Zero Waste and Recycling Interim Study Committee: October 22, 2019

Bree Dietly, Northbridge Environmental Management Consultants

Good morning Chair Cutter, Vice-Chair Moreno and Members of the Study Committee. My name is Bree Dietly and I am a Principal at Northbridge Environmental in Westford, Massachusetts. I research recycling and other public policy issues related to the environment and have particular expertise with container deposit laws, having conducted research on programs throughout the US for 34 years. I am also involved in the operational side of deposit programs as I manage two distributor cooperatives that handle empty deposit containers in Maine and in Vermont.

I am representing the American Beverage Association (ABA) and its members who produce and distribute most of the refreshment beverages sold in Colorado. Our local bottling, distribution, and sales operations directly employ nearly 3,000 Coloradans who live, work, and play in their local communities. Our employees and companies give back to our communities through their civic involvement, contributions, and engagement in important issues like recycling.

ABA's member companies share a strong commitment to the environmental sustainability of their products and packaging. They sell virtually 100 percent recyclable packaging that has high market value, something that is critically important in the current recycling market. As an industry, we are working to get every bottle back so we can close the loop with our material and put it back into bottles. Our member companies have made commitments to include more recycled content in their bottles and we are engaging at many levels to drive up recovery of our containers from the waste stream to support this goal.

Interim Study Committee Initiatives

State-level waste policy discussions like yours are popping up everywhere. As you know, solid waste and materials management has historically been left to local governments to figure out, and, unlike most other developed economies, we lack a coherent national policy on this front. As a result, global events like the closure of the Asian markets to certain recyclables last year, trickle down to city managers and public works departments to sort out. The problem and the cost fall on them.

The initiatives before you relating to education and awareness on recycling and on end markets are both critical for addressing the issues facing recycling today: the quality of what is going into our recycling carts and bins and resiliency and diversity in markets for that material once it is recovered. As individual companies and as an industry, we are engaging in the education and promotion aspects already through our support for The Recycling Partnership and through our own company initiatives. On the ground engagement with residents can dramatically reduce the contamination that is increasing recycling costs and lowering prices for commodities. I will address more about our industry's role in the recycling system below.

The organics provision you are considering is the most significant in terms of its impact on diverting waste from disposal. Organics management has to potential to reduce dramatically the waste collected from residential and commercial sources, but states have found it challenging to

adopt and fund policies to bring that diversion to its full potential. The groundbreaking Act 148 legislation in Vermont is a perfect example of a launching a well-conceived organics plan that has run aground on a lack of funding. Colorado's relatively low disposal costs make the economics of organics management challenging as well because the avoided disposal costs offered by organics diversion are relatively small.

The container redemption/deposit return system (DRS) option is one that we do not support as it is written. I am not here to say whether a deposit system is right for Colorado at this time, but I hope I can shed light on some of the factors that should go into that decision.

Materials Management and the Beverage Industry

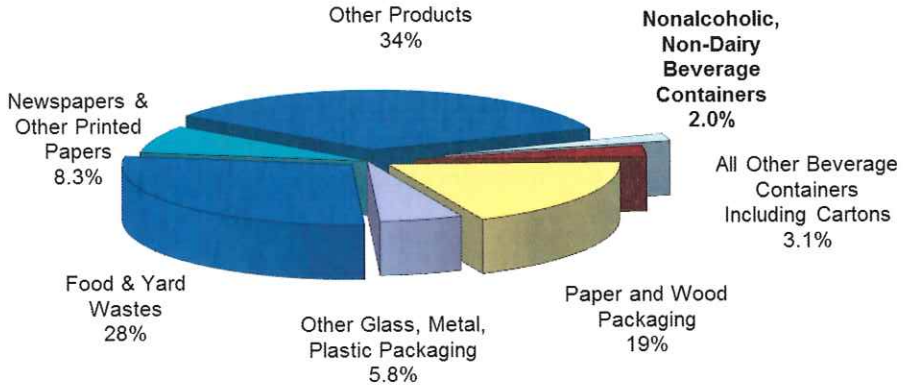
Anyone involved with materials recovery systems of any kind - recycling, composting, reuse – realizes how complex the systems are and how inter-connected they are. As a result, silver bullet solutions simply do not exist in this space. Innovations and reforms need to consider implications for the entire system and while keeping the *status quo* is always easy, the realities of recycling economics are making staying the course an impractical strategy.

Our industry's packages play an important role in recycling systems because, despite the fact that they account for relatively little of the total material, they account for a much larger share of the value earned from recyclables. Aluminum cans have the distinction of being the only material in the waste stream that pay their own way through recycling; they are worth more than they cost to collect and process. PET bottles, which make up nearly all the rest of our containers, do not pay their own way, but they are the next highest value material after aluminum. (HDPE, the plastic used in milk jugs and detergent bottles, is usually of similar value.)

Our industry's containers represent about two percent of the municipal solid waste (MSW) stream according to EPA national data and beverage industry data (Exhibit 1).[1] Considering all kinds of beverages, from bourbon to baby juice and all packaging materials, beverage containers as a whole are about five percent of the waste stream.

Exhibit 1

MSW Composition - 2015 EPA Data With Detail on Beverages*



** Beverage detail from American Beverage Association data compiled by Northbridge Environmental from suppliers and third party research.*

Concern over plastics in the environment has reached a very high level, bringing much-needed attention to the myriad plastic items designed for a single use with no prospect of recovery or reuse. Sadly, much of the plastic in the waste stream falls into the

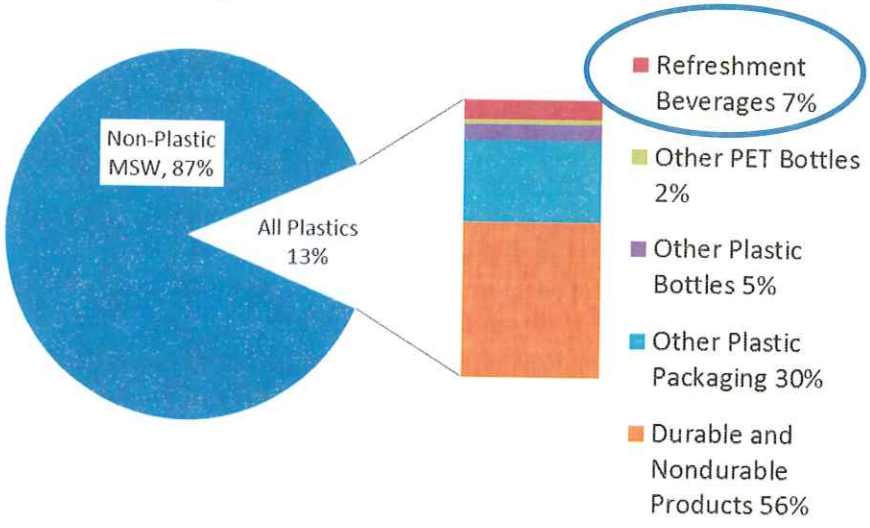
[1] https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/advancing-sustainable-materials-management

nonrecyclable category, at least until technology improves to find ways to recover its value. As noted, though the PET bottles our industry makes are designed to be fully recyclable – even the caps. We have set a goal of 100 percent recyclability for our bottles and are very close to reaching that.

Our bottles represent about seven percent of all plastics in the waste stream or about 0.9 percent of total MSW. Exhibit 2 shows that plastics represent one-eighth of all US waste generated (produced before recycling is counted). The most recyclable items, plastic bottles, represent only about 14 percent of the total plastics in the waste stream.

Exhibit 2

Composition of Plastics in MSW 2015



Policy Interventions

Colorado communities have developed infrastructure to recycle, but access to that infrastructure is somewhat inconsistent from place to place, the design of the programs is inconsistent, the materials recovery facilities (MRFs) that process recyclables vary in their use of technology and how recently they were updated. This affects the ability to recycle not just our containers, but the other recyclables (which represent much more of what goes into carts and bins).

Our industry has a self-interest in better recycling to get more of our own containers back, but we have long invested in recycling generally to "raise all boats," through investments in facilities and technology, support for local programs (buying carts, leveraging outreach programs), and partnerships with others to expand our impact on the recycling system. Our industry's involvement with The Recycling Partnership and Closed Loop Partners helps enhance the quality of recycling programs and the quality of the recyclables collected. This is how we are responding to the challenges presented by the current environment for recycling – increased action as individual companies and as an industry, working together.

The best practices in municipal recycling are well understood, but there are often political and financial barriers to implementing those best practices and we look to public policy to help address those barriers. Our industry has supported a wide range of legislation to bolster recycling. These include:

- **Measures to discourage disposal** (pay as you throw programs so residents register that throwing away more means higher costs, disposal surcharges to fund recycling, and disposal bans for recyclables).

- **Recycling initiatives** to mandate participation, require parallel access between trash and recycling services, embedded rates for recycling and disposal service, and requirements for commercial and multi-family buildings to offer recycling

- **Proposals for increased producer funding** of recycling systems, from limited or partial producer responsibility (PPR) programs to full extended producer responsibility (EPR) programs covering all packaging and paper.

Producer Responsibility Systems

These systems dominate the recycling policy landscape in developed economies around the world. Producer funding of multi-material recycling (municipal recycling) is in place across Canada and throughout Europe and extending into Asia and South America. Extended producer responsibility is not, by itself, a panacea for better recycling. The underlying infrastructure needs to perform at a high level and the governance and funding of the system need to be structured properly to ensure efficiency, accountability, and equity. Producer funding should rightfully be part of any discussion of moving recycling forward because it holds the potential for meaningful and coordinated improvements in recycling infrastructure and operation that has held down the performance of recycling programs in the US.

EPR systems are characterized by a statutorily mandated role for producers (of packaging and printed paper for the purposes of this discussion) to fund fully or partially the cost of managing materials. No US state mandates producer funding for packaging and paper in the municipal waste stream, however.

EPR is a financing method; it is not a form of recycling. EPR for packaging typically supports the cost of the recycling system; disposal costs remain the responsibility of local governments and taxpayers. This creates an incentive to increase recovery of materials to drive down disposal costs. EPR programs obtain their funding by levying charges on eligible producers of designated products in the jurisdiction. Typically, it is the producer or first importer of a package into a state that would be responsible for funding the EPR program.

Partial producer responsibility (PPR) systems offer a more limited approach to address scarce capital resources and inconsistencies in recycling opportunities across the state. Producer funding dedicated to investments in recycling equipment, facilities, educational campaigns, and other one-time costs maintain the shared responsibility model between producers and municipal service providers, but provide grants to governments and businesses in the municipal recycling space to bring programs up to best practices levels. As with any of these approaches, funding must be dedicated to recycling programs and directed by experts and stakeholders who can evaluate how best to invest resources to enhance recovery and quality of recyclables.

The idea behind PPR is that producers should participate in funding recycling programs for the products they put on the market, but the operating costs of those systems should remain the responsibility of local governments and their ratepayers who use the service. The producers' role is to provide capital for improvements that are often beyond the capacity of local government or of recycling businesses who may not have access to capital or may have other places where they direct it for higher returns (like disposal facilities).

The beverage industry has supported laws like this, most recently enacted in Delaware in 2010, where funds on selected products were segregated in a fund and disbursed to communities and recycling companies for new equipment and to build out an underdeveloped, single-stream

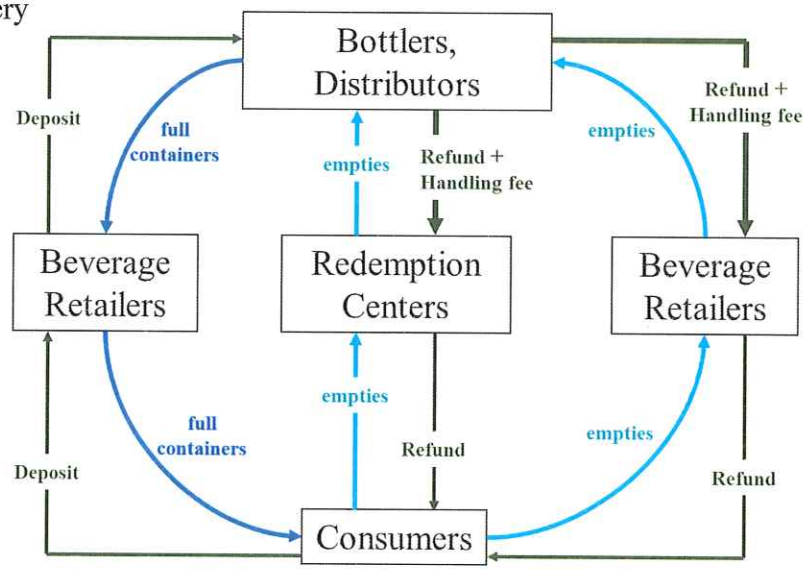
recycling infrastructure. The state's recycling rate has grown significantly since, and, though it started at a relatively low rate, now stands among the best recycling states in the country.[2]

Deposit Return Systems (DRS)

DRS first appeared in the US in Oregon to counter the market advantages of so-called "one-way" (nonrefillable) containers over refillable bottles. Absent the unique special case of Hawaii, all of the US DRS laws passed before the municipal recycling programs we know today were even a gleam in anyone's eye.

I am not here today to rail against DRS programs, but to put them in a broader context of recycling infrastructure and materials recovery goals. I can say that states that have looked seriously at adopting a DRS law in the modern recycling era have rejected it because it didn't make sense to create new infrastructure of the magnitude required to manage the small amount of material that would flow through it. I described earlier how beverage containers represent a small part of the waste stream, but one that is economically important to recyclers and will expand on those ideas somewhat now.

"Traditional" DRS Schematic



Because not everyone lives with DRS every day, I have included a simplified schematic of how these systems work. Deposits originate with distributors or bottlers and are passed down through the supply chain to consumers. When consumers redeem containers at retail or standalone redemption locations, they earn a refund. Ideally the unclaimed deposits help defray the operating cost of the system.

Empty containers are collected from stores and redemption centers, processed, and sold, again with the revenue used to defray operating costs. The key costs occur at the point of redemption (back from consumers) and in the network to collect and process the materials.

Optimizing the design of a DRS, taking the experience of the many programs in existence around the world, can mitigate some of the excessive costs and inefficiencies associated with the deposit programs operating today. Even an optimized system, though, will have impacts on existing recycling programs and on Colorado businesses relative to those in neighboring states.

Infrastructure

Creating a DRS triggers the establishment of an extensive new network of facilities to redeem containers, tied together with logistics, facilities, and equipment to collect and process those containers. The intersection with the existing recycling infrastructure is virtually nonexistent.

[2] The Delaware law imposed a fee on consumers, where we are suggesting that the fee be paid by producers.

Some nondeposit states considering whether deposits were right for them have funded research to explore the question. The most complete study in recent years was done in Minnesota and completed in 2014.[3] The analysis was based on a theoretical redemption system, designed to be as efficient as possible. Even at that, the redemption system's operating costs were estimated at about $100 million per year (after deducting the scrap value), and this cost does not include what we estimate as another $40 million in consumer costs to travel to and from redemption centers.

The most jarring comparison from Minnesota was that the proposed "efficient" deposit system would cost 1.5 to 2 times more than the ***entire*** residential recycling system already in place in the state (despite the fact that the redemption system would only handle a few percent of the waste stream). The Minnesota legislature did not take up the issue. A similar study for Rhode Island's solid waste authority several years before came to similar conclusions, and they found that upgrading their established recycling infrastructure offered a much better approach.

Impact on Recycling Programs

Deposits remove nearly all of the aluminum cans and well over 80 percent of the PET plastic from existing curbside, dropoff, and scrap buyback operations. As noted, these are the two most valuable commodities in the municipal waste stream, and without them municipal recycling programs cost more to operate because the programs lose the revenue from these valuable commodities. No other packaging has that kind of value and because the majority of these beverage containers are consumed at home, recycling of these materials in residential recycling programs is important for the economic viability of those recycling.

Even as deposit systems take away most of the valuable material from municipal systems, the costs and operating requirements for the municipal system would not change much – the recycling trucks still have to drive the same routes and stop at the same houses, they would just be picking up slightly less material and that material would have much less value on average.

Fraud

Fraudulent activity spawned by deposits ranges from consumers redeeming containers that they purchased out of state to large, organized efforts to defraud states and beverage distributors with large movements of out of state containers into a deposit state to be redeemed. Handling those containers adds cost to the system, but the distributors and retailers incurring those costs never sold the container, collected the deposit, or were able to capture any of those costs in their prices.

In my role as general manager of a distributor coop in Vermont, I watch fraud occur before my eyes when I conduct field audits of redemption centers. Containers that were clearly purchased outside the state are routinely offered for redemption by consumers or by "professionals" who collect and consolidate them. The parties complicit in the fraud, knowingly or unknowingly, range from churches and charities to municipal governments and small businesses.

Market Impacts

Our Colorado bottlers and our retail customers would lose business if the state had a DRS. The deposit itself as well as the embedded costs of operating the system add to the price of beverages

[3] "Recycling Refund System Cost Benefit Analysis," Reclay StewardEdge for Minnesota Pollution Control Agency, January 2014 Draft. Minnesota has roughly twice the population of Nevada.

(and other groceries), which leads to lower sales. Deposit states have systematically lower per capita sales of deposit products than their nondeposit counterparts. These impacts are most acutely felt in border areas where consumers shop across a state line to avoid paying deposits and often take other shopping business with them. An older study of border counties in deposit and nondeposit states found 4.6 percent sales losses across food stores in deposit counties. Controlling for other factors, the existence of a deposit law predicted that total store sales (not just beverage sales) would be 4.6 percent lower in deposit states.[4]

Conclusion

State laws and policy are critical in creating an environment in which recycling programs are promoted and supported so they can do their job. Initiatives to bolster recycling and discourage disposal have and will be effective. Moving to systems where producers fund some or all of the recycling costs is, we believe, both inevitable and appropriate. Our industry has led in taking responsibility for our packaging while others sat out the game. Our experience means we have views on how best to proceed in making small or big changes in how recycling works and is funded. We want to be at the table for those discussions.

Thank you for the opportunity to testify today.

Bree Dietly
Northbridge Environmental
319 Littleton Road, Suite 208
Westford, MA 01886
978-392-9665 X-103
bdietly@nbenvironmental.com

[4] "The Economic Impact of a Container Deposit Program in Kentucky," Center for Business and Economic Research, University of Kentucky, March 1999.