restoration success, warranting immediate action by the CBP partnership." According to the STAC report, "the Chesapeake Bay watershed contains numerous urban and suburban areas that, via storm drains, are sources of plastic waste" to the Potomac River and bay ecosystems.[8] Many chemicals found in plastics are endocrine disruptors, which can cause an imbalance in hormones, reproductive issues, and even cancer.

It is not just the plastic trash itself that makes its way into our environment that is a problem; the extraction and transport of fossil fuel-derived chemicals used to make plastic is very energy intensive

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Polyethylene Microplastic on Adult Zebrafish." *Ecotoxicology and Environmental Safety* 182 (October 30, 2019) *available at:* https://doi.org/10.1016/j.ecoenv.2019.109442. *See also* Miller, Michaela E., Mark Hamann, and Frederieke J. Kroon. "Bioaccumulation and Biomagnification of Microplastics in Marine Organisms: A Review and Meta-Analysis of Current Data." *PLOS ONE* 15, no. 10 (October 16, 2020): *available at:* https://doi.org/10.1371/journal.pone.0240792.

[5] Campanale, Claudia, Carmine Massarelli, Ilaria Savino, Vito Locaputo, and Vito Felice Uricchio. "A Detailed Review Study on Potential Effects of Microplastics and Additives of Concern on Human Health." *International Journal of Environmental Research and Public Health* 17, no. 4 (February 2020): *available at:*. https://doi.org/10.3390/ijerph17041212.

[6] See "Human Impact" section https://www.ncei.noaa.gov/news/ncei-releases-groundbreaking-microplastics-database

[7] *See*: https://chesapeakebaymagazine.com/study-94-of-plastics-stay-in-the-bay/

[8] *See*: https://www.chesapeake.org/stac/wp-content/uploads/2019/10/FINAL_STAC-Report_Microplastics-1.pdf

and results in significant greenhouse gas emissions, contributing to climate change. Plastic production is predicted to release more greenhouse gas emissions than coal production in the United States by 2030.[9] Any new plastic and petrochemical infrastructure guarantees continued emissions, contributing to climate change globally, as well as adverse health impacts in the communities where they are located, for decades to come. Plastic production was directly connected to the February 2023 ecological disaster in East Palestine, Ohio.[10]

The proposed program addresses the growing plastic waste problem with the seriousness it requires and puts the onus on the largest producers to fund the collection of their packaging before it becomes litter in our waterways and microplastics in our bodies. In the long run, this is what we need, and that's obvious to voters. According to a poll by Oceana, 8 in 10 registered voters are in favor of requiring companies to reduce plastic packaging and foodware, increasing the use of reusable packaging and foodware, and holding companies accountable for plastic waste.[11] A majority of voters–Democrats and Republicans–support reducing the production and use of single-use plastics by businesses and the government.

Potomac Riverkeeper Network testified in support of Delegate Terrasa's accompanying HB 342, which would establish a post consumer recycled content standard that reaches 50% by 2033 for beverage containers. These two systems would complement each other well and would lead to efficient recycling and less litter. People are increasingly frustrated with the fact that recycling doesn't happen the way they expect it to, and in order to deliver a system that actually works for Maryland residents, we need a statewide deposit-return program.

Contact: Serena Moncion serena@prknetwork.org

[9] *See*: https://www.beyondplastics.org/press-releases/report-plastics-is-the-new-coal
[10] See: https://www.bloomberg.com/news/articles/2023-02-14/a-39-trillion-investor-alliance-gives-warning-on-carbon-offsets?leadSource=uverify%20wall
[11] See: https://usa.oceana.org/press-releases/americans-are-sick-of-single-use-plastic-pollution-poll-finds/

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HB1089 Rec Refund TFM Support 030923 (1).pdf
Uploaded by: shari wilson
Position: FAV

HB 1089 - Maryland Beverage Container Recycling Refund and Litter Reduction Program
Date: March 9, 2023
Position: Support

Dear Chair Barve, Vice Chair Stein and Members of the Environment & Transportation Committee:

We enthusiastically support HB 1089. This bill would set up a recycling refund program for beverage

containers. We all know the most effective recycling programs in the United States are in the 10 states where consumers can get a refund in exchange for returning their beverage container for recycling. HB 1089 would implement this program in Maryland.

> **The ten states with recycling refund programs supply 50% of our nation's recyclable glass supply.** [1]
>
> **In states with recycling refunds, the recycling rate for plastic bottles is 67%. States without a recycling refund program recycle 17% of their plastic bottles on average.**[2]
>
> **States with recycling refund programs have 50% less litter than other states.** [3]

That's how effective these programs are. This is a tried and true policy for significantly reducing trash and litter in our streets, neighborhoods and waterways.

Recycling refund programs for beverage containers go hand in hand with producer responsibility programs for packaging. It is estimated that 40 to 60 percent of packaging is beverage containers.[4] Producer responsibility programs help us *reduce* our volume of waste. Recycling refund programs help us *reuse* and *recycle* a major portion of the packaging waste stream.

Marylanders take great pride in our recycling efforts and are fed up with trash. A recycling refund program is a proven winner. We look forward to working with you on this exciting and highly effective policy. We respectfully urge your favorable consideration.

Contact: Shari Wilson, Trash Free Maryland (shari@trashfreemaryland.org)

Anacostia Riverkeeper	Little Falls Watershed Alliance	Potomac Riverkeeper Network
Blue Water Baltimore	Maryland PIRG	Rock Creek Conservancy
Chesapeake Bay Foundation	Mom's Organic Market	Trash Free Maryland
Environment Maryland	Mr. Trash Wheel	Waterfront Partnership of Baltimore
Friends of Quincy Run Watershed	National Aquarium	
Friends of Sligo Creek	Neighbors of Northwest Branch	
Institute for Local Self Reliance	Plastic Free QAC	

[1] Glass Packaging Institute 2023
[2] The 50 States of Recycling: A State-by-State Assessment of Containers and Packaging Recycling Rates 2021
[3] Keep America Beautiful 2020 National Litter Study https://kab.org/litter-study
[4] National Stewardship Action Council

HB1089_EJN_Compton_FAV.pdf
Uploaded by: Stephanie Compton
Position: FAV

RE: Testimony on HB1089, Maryland Beverage Container Recycling Refund and Litter Reduction Program

3/7/2023

Stephanie Compton
2936 Wyman Pkwy.
Baltimore, MD 21211

Dear Chair and Members of the Committee,

I'm submitting my testimony on behalf of Energy Justice Network and Clean Air Baltimore Coalition in support of HB1089, Maryland Beverage Container Recycling Refund and Litter Reduction Program. For years, Maryland has advocated for the establishment of a beverage container deposit return system for Maryland. This year's bill features strong targets and incentives for reuse and refill.

Our organization is anti-incineration focused and supports policies that promote diverting waste from ending up at incinerators and landfills. I'm also a member of the National Reuse Network and the Reuse Coalition Leadership Network and participate in their monthly calls. The information I've learned from their organization expands on the fact that Deposit Return Systems are crucial for accelerating the new reuse economy which is needed to transition us away from single-use packaging and into a more sustainable management of materials through reuse.

Studies have proven that states with bottle bills have the highest recycling rates. Passing a Bottle Bill in Maryland would also prove the same thing, better participation in recycling. Forty years of data on Deposit Return Systems in the U.S. demonstrate that refundable deposits are effective at boosting collection and recycling rates, creating local economic development opportunities and jobs, generating clean streams of recyclable materials through source-separation, preventing roadside litter and plastic pollution, and catalyzing reuse. The time has come for every state to establish a Deposit Return System.

Reusable beverage containers are better for the environment. After a third use, reusable glass bottles are already less impactful than single-use glass, PET or aluminum cans. Used 25 times and then recycled, reusable glass bottles create 85% fewer climate emissions than single-use glass; 57% fewer than aluminum cans; and 70% fewer than single-use PET. Refillable PET bottles can save up to 40% of the raw materials and 50% of the greenhouse gas emissions compared to the production of single-use PET bottles. Refillables also benefit the ocean: Oceana estimates that a 10% increase in the share of beverages sold in refillables could result in a 22% decrease in marine plastic pollution. This would keep 4.5 to 7.6 billion plastic bottles out of the ocean each year.

I urge this committee to pass a favorable report on HB1089.

Sincerely,
Stephanie Compton

DCPG Testimony HB1080.pdf
Uploaded by: Susan Olsen
Position: FAV

Dorchester Citizens for Planned Growth (DCPG)

1533 Global Circle

Cambridge, MD 21613

Committee: Environment and Transportation

Testimony on: HB1089, "Beverage Container Recycling Refund and Litter Reduction Program"

Position: Support

Hearing date: March 9, 2023

Dorchester Citizens for Planned Growth (DCPG) (an environmental group in Dorchester County) urges a favorable vote on HB1089.

On the Eastern Shore, we have many beaches that are littered with bottles of all types. In fact, plastic bottles are the third most frequently littered plastic in beach cleanups. In the Anacostia River watershed, beverage containers represent half of the collected trash. Beverage container deposit programs are a proven, highly effective mechanism for reducing litter.

Each year, $5.2 billion beverage containers are sold in Maryland. Unfortunately, only 23% are recycled. That means that in Maryland, four billion beverage containers end up in landfills, on roadsides, in waterways, or incinerated annually.

This bill, if passed, will create the Maryland Beverage Container Recycling Refund Program which will have a target of 90% recycling recovery rate. In addition, this bill will help us improve water quality and reduce greenhouse emissions.

I grew up in New York, and I am old enough to remember when we had a beverage container deposit program. It worked then and it can work now. Please vote favorably on HB1089.

Thanks!

Susan Olsen

Dorchester Citizens for Planned Growth

Upstream_SUPPORT_MD HB 1089_2023.pdf
Uploaded by: Sydney Harris
Position: FAV

March 7, 2022

Delegate Kumar P. Barve, Chair
Delegate Dana Stein, Vice Chair
House Environment & Transportation Committee
House Office Building, Room 251
Annapolis, Maryland 21401

RE: Support for HB 1089, An act creating the Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Chair Barve, Vice Chair Stein, and Members of the Committee:

Thank you for the opportunity to submit testimony on behalf of Upstream **in support of HB 1089**, which will establish a beverage container deposit return system for Maryland with strong targets and incentives for reuse and refill.

Upstream is a national non-profit organization that sparks innovative solutions to plastic pollution by helping people, businesses, and communities shift from single-use to reuse. We seek to live in a world where people and the planet are treated as indisposable and communities thrive without all the waste. **We believe deposit return systems (DRSs) are crucial to accelerating the new reuse economy.**

HB 1089 will establish a DRS with strong reuse and refill targets for beverage containers in Maryland. Specifically, the bill requires at least 10% of beverage containers to be returned and refilled by the end of 2032. The bill also requires each beverage container stewardship organization to establish a fee structure for participating producers that incentivizes investments into reusable and refillable container systems, and each stewardship plan to describe anticipated investments made to improve reuse. These requirements and financial incentives are crucial to scaling reuse among beverage companies.

The beverage sector is one of the ripest sectors for reuse. Today, more beverage reuse/refill systems operate at scale than all other open reuse systems (such as reuse for take-out/delivery or bulk sales of dry goods), and virtually all of them use DRSs to get their containers back. As early as the late 1800s, beer, soda and dairy companies created the original mass-market DRSs to get their bottles back for washing and refilling. The distribution and wash hubs they built allowed virtually all

commercial beverages in the U.S. to be sold in refillable bottles. Around the world, beverage companies have continued to operate and expand their refillables lines:

- In Germany, 82% of beer is sold in refillable bottles, and 99% are returned for refilling. Overall, 54% of beverages sold in Germany are in refillables.
- In Ontario, Canada, 85% of beer is sold in refillable bottles, with 97% returned and an average reuse rate of 15 times.
- Refillables account for significant portions of beverage sales in Mexico (27%), Columbia (54%), Brazil (24%), China (22%), Vietnam (31%), Thailand (20%), India (34%) and Nigeria (43%).
- The Philippines has the highest national rate of beverages sold in refillables: 59%.

Reusable beverage containers are better for the environment. After a third use, reusable glass bottles are already less impactful than single-use glass, PET or aluminum cans. Used 25 times and then recycled, reusable glass bottles create 85% fewer climate emissions than single-use glass; 57% fewer than aluminum cans; and 70% fewer than single-use PET. Refillable PET bottles can save up to 40% of the raw materials and 50% of the greenhouse gas emissions compared to the production of single-use PET bottles. Refillables also benefit the ocean: **Oceana estimates that a 10% increase in the share of beverages sold in refillables could result in a 22% decrease in marine plastic pollution.** This would keep 4.5 to 7.6 billion plastic bottles out of the ocean each year.

Forty years of data on DRS laws in the U.S. demonstrate that refundable deposits are effective at boosting collection and recycling rates, creating local economic development opportunities and jobs, generating clean streams of recyclable materials through source-separation, preventing roadside litter and plastic pollution, and catalyzing reuse. **The time has come for every state to establish a DRS.**

Upstream's vision is for 30% of consumer goods to be sold in reusables by 2030. To realize this vision, we need consumer brands to have real skin in the game when it comes to designing, packaging, and selling their products. **HB 1089 will put the responsibility for redesigning, reusing, and recycling beverage containers where it belongs - on beverage producers. We strongly encourage you to favorably report this bill from your Committee.**

For any questions, please contact me at sydney@upstreamsolutions.org.

Thank you for all you do,

Sydney Harris
Policy Director

DepositBill-ConstelliumStatement_March 2023.pdf
Uploaded by: Delphine Dahan Kocher
Position: FWA

300 East Lombard Street, 17th floor
Baltimore, MD 21202
(443) 420 7881

March 9, 2023

The Honorable Kumar Barve
Chair, House Environment and Transportation Committee
Maryland House of Delegates
Room 251
House Office Building
Annapolis, MD 21401

Dear Chairman Barve, Vice Chair Stein and Members of the Committee:

Thank you for the opportunity to be here with you today. I am Delphine Dahan-Kocher, Vice President Public Affairs North America for Constellium, based in Baltimore. I live in Baltimore Country with my family and I have been a Maryland resident for the last 6 years.

Constellium is a global industry leader in the production and recycling of aluminum products. We supply mostly the packaging, automotive, and aerospace markets, and recycle both consumer scrap and used beverage cans (UBCs). We are a public company, listed on the New York Stock Exchange, with 12,500 employees and over $8.5 billion in revenue. Our U.S. headquarters are located in Baltimore.

I am here today to express our strong support of a recycling refund program for the State of Maryland.

As a company that recycles in the United States the equivalent of 20 billion cans a year, the availability of scrap is critical to how we operate. We manufacture aluminum cansheet for customers such as Coke, Pepsi, or Budweiser, and today, our products include more than 70% of recycled content. We strive to promote the circularity of our products, meaning to recycle used cans and transform them into new ones. Ensuring that our business can rely on a steady supply of UBCs is one of our top priorities.

Constellium

Using recycled cans instead of primary aluminum also allows us to significantly decrease our CO2 emissions, one of our key public commitment in terms of sustainability, and one that our customers and investors follow closely. Recycling aluminum emits 95% fewer emissions than producing primary metal. Without recycled aluminum, our carbon emissions would increase by close to 50%, while today we committed to decrease them by 30% in 2030.

Unfortunately, there are hardly enough cans today on the U.S. market, and we expect the issue to become more pressing in the coming years, as the demand for cans increases, while the recycling rate decreases. In the U.S., the recycling rate for cans is quite low compared to other countries – around 45%. Aluminum cans are still the highest recycled material by far, but we can and should do better.

Data have proven that deposits are the most efficient way to increase recycling. The recycling rate for aluminum beverage cans sold with a deposit is 77% while the recycling rate for aluminum beverage cans sold without a deposit is 36%[1].

If we look at Maryland, Maryland's recycling rate is around 54%[2]. If we were to recycle them instead, and reach a 90% rate, we would recycle 600 million cans instead of sending them to landfill. generate close to $10 million of additional revenue[3], and many jobs for the State of Maryland. The energy saved in recycling these extra 600 million cans would be enough to power 27,000 households for one year, meaning it could power Annapolis houses for the next 18 months. And these extra 600 million cans could be back in the shelves of any grocery shop in Maryland after 60 days, after being recycled for instance in our facility of Muscle Shoals.

Thank you again for the opportunity to be here today, and for your continued support of our company and our industry.

Delphine Dahan-Kocher

VP Group External Communications and Public Affairs North America
Constellium
Office: +1 443 420 7860
Mail: delphine.dahan-kocher@constellium.com

[1] Container Recycling Institute
[2] Ball 50 States of Recycling Report
[3] https://canrecyclingimpact.com

Can Manufacturers Institute_HB 1089_written testim
Uploaded by: Michael Smaha
Position: FWA

Michael J. Smaha
Vice President, Government Relations
1730 Rhode Island Ave, NW
Suite 1000
Washington, DC 20036
Cell: (202) 876-4347
Email: msmaha@cancentral.com

March 6, 2023

The Honorable Kumar Barve
Chair, House Environment and Transportation Committee
Maryland House of Delegates
Room 251
House Office Building
Annapolis, MD 21401

RE: HB 1089, Maryland Beverage Container Recycling Refund and Litter Reduction Program. Support with Friendly Amendments

Dear Chairman Barve, Vice Chair Stein and Members of the Committee:

The Can Manufacturers Institute (CMI) respectfully submits these comments on House Bill 1089, the Maryland Beverage Container Recycling Refund and Litter Reduction Program, introduced by Delegate Jen Terrasa. **CMI supports the intent of the bill and has offered friendly amendments to the legislation.** CMI is the U.S. trade association of the metal can industry and its suppliers. Our members employ 28,000 workers in 36 states (including Maryland) and produce more than 135 billion steel and aluminum cans for the food, beverage, aerosol and general packaging markets annually.

CMI advocates for 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. While the U.S. aluminum beverage can recycling rate in 2020 was an industry-leading 45 percent, reaching this target will require effective policy solutions, the foremost tool being recycling refund for beverage container programs.

Recycling is a critical part of the modern aluminum business, and our companies are committed to finding new ways to encourage consumers to recycle their beverage cans more often. Making can sheet from recycled aluminum cans reduces carbon emissions and saves around 95 percent of the energy required to make primary aluminum can sheet. In addition, there is a strong, domestic market for used beverage cans, which provide a steady stream of inputs for new beverage can production, a market that has grown steadily over the past few decades.

Benefits for Maryland

More recycled material going into aluminum beverage cans is an important part of our industry's environmental and economic viability. Maryland's large population would drive a significant increase of recycled material to the supply chain. According to Eunomia's "50 States of Recycling" research, Maryland's recycling rate for aluminum beverage cans is 54%. Modeling by the Can Manufacturers Institute estimates that at that rate, almost 906 million cans are recycled. House Bill 1089 has a container redemption performance target of 90%. Michigan, which has a recycling refund program, often achieves a 90% annual redemption rate. If Maryland were to reach a 90% aluminum beverage can recycling rate, the previous 906 million cans recycled would jump to more than 1.5 billion cans. That is an increase of nearly 604 million cans kept out of landfills that could now be remade into new beverage cans!

A recycling refund program in Maryland would have significant climate, economic and industry impacts. Nationwide, the percentage of aluminum beverage cans recycled instead of thrown in the trash was 45% in 2020. While that makes the aluminum beverage can the most recycled beverage container in the United States, it still means $800 million in used beverage cans going to landfill that could have been recycled over and over again.

Public Opinion Support Recycling Refunds

According to a recent poll, 81% of the American public support recycling refunds. These programs have a proven track record of increasing recycling and reducing litter. The 10 states with active programs continuously see higher recycling rates than states without. Returned containers help reduce litter and provide cleaner materials that can increase the use of recycled content in beverage containers. This recycled content means a domestic supply of material for the containers people depend on and less use of virgin material, which in turn reduces carbon emissions. Importantly, consumers typically like to recycle and want their recycling efforts to be successful. Recycling refund programs can be a convenient and effective way for consumers to participate in recycling. A national poll found that 90% of consumers in states with beverage container redemption programs support them.

Suggested Amendments from CMI

CMI supports House Bill 1089 with friendly amendments. Amendments have been submitted to Delegate Terrasa and the following is a brief description of a few of them.

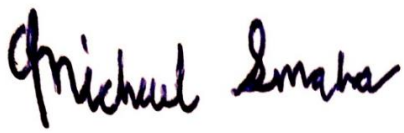
On page 6, in the definition of beverage container, CMI asks that cartons and pouches be included in the program. If the package contains a beverage for human consumption, it should be in the program. This avoids consumer confusion about what beverage products are redeemable and creates a level playing field between all packaging types when it comes to consumer choice.

On page 15, section (E), CMI would like to see electronic transfers included as an optional form of refund to the consumer. Adding an electronic transfer option allows for new redemption technology to make the consumer experience more enjoyable. Barcoded bags for bulk redemption, refunds directly deposited into customer accounts, or store credit options established by retailers to shoppers to purchase products at their stores.

Finally, on page 18, section (A), CMI submitted an amendment to streamline the definition of producer and make clear that it is the entity who distributes beverages, in other words, sells the beverage product to retailers as well as retailers who self-distribute their own product.

The aluminum can industry looks forward to working with all stakeholders in Maryland to create a world-class producer responsibility program to incentivize consumers to redeem their beverage containers for recycling and increase our recycling rates. If I can answer any questions you have, please do not hesitate to contact me.

Best regards,



Michael Smaha
Vice President, Government Relations
Can Manufacturers Institute

Glass Packaging Institute (GPI) Testimony - Maryla

Uploaded by: Scott DeFife

Position: FWA

March 9, 2023

The Honorable Kumar Barve
Chairman
Maryland House Environment and Transportation Committee
House Office Building, Room 250
Annapolis, MD 21401

Re: Testimony for House Bill 1089 – The MD Beverage Container Recycling Refund and Litter Reduction Program
Support with Amendments

Dear Chairman Barve and Committee Members:

The Glass Packaging Institute (GPI) offers the following comments in support of House Bill 1089, which would create a deposit return/recycling refund program for beverage containers in the State, and to answer any questions the committee may have regarding the manufacturing or recycling of glass containers.

GPI is the North American trade association for the glass food and beverage manufacturing companies, glass recycling processors, raw material providers and other supply chain partners within the industry. GPI and its members work closely with local and state governments throughout the country on issues surrounding sustainability, recycling, packaging manufacturing and energy use. We are working nationally and, in most states, to improve the glass recycling infrastructure and system to help achieve a 50 percent consumer glass recycling rate, and advance policies that further that goal.

Glass Container Recycling Background
Glass is a core circular packaging material which is reusable, refillable, and endlessly recyclable. The vast majority of glass containers are for food or beverage products, and glass is the only packaging material generally recognized as safe by FDA for all food and beverage products. Public sentiment strongly rates glass as one of the most supported materials in the recycling stream, and glass has the strongest profile to aid in refillable beverage systems.

The glass container manufacturing industry has a significant stake in the effectiveness of glass recycling programs. Recycled glass is a key component of the manufacturing process. The industry purchases about 2.3 million tons of recycled glass each year and the average bottle or jar produced in the U.S. contains 1/3 recycled glass. For every 10%

of recycled glass added to the batch mix, energy usage can be reduced 2-3 percent, with additional corresponding reductions in greenhouse gas emissions. When you add the benefit of what is a better than 1 to 1 offset of raw materials saved by using recycled glass to make new containers, it is clear that using recycled glass has significant benefits to the environment of the region and should be prioritized.

Quality and contamination are key differentiators to the value and potential end-markets for recycled glass. We estimate that nearly 60 percent of the glass cullet that makes it back to a container plant for reuse originates from the ten bottle bills states, which provide the highest volume of clean, source-separated glass. This separation drastically reduces contamination, increases the value, and provides the best opportunity to return the glass to a manufactured product.

Critically, containers recovered in a deposit return system avoid the most common fate and costs associated with glass in the commingled single-stream system, which is purposeful or passive landfill disposal. Curbside material that flows through many material recovery facilities *can* be recycled into new containers, and many MRFs do so quite well, but it is completely dependent on the capabilities of the facility receiving the material and the yield is far lower. While less expensive for collection costs, the value of most materials in these single-stream systems, and especially glass, is harmed from the moment the typical recycling truck hydraulic press crushes the mixed load of materials. Glass suffers to a larger degree due to how most MRFs then process the broken glass as a "negative sort", screening the smaller fragment material into a pile of residuals, while the larger media is sorted whole or in larger segments and baled. The glass commodity is laden with residual contamination, usually shredded paper, small plastics, and other small non-recyclables that do not belong in the bin in the first place.

Often, this leads local government officials and their contract service partners to suggest that the "glass commodity" value is negative. Without context, the glass commodity at most MRFs is going to be 30-50 percent non-glass residue (NGR), and then the glass processor must haul that contamination and pay the landfill tip fee, which is what results in the negative value for the ton of material. The benefit of a deposit return system is that it preserves positive market value of the glass, dramatically increases yield from the bottle, and ensures the potential of highest best use, while also allowing for a broader variety of end-market uses that include the same ones as single-stream.

As I have testified to before with this committee, there are end-markets for glass in three neighboring states: Pennsylvania, Virginia and New Jersey. There is glass processing in Pennsylvania and a movement to add capacity in Virginia. In addition, one of our member companies has added a pre-cleaning location in Baltimore that can accept more glass than it is currently getting. Glass from Maryland consumers should not be going to landfill. A bottle deposit program would triple or potentially quadruple the glass recovery and recycling rate for the state of Maryland and could work on its own or within an Extended Producer Responsibility (EPR) program.

As to the specific provisions on HB 1089, we would like to highlight several key points that show that this policy concept has advanced considerably in the past several years and need not be compared to systems or debates of the past.

- The majority of the responsibility for operating the program is given over to a stewardship organization. There is oversight from the Department of the Environment. This is consistent with best practice principles on modern management of the container deposit program. While there could be some more responsibility given to the private sector, the construct strikes a balance compared to government run programs.
- The bill includes an Advisory Council that pulls in additional stakeholders who can assist in keeping the program balanced and modern, plus add transparency and accountability.
- Most all beverages are included, and traditionally recyclable materials are all included. This is far better than having an exhaustive list and definitions of varieties of beverages in statute that will constantly need to be tweaked and modified to accommodate innovation in the beverage industry.
- Accommodation has been made for a differential redemption value based on size, which is reasonable, and a wide variety of reasonable consumer sized containers are included, as well as a variety of convenient redemption alternatives – drop off centers, bag drop programs and in-person return centers. We believe that convenience is key, but that not all returns should be forced back into a specific retail establishment. A series of well-placed redemption centers and drop-off locations can alleviate the need to force returns into smaller retail stores.
- We generally do not support provisions that compensate private MRF operators for the "loss" of revenue that may come with the creation of a deposit refund program; however, the provision in HB 1089 meets our criteria for a transition system that takes into account the loss of revenue from specific commodity streams being moved away from the curbside system, while also accounting for the savings to the governments attributable to less landfill costs, lower processing expense and higher value to other remaining commodity streams from less contamination.
- I would like to note a concept in the bill that I recall discussing with the committee a couple of years ago. Deposit return programs are aided by the active involvement of local governments, so we support the concept that a city or county could create their own redemption center(s) and participate in the benefits of the program as long as they meet all the same requirements of the other program contractors.
- We support the encouragement of refill/reuse programs. The provisions in HB 1089 are aggressive and could be met with reusable glass containers as a significant part of that program, but we would like to see some more explicit infrastructure funds dedicated to building out the washing and sterilization facilities. Such facilities are necessary for any brand to dedicate a portion of their packaging to refillable container, and they will create even more jobs than recycling alone, and far more than landfill. We encourage the committee to carve out some dedicated funds from the disposition of unredeemed deposits.

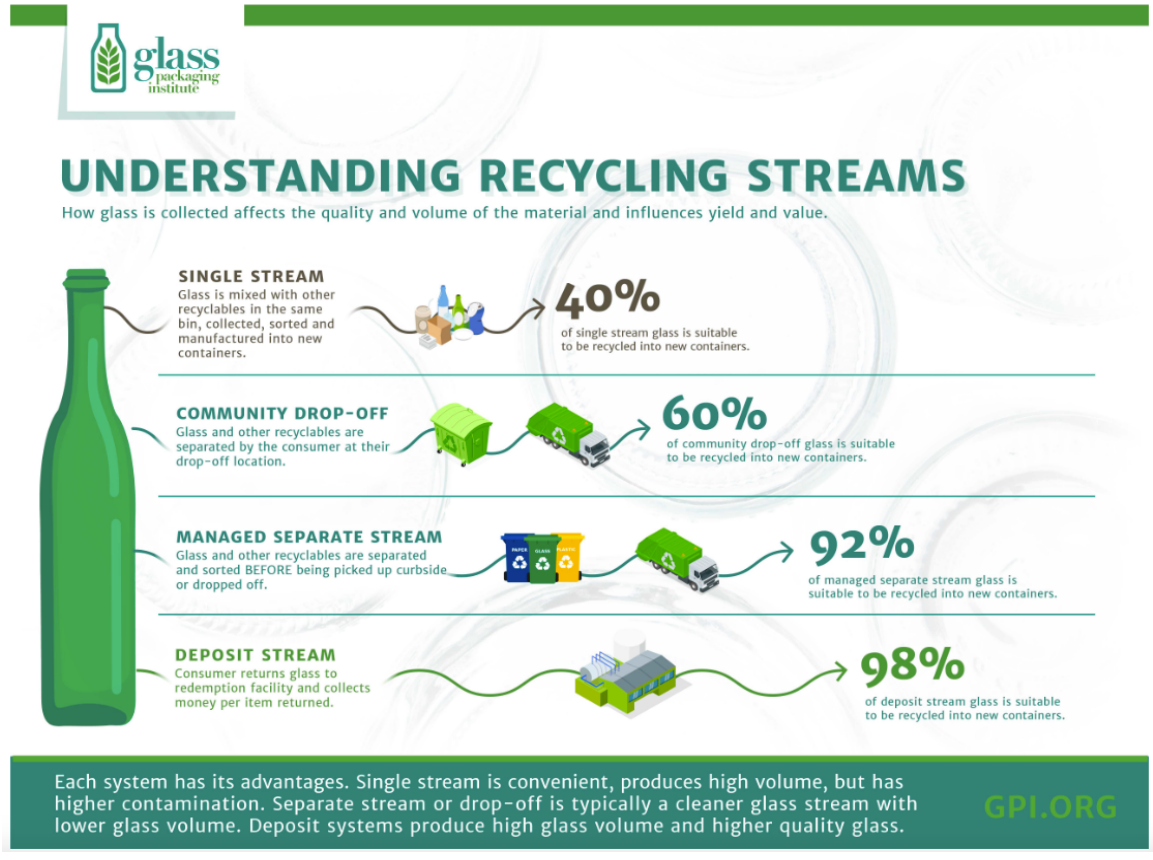
I have referenced quality and yield issues throughout my testimony, so I would like to call attention to pictures and graphics that I have included with my testimony.

Thank you for your consideration of our views on the central role a container deposit program can provide the State of Maryland in creating a higher quality and effective glass recycling system. We look forward to answering your questions about glass and glass recycling and are committed to working with the Committee constructively to enhance glass recovery and recycling in Maryland. Please do not hesitate to call on us should you have any additional glass or glass recycling questions.

Sincerely,

Scott DeFife
President
Glass Packaging Institute
sdefife@gpi.org

Addendum:
Infographic on Efficiency and Yield-Loss from different glass collection streams



Picture of a Commingled Single Stream Recycled "Glass" - as delivered from a Materials Recovery Facility. Requires intensive sorting and cleaning prior to meeting furnace-ready specifications.

Picture of green bottle bill glass delivered from redemption centers to transfer facility.

HB 1089 - UNF-MML.pdf
Uploaded by: Angelica Bailey Thupari
Position: UNF

Maryland Municipal League

The Association of Maryland's Cities and Towns

TESTIMONY

March 9, 2023

Committee: House Environment & Transportation

Bill: HB 1089 – Maryland Beverage Container Recycling Refund and Litter Reduction Program

Position: Oppose

Reason for Position:

While the Maryland Municipal League appreciates the goal of this bill to reduce litter and improve recycling in the State, we are concerned about the unintended consequences and must oppose HB 1089.

The logistical relationship between state, county, and municipal waste and recycling collection is detailed and complicated. Several municipalities own and operate their own processing plants, while others rely on county or even out-of-state centers, if they have access to a recycling program at all. Those with no access to recycling programs recognize the value, but do not have the resources to implement a program.

The program proposed in this measure is limited to certain beverage containers. Those containers comprise a small part of the waste stream; most curbside recycling programs include a variety of materials. Taking any action that disrupts existing curbside programs operated by municipalities will require more training, equipment, and possibly personnel, increasing the cost for us to operate recycling programs. Significant changes to existing and successful single-stream recycling will be challenging and prohibitively expensive for our cities and towns.

For these reasons, MML respectfully requests an unfavorable report.

FOR MORE INFORMATION CONTACT:

Theresa Kuhns	Chief Executive Officer
Angelica Bailey Thupari, Esq.	Director, Advocacy & Public Affairs
Bill Jorch	Director, Public Policy
Justin Fiore	Deputy Director, Advocacy & Public Affairs

HB 1089 MD Beverage Container Refund - Unfavorable

Uploaded by: Ellen Valentino

Position: UNF

MD-DE-D.C. BEVERAGE ASSOCIATION

To: House Environment and Transportation Committee
House Economic Matters Committee

From: Ellen Valentino

Date: March 9, 2023

Re: HB 1089 Maryland Beverage Container Recycling Refund and Litter Reduction Program
Challenges with this Legislation

Thank you for the opportunity to make comments on HB 1089. We do not support this legislation.

Our companies believe that to be effective, a collection system for recyclables needs to be convenient to consumers, efficient, financially stable, and help companies gain increased access to recycled material so it can be remade into new products. This legislation does not meet these pillars of a good recycling policy.

The policy conversation around recycling, plastic reduction and solid waste disposal is an important one and one taking place around the country. Our industry recognizes the seriousness of this issue and we welcome the opportunity to work with communities on ideas that get back more of our plastic bottles so they can be remade into new bottles.

In 2019 our industry made local and national news when announcing our 'Every Bottle Back' Initiative, which is investing in recycling infrastructure and community education nationally to improve the collection and remaking of recyclables.

We believe that **good data precedes good policy** and that is the first best step to determining how Maryland develops an EPR system or other recycling polices that will have measurable outcomes and make recycling equitable for all Marylanders regardless of where they live.

We support a study that will provide important data and information around the current county and municipal infrastructure, full cycle costs, the current processing of recyclables, and commodities being recycled. This is the first best step to develop a good comprehensive future solid waste and recycling policy to Maryland.

In closing, you have our commitment to be at the table and to participate in best practice discussions or a new direction conversation – particularly when talking about our packaging.

MARYLAND • DELAWARE • DISTRICT OF COLUMBIA BEVERAGE ASSOCIATION
P.O. Box 711 • Annapolis, MD 21404
410-693-2226

HB 1089.pdf
Uploaded by: Kirk McCauley
Position: UNF

WMDA/CAR Service Station and Automotive Repair Association

March 9, 2023

Chair: Kumar P. Barve

Members of Environment and Transportation Committee

RE:HB 1089 Maryland Beverage Container Recycling Refund and Liter Reduction Program

Position: Unfavorable

This container deposit bill would create an expensive recycling system when counties have an established programs that work.36 pages of confusion, would it not be better to enhance county programs that would far less costly to everyone.

People who don't drive, the elderly all depend on curb side pickup. They are not hauling bags of bottles to stores or feed them into reverse vending machines and in some parking. All night convenience stores would have bags of bottles sitting around drawing bugs and critters of all kinds. Some businesses would not have space to store bags of bottles nor employees to handle transactions, taking bottles and checking one at a time for proof of state code.

Processing bottles this way will be far more costly than curbside pickup and convenience centers. Vending machines, bags of bottles then someone to pick up and truck those to a recycling location?

The cost is not insignificant at 10-15 cents per bottle at retail, 24 bottle case of water would be at a minimum $2.40 more. That not only adds to inflation, but adds to the misery of shopping and deciding where to spend your money. Bad idea at a tough time.

Please give HB 1089 an Unfavorable report

WMDA/CAR is a trade association that has represented service stations, convenience stores and independent repair shops since 1937. Any questions can be addressed to Kirk McCauley, 301-775-0221 or kmccauley@wmda.ne

HB1089_RestaurantAssoc_Thompson_UNFAVORABLE.pdf
Uploaded by: Melvin Thompson
Position: UNF

HOUSE BILL 1089

Maryland Beverage Container Recycling Refund and Litter Reduction Program

March 9, 2023

Position: Unfavorable

Mr. Chairman and Members of the Environment & Transportation Committee:

On behalf of members of the *Restaurant Association of Maryland*, we oppose HB 1089. This legislation would require beverage distributors (wholesalers) to include a redeemable beverage container refund value as part of the wholesale price of beverage containers sold to restaurants, bars, and other retailers. The legislation prohibits restaurants, bars and other "on-premises sellers" from including the refund value of redeemable beverage containers in the retail price when sold to customers.

The logistics are unclear regarding how on-premises sellers like restaurants/bars would recoup the redeemable beverage container refund values paid through wholesale purchases. Although the bill language generally specifies that a range of options be provided to allow on-premises sellers to conveniently redeem empty beverage containers, we are concerned that the logistics and related costs for sorting, storing and transporting such containers for redemption would be problematic for our industry. Restaurants/bars with limited storage space would face challenges separately storing such containers for redemption. Moreover, the cost of transporting the high volume of containers for redemption could exceed the redemption value.

Given the lack of specifics regarding on-premises sellers like restaurants/bars, we are concerned that the absence of practical ways for restaurants/bars to recoup the refund values paid through wholesale beverage container purchases could ultimately amount to an unavoidable tax on our industry.

In lieu of passing this legislation, the goals and related issues of this bill require further study and stakeholder input. For these reasons, we oppose HB 1089 and request an unfavorable report.

Sincerely,

Melvin R. Thompson
Senior Vice President
Government Affairs and Public Policy

2023 MBWA HB 1089 Maryland Beverage Container Recy

Uploaded by: NICK MANIS

Position: UNF

Maryland Beer Wholesalers Association, Inc.

March 6, 2023

The Honorable Kumar P. Barve, Chair
House Environment and Transportation Committee
Room 251
House Office Building
Annapolis, Maryland 21401

Dear Mr. Chairman and Members of the Committee

Re: **OPPOSE** – **HB 1089** – Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Chairman Barve and Committee Members**:**

On behalf of the Maryland Beer Wholesalers Association (MBWA) we are writing in opposition to **HB 1089** which requires the Maryland Department of the Environment (MDE) to establish a beverage container deposit program by December 31, 2025.

The MBWA consists of 22 Maryland businesses employing over 1,400 Maryland citizens that are majority owned and operated generational family businesses. Our members are committed to recycling and reducing litter in Maryland. The policy discussions around recycling and solid waste disposal are an important one and are taking place here and around the country. We recognize the importance of the issue and are proud of the steps we have taken to recycle all the material in our warehouse and business and encourage are customers to do the same. We do not support a mandatory deposit program that would increase the price of products based on the premise that citizens would return these products instead of the convenience of residential and commercial single stream recycling. However, we know we need to do more and are willing to work with all stakeholders to enhance and improve programs that would be effective, convenient, efficient, and financially stable.

We respectfully request this legislation be rejected as this committee has done in the past.

Sincerely,

Nicholas G. Manis
Executive Director

CC: John Favazza

HB1089_UNF_NWRA_MD Bev. Container Recycling Refund

Uploaded by: Pam Kasemeyer

Position: UNF

wasterecycling.org

Maryland-Delaware Solid Waste Association
a chapter of the
National Waste & Recycling Association℠
Collect. Recycle. Innovate.

TO: The Honorable Kumar P. Barve, Chair
Members, House Environment and Transportation Committee
The Honorable Jen Terrasa

FROM: Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman
Andrew G. Vetter
410-244-7000

DATE: March 9, 2023

RE: **OPPOSE** – House Bill 1089 – *Maryland Beverage Container Recycling Refund and Litter Reduction Program*

The Maryland Delaware Solid Waste Association (MDSWA), a chapter of the National Waste and Recycling Association, is a trade association representing the private solid waste industry in the State of Maryland. Its membership includes hauling and collection companies, processing and recycling facilities, transfer stations, and disposal facilities. MDSWA and its members **oppose** House Bill 1089.

House Bill 1089 proposes to establish a statewide beverage container recycling refund and litter reduction program. While it is clearly the objective of the sponsor to increase the percentage of beverage containers recycled in the State as well as reduce litter, the unintended negative impacts of such a program on Maryland's existing recycling infrastructure, far outweigh any potential benefit.

A container recycling refund program as proposed in House Bill 1089 only addresses certain beverage containers, while curbside recycling programs target a broad array of materials recovery. The containers to which the bill applies reflect a small percentage of the waste stream. In contrast, the traditional recyclables collected in curbside programs (including beverage containers) make up approximately 50% of the overall waste stream. Taking any action that disrupts the existing curbside programs in the State will have a negative effect on the State's overall recycling rate. While states with similar programs often have relatively higher recycling rates for containers, many have poor overall recycling rates. It is critically important to put container recycling rates into context with overall state recycling rates. High container recycling rates do not translate into high overall recycling rates.

Maryland's local jurisdictions have continued to improve and enhance their curbside and other recycling programs. Concurrent with these efforts, has been the development of significant processing capability to manage an increasing percentage of Maryland's waste stream that is being collected to be

recycled. As a result of the investment in recycling infrastructure by both the public and private sector, Maryland has some of the country's highest overall recycling rates.

Instituting a container recycling program will be harmful to local curbside recycling programs. Putting a specific refundable deposit on a beverage container means the establishment of a separate, duplicate recycling system for a small subset of the waste stream. The funds generated in such a system will support the high cost of operating a redemption system for a small portion of the waste stream at the expense of existing programs. There are better ways to spend scarce resources to promote recycling. Rather than negatively affecting the entire recycling infrastructure in order to recycle more beverage containers, it would be better to make the investment in current recycling infrastructure in order to update programs and increase participation.

Single stream recycling has become the standard for both residential and commercial collection for all recyclable materials. Imposing a container redemption program on top of existing programs will divert revenue from some of the highest value materials, such as aluminum, that support local jurisdiction curbside programs. Consequently, existing recycling programs will lose valuable commodities that they use today to offset the cost of providing recycling services. The result will be a weakened local recycling program and increased costs for curbside collection triggered by the need to cover the costs that are no longer offset by the value of beverage container materials.

Furthermore, because Maryland is a relatively small state geographically, it will be nearly impossible to prohibit the influx of containers from surrounding states for redemption, even though those containers will not have been assessed on the front end. Again, the expenditure of scarce resources that could be better used to enhance current recycling infrastructure and/or for market development for the end use of products. The objective of House Bill 1089 may be noteworthy, but the method for achieving it will dramatically undermine overall recycling in Maryland. MDSWA urges an unfavorable report.

The Maryland Recycling Network Response - HB1089
Uploaded by: Peter Houstle
Position: UNF

March 7, 2023

To: Maryland House Environment and Transportation Committee
Re: HB 1089 Maryland Beverage Container Recycling Refund and Litter Reduction Program

The Maryland Recycling Network promotes sustainable reduction, reuse and recycling (the 3 "R's") of materials otherwise destined for disposal and the purchase of products made with recycled material content. We achieve these goals through education programs, advocacy activities to affect public policy, technical assistance efforts, and the development of markets to purchase recycled materials and manufacture products with recycled content.

Our members are county and municipal government recycling managers, private sector recyclers, non-profit recyclers and citizens who support recycling. We have direct experience operating recycling and composting programs at the county and municipal government level. We know the ins and outs of recycling in Maryland. Our experience informs our comments.

We do not support HB 1089.

The Maryland Recycling Network strongly supports increasing recycling in our state. However, we feel that while HB 1089 may increase recycling of containers, the Bill has questionable implications for local jurisdictions, particularly the negative impact on existing curbside collection programs. These programs are likely to lose revenue as containers they would normally collect are diverted to deposit programs.

We appreciate the language in this bill which attempts to address that problem (see section 9-1743). This language was not in previous container deposit bills brought before the Assembly. It recognizes that local government recycling programs and Materials Recycling Facilities (MRF) will take an economic hit as valuable recyclables are diverted away from existing recycling programs. While these containers represent a small percentage of the overall recyclables collected and processed by local governments and publicly and privately owned MRFs, they represent an invaluable revenue stream which greatly exceeds their relatively small percentage of materials collected by local governments. See, for instance, a study on the contribution of aluminum beverage cans to recycling programs - **Aluminum Beverage Can: Driver of the U.S. Recycling System**.

We are puzzled that the formula grants relief with one hand and takes it away with the other. It grants compensation for “any net loss of revenue to the county or municipal corporation’s waste management system that can be documented and attributed to the program” (see 9-

1743(C)(1) and (C)(2)(I). Then in (C)(II) and (C)(III) it takes away compensation through alleged savings due to:

1. less glass in the recycling stream
2. transportation costs associated with curbside collection of trash and recycling
3. processing costs associated with recycling beverage containers
4. the costs of landfilling and incinerating beverage containers that are not recycled and
5. the costs of litter collection and

(III) for a county or municipal corporation that has a total maximum daily load for trash in a waterway under its jurisdiction, the reduced costs and increased benefits of complying with the total maximum daily load due to a reduction in beverage container litter.

These "savings" are speculative at best and nonexistent in a number of instances. For instance, transportation costs will not go down due to less beverage containers in the trash or recycling stream because the amount of beverage containers collected in either situation is too insignificant to lead to fewer collection trucks picking up either trash or recyclables. Processing costs include fixed and variable costs. The former will rise as processing equipment becomes less efficient due to lower throughput and the latter will be unaffected due to the small percentage of beverage containers in the MRF stream.

Savings from less glass in the system and actual litter collection are speculative as are reduced costs from complying with the total maximum daily load. Beverage containers are only one of many different types of litter. Moreover, litter clean-up costs can be funded by different departments than waste and recycling. Solid waste departments may not benefit if litter costs are reduced.

We would also note that while this section attempts to offset lost revenues and higher costs for local government programs, including Maryland's three publicly-owned MRFs, it makes no attempt to do the same for the privately-owned MRFs in this state. Their processing costs will go up and their revenue will go down with no relief. That will ultimately impact their local government customers who rely on them.

Finally, this section only is in effect for three years. Given the cost of increasingly sophisticated and expensive processing equipment at MRFs, along with the financial hit local governments will take, we believe it should last until 2029 or later, instead of 2027.

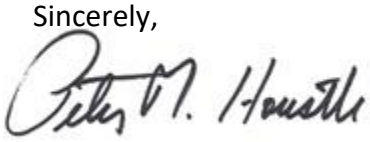
We also note that the composition of the "Advisory Council" is heavily loaded towards companies making or distributing beverage containers and has only two representatives from the recycling industry and local government.

In light of these concerns, we cannot support HB 1089 at this time.

The Maryland Recycling Network stands ready to serve as a sounding board and resource for legislators and others interested in pursuing our mission. Please do not hesitate to contact me via email phoustle@marylandrecyclingnetwork.org, phone 301-725-2508 or mail - MRN, PO Box 1640, Columbia MD 21044 if you have any questions or would like additional information regarding the above.

We look forward to working with you to continue the strides we have all made to improve Maryland's recycling programs in a time- and cost-effective manner.

Sincerely,



Peter M. Houstle
Executive Director

HB1089_UNF_MSLBA_MD Bev. Container Recycling Refun

Uploaded by: Steve Wise

Position: UNF

MARYLAND STATE
LICENSED BEVERAGE ASSOCIATION
150 E Main Street, Suite 104, Westminster, MD 21157

TO: The Honorable Kumar P. Barve, Chair
Members, House Environment and Transportation Committee
The Honorable Jen Terrasa

FROM: J. Steven Wise
Pamela Metz Kasemeyer
Danna L. Kauffman
Andrew G. Vetter
410-244-7000

DATE: March 9, 2023

RE: **OPPOSE** – House Bill 1089 – *Maryland Beverage Container Recycling Refund and Litter Reduction Program*

The Maryland State Licensed Beverage Association (MSLBA), which consists of approximately 800 Maryland businesses holding alcoholic beverage licenses (restaurants, bars, taverns, and package stores), **opposes** House Bill 1089.

This legislation would require retailers, such as package stores, to accept redeemable beverage containers at their place of business and require that these stores maintain a "dedicated area" to store the returned containers. In addition, they must pay the person redeeming the container in cash.

The package stores owned by our members are typically 3,000 to 5,000 square feet in size. The majority of this square footage is dedicated to shelving, sales and consumer transactions, coolers, walk-in boxes, and storage area for product that has yet to be put on the shelf. House Bill 1089 would require each retailer to set aside already limited space in their stores as the "dedicated area" for storage of returned containers. These stores are simply not equipped to accommodate storage of redeemable containers, and the space needed to do so would be substantial, considering that a retailer must accept any containers that are brought in, unless they are rejected due to their condition.

Furthermore, a retailer will inevitably be left holding returned containers, which are later rejected, by a redemption facility, adding to the concerns over the space required to carry out the provisions of House Bill 1089.

For these reasons, MSLBA respectfully requests that the Committee give this legislation an unfavorable report.

TOMRA Testimony on HB 1089 MD - Mar 2023 Final.pdf
Uploaded by: Mike Noel
Position: INFO

March 9, 2023

Maryland General Assembly
House Office Building, Room 251
Annapolis, Maryland 21401

Testimony regarding information on HB 1089 "An Act Concerning Maryland Beverage Container Recycling Refund and Litter Reduction Program"

Dear Chairman Delegate Barve, Vice Chair Delegate Stein, and Members of the Committee:

My name is Mike Noel, and I am a Director of Public Affairs at TOMRA. TOMRA provides a range of technology and services for recycling and reuse systems, maximizing resource productivity and minimizing virgin resource extraction. We are known for pioneering advanced technology for the collection, sorting stages of recycling and reusing materials. We have over 50 years' experience operating in more than 40 jurisdictions with container Deposit Return Systems (DRS or "bottle bills") around the globe, including all ten U.S. states with deposit laws.

Thank you for the opportunity to submit testimony on HB 1089, *An Act Concerning Maryland Beverage Container Recycling Refund and Litter Reduction Program.* TOMRA is commenting on an informational basis to share the principles that high-performing deposit systems share in common. Also, at the end of this document, I include answers to DRS FAQs including how Reverse Vending Machines work.

Technology and Services Provided by TOMRA

TOMRA Collection (Deposit Return Systems for refillable/reusable and one-way beverage containers)

In deposit systems, TOMRA serves as a "system operator" meaning we provide multiple services that empower deposit-return systems. Those services include providing collection technology like Reverse Vending Machines, container validation, clearing deposits and handling fees, aggregating data from across the redemption network and providing container pick-up and processing services.

TOMRA Sorting

In addition, TOMRA provides advanced optical sorting technology to the facilities that handle curbside and drop-off recyclables (Material Recycling Facilities or "MRFs"). This technology enable curbside recycling operations to produce material of a higher quality and market value, increasing their recyclability. Many state of the art recycling facilities coming online today include TOMRA technology. We offer technology and services in over 80 markets around the world.

Our goal is for 40% of all plastic packaging globally to be collected for recycling by 2030, up from 14% today.

Introduction

Deposit Return Systems for beverage containers were invented by the beverage industry itself. Back when most beverages came in refillable containers, the beverage industry wanted their bottles back due to the cost of the bottle itself. So they charged consumers a deposit and managed a reverse logistics operation to collect, wash and refill bottles.

As the industry shifted to one-way containers after WWII, beverage container litter became an increasing concern for the public. This sparked the advent of legislated DRS and today ten U.S. states and about 40 more jurisdictions around the world use such systems to manage beverage container litter and recycling.

Deposit return systems provide two main functions:

1. **Achieving superior collection rates** – Giving waste a value by making container eligible for a cash refund, has a direct impact on the collection rates of beverage containers. The latest available data shows that containers without a deposit have an average recycling rate of 22% whereas containers with a deposit have a 66% recycling rate.[1] And in states with a flat ten-cent deposit, the average deposit container recycling rate is 88%.[2]

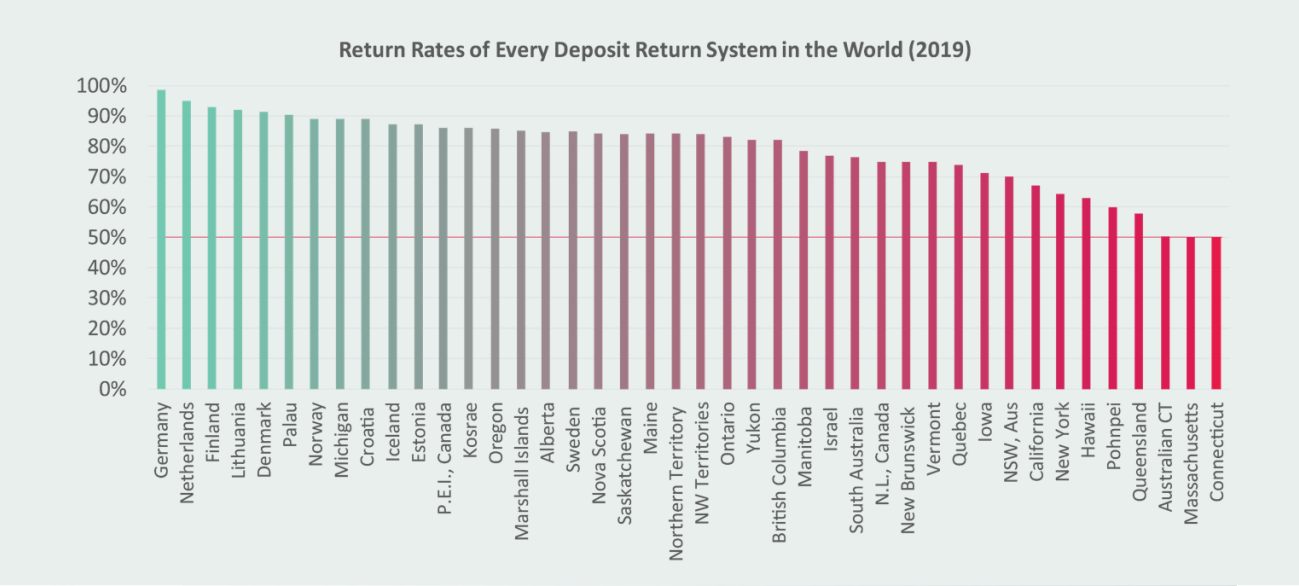
2. **Preserving the high quality of recyclable material, ensuring it is effectively recycled** – Curbside and deposit collection systems complement each other to achieve a circular economy. Since deposit systems are often compared to curbside collection systems it is important to note DRSs separate beverage containers by material type. This essentially eliminates contamination meaning virtually all containers collected in a DRS can be recycled. Many curbside systems today have embraced "single-stream" collection where all recyclable material is mixed together in one bin. The combination of material and inevitable consumer confusion over recyclability leads to contamination. In a deposit system, since the material has retained its high quality, containers are most often recycled back into beverage containers or other food-grade quality packaging instead of "down-cycled" to another product that cannot be recycled again.

[1] Testimony to Connecticut Environment Committee. Container Recycling Institute, 2021. Accessible via: https://www.cga.ct.gov/2021/ENVdata/Tmy/2021SB-01037-R000319-Collins,%20Susan,%20President-Container%20Recycling%20Institute-TMY.PDF

[2] Bottlebill.org. Refers to Michigan and Oregon pre-COVID (2019), due to significant disruptions to redemption access during the pandemic which have affected redemption behavior.

The Shared Principles of High-Performing Deposit Return Systems

While deposit systems are known for achieving 90% recycling rates or more for beverage containers, not all DRSs are achieving their potential.



"Global Deposit Book 2020," Reloop. 2020. : If 2019 data was not available, latest year is shown. [5]

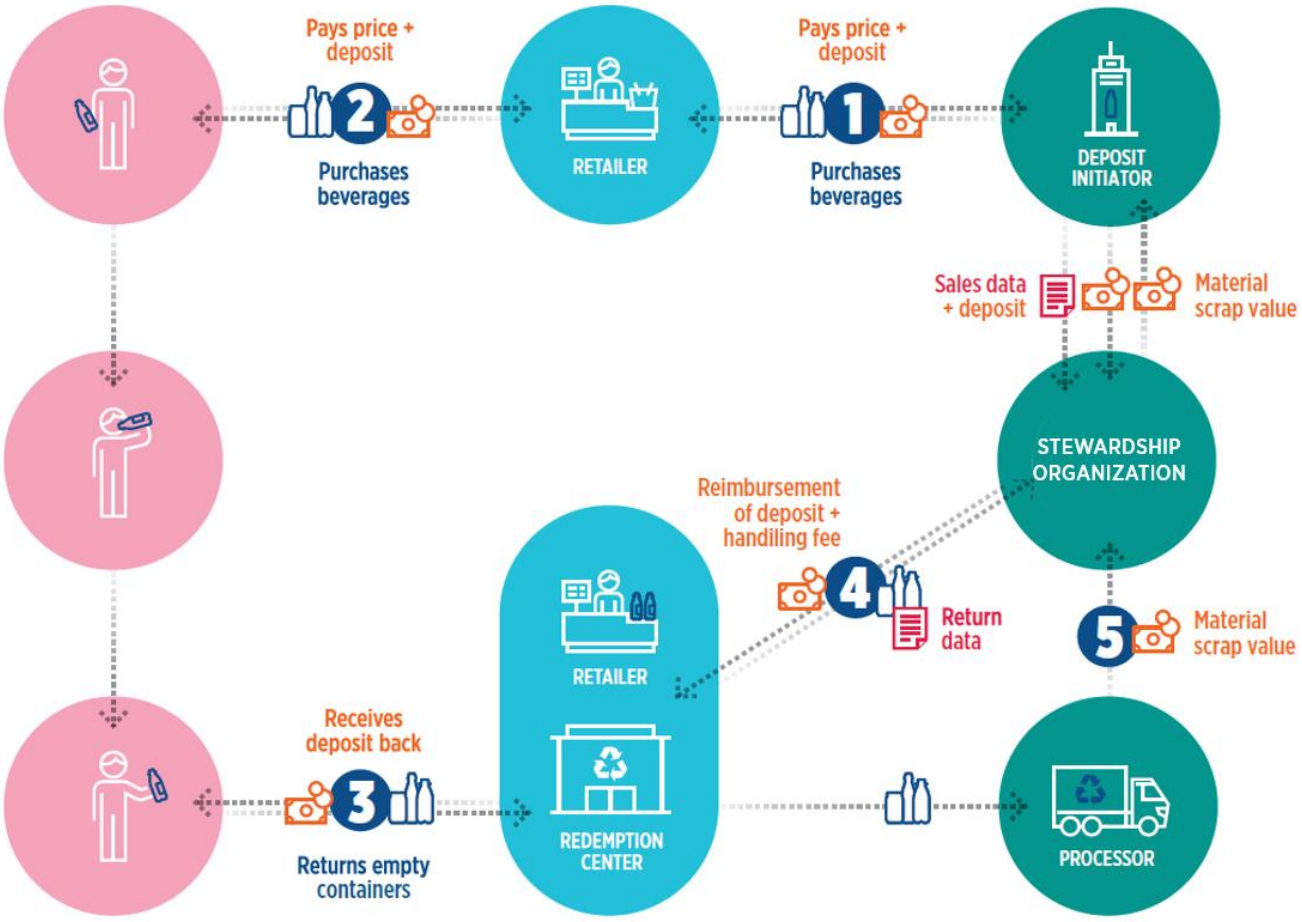
Since multiple states, the entire EU and about eleven more jurisdictions around the world are actively evaluating modernizing or creating their own Deposit Return Systems, TOMRA took a step back to evaluate the best practices that the high-performing deposit return systems in existence today share in common. By "high performing" we mean systems that achieve around 90% recycling rates for deposit containers or higher. The following can be helpful as you evaluate various proposals when designing your program.

Principles shared among high-performing deposit return systems include:

- **Circularity -** Financial incentives and penalties exist to ensure containers are effectively recycled not 'downcycled'.
- **Performance Targets -** Frame conditions set in statute ensure performance including targets for collection, recycled content and a minimum number of redemption points, plus a meaningful deposit and broad scope.
- **Convenient Refund -** The redemption system is easy, accessible and fair for everyone.
- **System Management -** Producers finance and manage infrastructure and operations within the frame conditions set by government; with use of unredeemed deposits and commodity revenues.
- **System Integrity -** Trust and transparency are built into the system's processes and enabled by product registration, data-management, a clearinghouse, and redemption specifications.

Frequently Asked Questions regarding Deposit Return Systems

How does a typical Deposit Return System managed by a central Stewardship Organization work?
Below is a diagram of how a centralized DRS works at a high level. Keep in mind, "deposit initiator" is the legal term for the business that first sells the container in the state. Typically, this is a beverage distributor or importer.



1 Retailer buys container	Retailer buys the bottle from the 'Deposit Initiator' for the price of the beverage plus a 10-cent deposit per container.

2. Consumer buys container	Consumer pays for the bottle and a 10-cent deposit per container from the Retailer
3. Consumer returns container for full deposit refund	Consumer returns bottle to a Retailer or Redemption Center and receives their deposit money back in full
4. Repayment to retailer or redemption center	Deposit Initiator repays Retailer or Redemption Center the 10-cent deposit and a "handling fee" for any eligible containers redeemed. Redemption data ensures accurate accounting.
5. Container pick-up	Deposit Initiators pick-up and recycle their bottles either directly, through a 3rd party contractor, or collectively through services provided by the Stewardship Organization.
6. Sale of recyclable commodity to initiate final recycling	Containers are sorted and prepared for market at a Processing Facility before being sold to recyclers where they are most commonly made into new beverage containers. Deposit initiators or the Stewardship Organization (depending on the law) retain the revenue from the sale of their own container material.
7. Distribution of unredeemed deposits	Deposits from containers that consumers chose not to redeem are distributed to the state, individual deposit initiators, the Stewardship Organization or shared among these entities. Each state handles this differently depending on their context, however high-performing deposit systems use the unredeemed deposits to reinvest in the DRS.

How does the container, deposit and handling fee exchange work at the individual retailer level?
Below is an example of how it would work at a specific retailer.

1. Joe's Supermarket bought ***10*** deposit containers from the deposit initiator. Joe's Supermarket paid for the price of the containers plus a dime deposit for each or $1.00 in total deposits. At this point, the store is 'out' $1.

2. Then the store sells 10 deposit containers to a consumer. The consumer pays the store the price of the containers, plus $1 in deposits. (The store is now 'whole').

3. Then a consumer comes and redeems ***20*** deposit containers. Joe's Supermarket pays the consumer $2 in deposits. Now the store is out $2 in deposits.

4. Joe's Supermarket gives a report to the deposit initiator showing they accepted for redemption 20 of their containers. (This step is done automatically by Reverse Vending Machines). The deposit initiator removes the containers and repays Joe's Supermarket the $2 in deposits and the handling fee for the 20 containers. In terms of deposits paid and repaid, the store is now 'whole'.

What services does a Reverse Vending Machine (RVM) provide?
Modern deposit systems have embraced RVMs because they provide benefits to multiple stakeholders in the deposit system such as:

- **Reducing the cost of redemption services, particularly labor costs** – Manually accepting containers for redemption requires staff to accept containers from consumers and sort containers by size and material type, and typically by distributor and brand to ensure the appropriate deposit initiator is charged for the containers redeemed. RVMs automate this entire process, dramatically reducing the labor required. For a redemption center handling a significant level of volume this can reduce labor costs by 75%. For a retailer it can mean freeing up team members to stock shelves or better serve customers, while only occasionally maintaining RVMs.
- **Reducing the cost of container transportation** – Container compaction provides an important value within deposit systems. By compacting (or crushing) containers, PET bottles are reduced in size to a ratio of around 2.5 : 1 and aluminum cans around 6 : 1. This saves storage space for retailers and truck space for deposit initiators. Now more containers can fit on the same number of trucks. For example, converting a redemption center in Maine from manual, uncompacted redemption to automated, compacted redemption saved 63% in annual pick-up costs from that location.
- **Reducing the greenhouse gas emissions of container transportation** – Given compaction reduces the number of trucks necessary to pick-up the same number of containers, RVMs also help to reduce the greenhouse gas footprint of a deposit system in significant ways.
- **Mitigating cross-border unauthorized redemption** – RVMs reject containers that are not registered in the system, helping to mitigate against unauthorized cross-border redemption. Compaction again serves an important service by 'cancelling' out the container from any repeat redemption. RVMs transmit data in near real-time which triggers 'spike reports' of any unusual redemption activity. System operators use this data to investigate any potentially fraudulent behavior.
- **More accurate container counts leading to more revenue for redemption providers and less 'shrink' for deposit initiators** – RVMs verify and count every container redeemed, designating the container as belonging to the deposit initiator who registered it in the system. If containers are not registered, they are rejected. Automated counting is more accurate than manual counting which is prone to error, so redemption providers appreciate how RVMs ensure they are paid for every container they accept. Over the course of a year, this can lead to significant revenue opportunities. In the same way, deposit initiators appreciate how RVMs accurately designate containers to each deposit initiator, ensuring one company is not paying the handling fees of another.

For these reasons, modern deposit systems have found ways to incentivize or scale the use of RVMs throughout their deposit systems. Norway and Sweden both pay a higher handling fee to redemption provides that utilize RVMs, whereas California and Quebec have made available millions in grant funding for RVMs. Connecticut took a different approach by mandating all beverage stores above 7,000 square feet to provide at least two RVMs for public use.

What container sizes and material types do RVMs accept?
RVMs accept aluminum, glass and plastic beverage containers. Due to their shape and weight, cartons and pouches are not handled well by commercially available RVMs and TOMRA does not recommend their inclusion in a deposit system.

RVMs accept containers that are 4 oz up to and including 3 liters. Due to the odd shape of some non-carbonated beverages larger than 2.5 liters, TOMRA recommends accepting non-carbonated containers equal to 4 oz. and up to and including 2.5 liters. We recommend accepting carbonated beverage containers equal to 4 oz. and up to and including 3 liters. If policymakers are concerned about litter from a specific beverage category that falls outside these size specifications such as liquor miniature containers (commonly known as "nips"), we recommend excluding the other beverage categories to minimize manual redemption. For example in 2019, Maine specifically added liquor nips to the state's deposit system. While there is not a commercially available RVM that can automatically accept these containers due to their small size, Maine redemption providers accept them manually and store them in small boxes or bags.

How do RVMs help mitigate against cross-border redemption?
Cross-border redemption is not a significant issue in the deposit systems that have prioritized addressing it. RVMs reject containers that do not match the Universal Product Code provided by the deposit initiator when registering their product. To be effective this means that a deposit initiator applies a UPC to containers that are only sold in the designated deposit state. Therefore containers bought in another state that do not bear such a barcode cannot be redeemed via RVMs in the deposit state. For manual redemption, deposit initiators might put a visible marking to identify deposit or non-deposit containers so redemption providers can recognize non-deposit items.

In practice most deposit systems leave it up to deposit initiators to decide whether they will use a state-specific/unique UPC or a "universal" barcode that is utilized in multiple jurisdictions. Deposit initiators then decide whether it is worth investing in a label change and adjustments to inventory management processes. In some instances where the deposit value is very meaningful, the government has passed enabling legislation to facilitate deposit initiators to align on an industry-wide solution. For example in Germany where the deposit value is 27 cents and therefore the unauthorized redemption risk is relatively high, Deutsche Pfandsystem GmbH (DPG) was established in 2005 by the retail, beverage producer and beverage container production industries to define and establish the organizational and judicial basis of implementing a nationwide deposit return system for non-refillable beverage containers in Germany. Part of DPG's role includes managing system integrity such as aligning on a container security marking and related protocols. Producers ended up recommending a special security ink be applied to each deposit container.

Examples of state-specific markings and barcodes utilized in New York and Connecticut

State-specific markings	State-specific barcodes (known as an "Add-on Barcode)
Poland Spring **non-deposit label**  Poland Spring **deposit label**  	

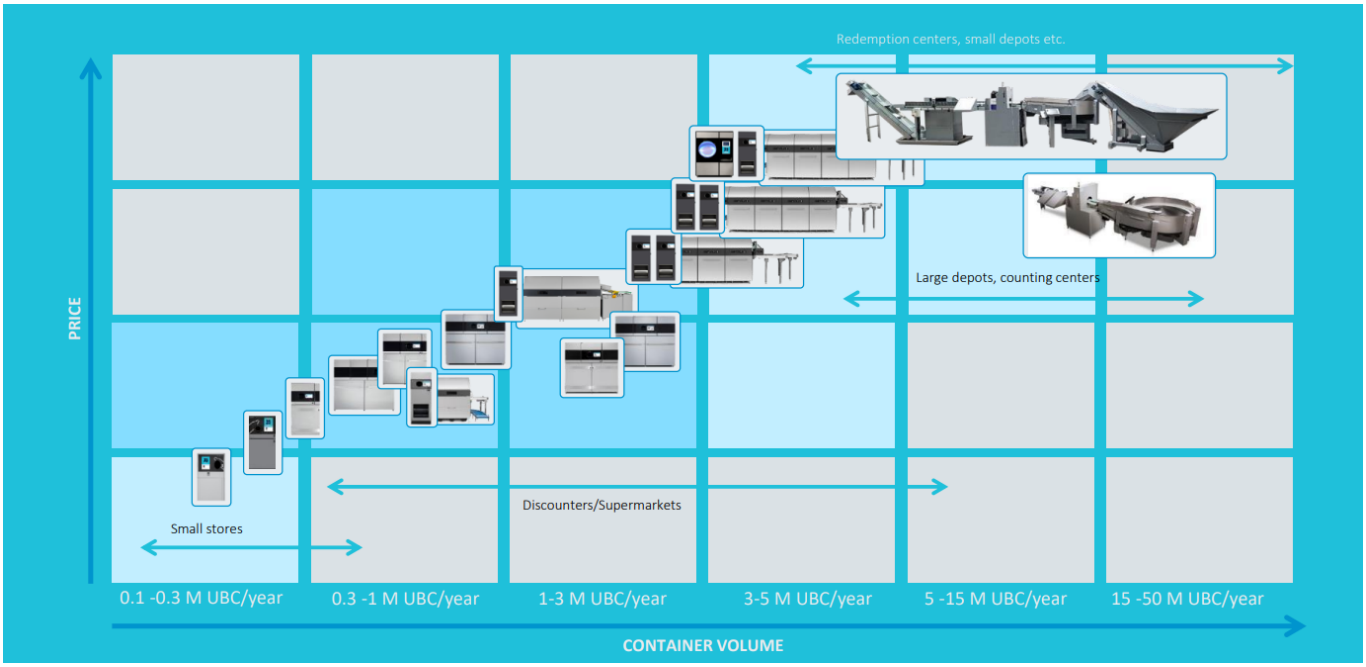
State law cannot mandate the use of state-specific barcodes due to Interstate Commerce laws, however legislation can incentivize the use of such methods through, for example, providing participating deposit initiators with a greater share of the unredeemed deposits.

What type of data does an RVM record?

RVMs record data to identify containers redeemed and match them with the deposit initiator that registered the product in the machine's cloud database. This includes the container's material type, shape, weight, and Universal Product Code. The machine also records when the container was redeemed, how many containers were redeemed before cashing out. Online machines also track whether the machine is operational and if not, what type of error has occurred. This enables maximum uptime where the RVM operator and retailer or redemption center partner to get the machine up and running again.

How large are reverse vending machines?

There are many RVM types and styles on the market today. The appropriate solution depends on a retailer or redemption center's needs – in particular the level of redemption volume, size of location, and priority placed on labor costs. As you can see below TOMRA offers a range of reverse vending solutions.



TOMRA's portfolio of Reverse Vending solutions extends from small to large depending on redemption volume and vendor preferences.

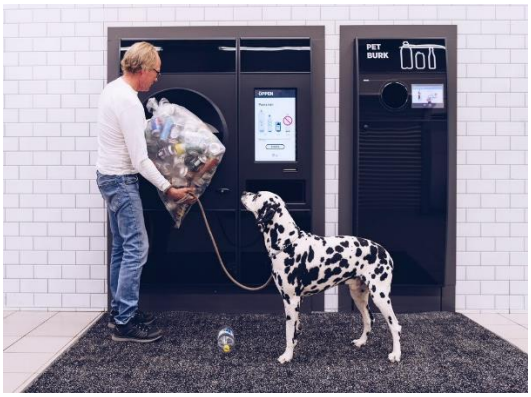
For small retailers, they may want one small machine that accepts all three material types. The M1 accepts aluminum, glass and plastic containers and has the following dimensions:

- H: 5.5'
- W: 3.2'
- D: 2.1'

TOMRA M1

On the other end of the spectrum, a thriving redemption center or a retailer that has embraced redemption as a service to consumers and is redeeming about 3 million units a year may opt for an R1and T9. Together, these machines accept aluminum, glass and plastic containers (with an option to accept refillables through an opening for crates) and has the dimensions below. Note that the consumer only see the portal and consumer interface of the machines below. The rest of the machine is located in a back room.

- H: 5.9’ – 6.4’
- W: 6.3’ (R1 = 4.3’, T9 = 2’)
- D: 11’ (or more if additional storage requested)




TOMRA R1

Can RVMs accept multiple materials or only one material?
Individual RVMs can accept a single material or all three materials (aluminum, glass and plastic) depending on the machine model selected.

What happens to the container once a consumer places it in an RVM?
Dozens of cameras immediately analyze the item placed in the RVM's opening. The machine's recognition system evaluates the container's UPC, weight and shape against the information in the system's database in order to accept or reject the container for redemption. If it is recognized, the machine moves the container on a conveyor system to a storage bin where it is separated from other material types. Typically, the material is compacted within the machine to ensure it cannot be redeemed again and to reduce the cost and carbon emissions of container transportation.

Then the RVM automatically transmits the container's redemption data to RVM system operators who initiate billing of the appropriate deposit initiator for the retailer or redemption center accepting their containers.

Why do RVMs crush material?
To reduce the cost and carbon emissions of container pickup services and to eliminate the risk of repeat redemption. For more, see the question above on "What services does a Reverse Vending Machine provide?"

How are refillable/reusable containers handled in a deposit return system?
Multiple deposit systems in operation today take back both one-way and refillable beverage containers, particularly in Canada and across Europe. RVMs are capable of accepting refillable containers. Typically, a consumer will return refillable containers to the store in a uniform crate and place the crate in an opening in the RVM. The RVM analyzes the bottles and accepts or rejects them for redemption. The refillable containers are then transported to central washing and cleaning facilities before being distributed to refilling facilities, all by the deposit initiator or on the deposit initiator's behalf.

Who pays for reverse vending machines?
Typically the redemption provider, meaning the beverage retailer or redemption center, finances Reverse Vending Machines with help from handling fee revenue. RVMs are financed based on three methods: a) purchase (which is rare), b) monthly lease, or c) what is known as a "through-put lease". A throughput lease allows a retailer or redemption center to utilize RVMs at no or minimal upfront cost, where the RVM provider takes on the financial risk of providing the machine, as long as the retailer meets a minimal redemption volume. The RVM provider then takes a portion of the handling fee.

Conclusion
TOMRA supports well-designed high-performing extended producer responsibility programs for packaging. While deposit systems have become the proven solution to reducing plastic beverage container pollution, reducing litter and increasing recycling of all beverage containers, the design of such a system should include an analysis of how it would work within the context of any jurisdiction. This is why no two deposit systems are identical. They all have been adapted in some way to meet local needs. At the same time, there is a blueprint for success as we have shared here so hopefully these insights can be of use for the committee as your work continues.

Thank you for the opportunity to share our perspective. We welcome any follow-up inquiry.

Mike Noel
Director, Public Affairs
TOMRA
+1 475-225-3846
Michael.Noel@TOMRA.com

ABOUT TOMRA: TOMRA provides a range of advanced vision systems that utilize sensor-based technology to sort everything from bottles to blueberries allowing companies and consumers to reduce their waste footprint and providing a stream of clean valuable material to the 'circular economy'.

TOMRA COLLECTION: With an installed base of approximately 83,000 systems in over 60 markets including all 10 U.S. states with deposit laws, TOMRA Reverse Vending is the world's leading provider of reverse vending and clearinghouse solutions. Every year TOMRA facilitates the collection of more than 41 billion empty cans and bottles and provides retailers and other customers with an effective and efficient way of collecting, sorting, and processing these containers. TOMRA's material recovery business includes the pick-up, transportation, and processing of used beverage containers in North America, as well as the subsequent brokerage of the processed material to recyclers. The revenue stream in this business area is derived from fees received from bottlers based on the volume of containers processed. Currently, TOMRA Material Recovery processes over 340,000 metric tons of containers annually. TOMRA has over five decades of experience in markets with deposit return laws in place.

TOMRA SORTING: TOMRA Sorting creates sensor-based technologies for sorting and process analysis within the recycling, mining, food, and other industries. TOMRA Recycling is a global leader in its field and has pioneered the automation of waste sorting. Its flexible sorting systems perform an extensive range of sorting tasks and can both prepare and sort various types of metals and waste for either material recycling or energy recovery. Currently TOMRA Sorting Recycling has an installed base of close to 5,960 units across more than 40 markets.

MDE (HB1089) LOI.pdf
Uploaded by: Tyler Abbott
Position: INFO

Maryland
Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

March 09, 2023

The Honorable Kumar P. Barve
House Environment and Transportation Committee
House Office Building, Room 251
Annapolis, Maryland 21401

Re: House Bill 1089 - Maryland Beverage Container Recycling Refund and Litter Reduction Program

Dear Chair Barve and Members of the Committee:

The Maryland Department of the Environment (MDE) has reviewed House Bill 1089 and would like to provide the following information regarding this bill.

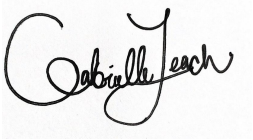
House Bill 1089 would establish a Maryland Beverage Container Recycling Refund and Litter Reduction Program (Program), which would address the collection and redemption of beverage containers sold in the state. MDE would be required to oversee the Program and enforcing seller and distributor registration requirements and container disposal prohibitions

MDE supports efforts to divert redeemable beverage containers from the waste stream. Many existing state "bottle bills" have been in place for 30+ years and have an average recovery rate of 67%; however, to implement House Bill 1089, MDE would need significant additional staffing and fiscal resources.

MDE recommends addressing glass collection and glass recycling in greater detail, the bill as currently written could unintentionally exclude these industries based on global revenues.

Thank you for your consideration. We will continue to monitor HB 1089 during the Committee's deliberations, and I am available to answer any questions you may have. Please feel free to contact me at 410-453-3235 or by e-mail at gabrielle.leach@maryland.gov.

Sincerely,



Gabrielle Leach
Deputy Director
Legislative and Intergovernmental Relations

cc: The Honorable Jen Terrasa
Tyler Abbott, Director, Land and Materials Administration