

RECYCLING
LEADERSHIP
COUNCIL

Blueprint for America's Recycling System

An exploration of fixing
America's recycling system



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About the Recycling Leadership Council

The Recycling Leadership Council (RLC) is a diverse group of stakeholders from consumer-facing industries, packaging companies and the recycling ecosystem, brought together by the Consumer Brands Association, that believe sweeping change is imperative to improve, advance and increase recycling in America and integral to the long-term health of the planet.

The RLC came together under three foundational principles:

1. Pursue big ideas

to create modern and scalable end-of-life solutions that maintain the affordability, safety and reliability of consumer products.

2. Seek uniformity

of recycling rules and practices across the entire ecosystem.

3. Identify long-term solutions

that take precedence over short-term, competitive interests, with the goal of increasing sustainability and significantly reducing waste.

The RLC is made up of over 20 groups representing consumer-facing industries, packaging suppliers, NGOs and academic thought leaders. From consumer goods and retail to food service, these diverse organizations operate in cities and towns across America.

RECYCLING LEADERSHIP COUNCIL MEMBERS

- American Beverage Association
- American Cleaning Institute
- AMERIPEN - American Institute for Packaging and the Environment
- Arizona State University Rob and Melani Walton Sustainability Solutions Initiatives
- Can Manufacturers Institute
- Closed Loop Partners
- Consumer Brands Association
- Consumer Technology Association
- Council for Responsible Nutrition
- Distilled Spirits Council
- Flexible Packaging Association
- FMI, The Food Industry Association
- Glass Packaging Institute
- Household & Commercial Products Association
- International Franchise Association
- National Restaurant Association
- National Retail Federation
- Ocean Conservancy
- PMMI, The Association for Packaging and Processing Technologies
- Retail Industry Leaders Association
- The Recycling Partnership
- SNAC International

Executive Summary

Packaging and recycling are at a critical crossroads in the United States. To address this, the RLC spent the last year bringing together a diverse and comprehensive group of stakeholders, united by the common goal of fundamentally reimagining recycling in America. It collected data and facilitated conversations with key stakeholders to identify best practices for and obstacles to an effective, scalable recycling system. It combined these insights with a bold, actionable vision for the future of recycling in this document – *Blueprint for America's Recycling System*.

BLUEPRINT FOR AMERICA'S RECYCLING SYSTEM

The Recycling Leadership Council believes that recycling needs federal action. Solutions at the national level are vital to improve and advance the system, so that more packaging and more types of packaging are recycled. Without federal leadership, the system will remain fragmented and misaligned, with waste becoming increasingly unmanageable and visions of a sustainable future and a circular economy impossible to realize.

Together, the RLC represents a comprehensive list of stakeholders working together to rigorously scrutinize America's recycling system and provide substantive, actionable solutions with broad stakeholder support. We propose this ambitious blueprint of federal policy action because our current hyper-localized structure lacks the functionality to achieve broad economies of scale and, in many areas, process the packaging of today and tomorrow. Without the authority, accountability and incentivization provided by the federal government, the United States will struggle to build a true circular economy. We have the opportunity and the will among stakeholders and American consumers to launch a "moon shot" toward a 21st century recycling system and the circular economy the environment so badly needs and that consumers want.

Recycling in America will only work with the unified and concerted national effort provided by federal authority and leadership.

The RLC is calling for a national strategy on recycling and policy action in three areas: data collection; system standardization and harmonization; and financing and end-market development.

We propose the following federal policy concepts to significantly advance the U.S. residential recycling system, building a system supported by all stakeholders that works for all stakeholders.

DATA COLLECTION AND REPORTING REQUIREMENTS

- Establish a definitive baseline of performance through an EPA data collection effort.
- Identify opportunities for investment, improvement and innovation through an EPA-conducted needs assessment.
- Identify sources of mismanaged waste globally and domestically.

RECYCLING SYSTEMS STANDARDIZATION AND HARMONIZATION

- Establish standardized definitions of key recycling terms and harmonization at the national level.
- Establish national goals and minimum performance standards.
- Highlight and recognize top echelon of recycling, materials recovery facility (MRF) operations and performance.
- Harmonize recycling across the federal government by 2030.

DEVELOPMENT OF FINANCING TOOLS AND MARKETS

- Help states meet national recycling goals, performance standards through a block grant program and other tools.
- Leverage infrastructure policy vehicles to include recycling infrastructure.
- Develop tax incentives for investment in recycling system and infrastructure improvements.
- Support economic opportunity through end-market development:
 - Federal agency purchasing targets.
 - R&D grants to universities, research institutions.
 - Coordinated state market development boards.

The Recycling Leadership Council is calling for a national strategy to improve, advance and increase recycling in the United States. This in-depth proposal represents deep stakeholder input and thought leadership, and the RLC strongly recommends that lawmakers use this blueprint as a foundation to propose legislation and invest in the fundamental reinvention of the American recycling system.

The Problem

Packaging has a critical role to play, protecting product safety and quality as products are sold and delivered to consumers around the country and the world. And in today's complex supply chain, packaging must meet an increasingly new set of delivery and product protection needs — from e-commerce to traditional brick-and-mortar stores to take-away, consumers' shopping and delivery preferences are changing rapidly, and packaging must change with them.

However, packaging's environmental footprint can improve, and consumer-facing industries can meet that challenge. Investing in new materials, reusable or refillable packaging, fully recyclable or compostable and lighter packaging, companies are making major commitments and putting serious research and development resources behind reducing packaging's environmental footprint. Whether joining global efforts like the Ellen MacArthur Foundation's New Plastics Economy or focusing on internal targets, progress is being made to package with the planet in mind.

Despite these efforts, packaging too often ends up where it shouldn't, in landfills or worse, in oceans and waterways. In particular, the global marine debris crisis points to a need for significantly more action across the value chain to advance solutions that address packaging waste.

A critical underpinning of reduced waste to landfill and a circular economy for packaging is the recycling system.

The current system has not effectively kept pace with innovations in packaging or recycling system technology. While some programs are using the best possible technology, many remain outdated, unable to process the packaging in use today.

Recycling in America is a loosely connected system. The federal Resource Conservation and Recovery Act (RCRA) provides a framework for U.S. EPA oversight of waste, while most authority for recycling is granted to states and municipalities. This local authority means that individual recycling programs are piecemeal, established and run town-by-town and county-by-county, often without coordination between neighboring towns, across a state or region. This means that each municipal system has its own rules about what is collected, when and how often, creating rampant consumer confusion across the nation's nearly 10,000 different recycling programs. The unintended consequence of good intentions is a recycling system built with no harmonization, hindering innovation and preventing economies of scale.

A recent study by The Recycling Partnership found that Californians believe the state's recycling rate is 95%, while the actual rate is 44%. Similarly, a Consumer Brands Association study revealed that many Americans think doing their taxes is easier to understand than recycling.

A system is a set of interconnected parts organized within a defined boundary to provide functionality or utility. Systems thinking involves understanding the components, stakeholders, knowledge, policies and regulations, patterns and relationships that make up the packaging value chain. Since packaging comes in hundreds of combinations of materials and fabrication processes, there is no single answer to the "perfect" system — the answer lies in utilizing a holistic, systematic approach to evaluating and redesigning packaging systems.¹

**-Alicia Marseille, Director of Innovation,
Arizona State University**

Recycling alone cannot solve all of society's packaging challenges. However, it is the foundation on which many packaging design and waste reduction efforts sit. From increased recycled content to fully recyclable packaging, the system must function all across the United States to prevent valuable material from going to landfill and help meet our resource reduction goals. We must strive toward a true circular economy.

There is no doubt that the packaging and recycling system are at a critical crossroads. But this crisis presents a real opportunity to build a broad, bipartisan coalition to reimagine the American recycling system of tomorrow.

OPPORTUNITY FOR ACTION

Americans support large-scale solutions for recycling, with an overwhelming majority looking for federal government leadership.

A Consumer Brands survey found that 77% of Americans believe tackling plastic and packaging waste should be the federal government's next "moon shot" and 93% agree that national standards would alleviate recycling confusion.

Cities, states, nonprofits and businesses are already working to create innovative solutions to these challenges. In many states around the United States, conversations and policy proposals are moving forward that consider a range of options on both packaging design and financing — including extended producer responsibility, recycled content minimums, recyclability or compostability requirements and container deposits. These efforts are important to help advance solutions and achieve a circular economy. Scalable solutions require a national strategy.

The federal government must help lead the reinvention of the recycling system that is already underway in localities and by organizations and industries around the country. Through federal leadership and a strong national strategy, we can address the fragmented nature of our country's recycling system and help realize the circular economy our planet so badly needs.

¹ [Saving Recycling with Arizona State University](#)

Lessons Learned

Central to the mission of reimagining recycling was a year-long data gathering effort from experts in every part of the value chain in order to better understand challenges and identify opportunities to build upon investments and commitments currently underway. While these conversations informed the RLC's process and we are grateful for their expertise and perspective, the ideas expressed in this report are in no way endorsed by these individuals or the organizations they represent.

Academia

- Dr. Calvin Lakhan – **York University**
- Dr. Bruce Welt – **University of Florida**

Environmental NGOs

- Chever Voltmer – **Ocean Conservancy**, director, plastics initiatives
- Erin Simon – **World Wildlife Fund**, head, plastic and business
- Sarah Dearman – **The Recycling Partnership**, VP, circular ventures

Government

- Avery Mulligan – Office of Ranking Member **Sen. Tom Carper (D-DE)**, legislative aide, Senate Committee on Environment and Public Works
- Sarah Peery – Office of **Sen. Rob Portman (R-OH)**, legislative assistant
- Janine Bogar – **Washington State Department of Ecology**, solid waste management program planner
- Dan Weston – **Washington State Department of Ecology**, solid waste data analyst
- Jeremy Webb – **Port of Seattle**, environmental program manager

Plastics

- Julie Zaniewski – **Dow Packaging & Specialty Plastics**, North America sustainability director
- Holli Alexander – **Eastman**, strategic initiatives manager, global sustainability
- Paula Luu – **Closed Loop Partners**, director, Center for the Circular Economy
- Keith Christman – **American Chemistry Council**, managing director, plastic markets

Retail

- Ashley C. Hall – **Walmart**, director of sustainable packaging
- Darcie Renn – **Albertsons**, director of sustainability
- John Kotlarczyk – **Walgreens**, senior director, CSR and waste reduction

Waste and Recycling

- Larry Logan – **Digimarc Corporation**, chief evangelist
- Susan Robinson – **Waste Management**, senior director, sustainability and policy
- David Biderman – **Solid Waste Association of North America (SWANA)**, executive director and CEO

RECYCLING IN LIMBO: TRANSFORMATIVE CHANGE AND SHARED RESPONSIBILITY

Changes to global markets mean some systems are running into limitations on what materials they can profitably recycle and are restricting or changing what they can accept or even suspending programs. These changes are leading to recyclable material ending up where it shouldn't — in landfills, oceans and waterways. While the challenge to reimagine recycling seems daunting, solutions do exist.

Fundamental change was the recurring theme of the inaugural gathering of the Recycling Leadership Council, convened by Consumer Brands Association President and CEO Geoff Freeman in Washington, D.C., with a simple directive: "We have a responsibility to give consumers a roadmap to a system that makes a lot more sense."

That first meeting was attended by Senate Recycling Caucus leaders Tom Carper (D-DE) and John Boozman (R-AR); Save Our Seas legislation sponsors Senators Sheldon Whitehouse (D-RI) and Dan Sullivan (R-AK); then-Senator Tom Udall (D-NM), who drafted the Break Free from Plastic Pollution Act; and Congresswoman Haley Stevens (D-MI-11) who launched the Congressional Plastic Solutions Task Force. Their attendance and guidance assured RLC members that there is clear and demonstrated bipartisan support for action.

Sen. Boozman said, **"This is an area where Democrats and Republicans find common ground"** and implored the RLC to **"help us find the things that we can agree on so we can move them forward."**

However, the guidance of lawmakers and the overview of the challenge made it clear that identifying real solutions requires compromise — the kind of compromise that requires sacrifice from all stakeholders. Sen. Udall acknowledged that the RLC **"organizations are important to finding solutions to the plastic crisis we are facing,"** but pushed the council to take responsibility for the products and packaging its members produce.

Sen. Whitehouse urged RLC members to "eschew the Washington habit of having your position align with the most troubled member of your industry. Do not defend the lowest common denominator and bring that to us. Work your groups so they're bringing their best and strongest policy recommendations to us."

Rep. Stevens summed up the launch day and the nature of the challenge ahead: "It's not by demonizing the consumer, the brand or the municipality. It takes the forging of unlikely holistic alliances."

Together is the right way to do it. A lot of the problems we have in front of us we did not create on our own and we're not going to solve on our own.

-John Kotlarczyk Senior Director, CSR and Waste Reduction, Walgreens

SHARED RESPONSIBILITY DRIVING COLLECTIVE ACTION

Beyond the Capitol Hill event that launched the RLC in January 2020, a key takeaway from the entire stakeholder process is that organizations across the value chain have been working on this issue for many years.

The opportunity we have today is a groundswell of broad collective action necessary to both understand the issues with recycling and act.

The sheer number of stakeholders involved in the recycling value chain demonstrates the complex nature of this issue. Companies, non-profit organizations and government entities alike must collaborate and innovate, with a common goal to solve the recycling and packaging crisis in America.

We know this challenge is too big for any one industry to address alone. Changes will have to be made along the entire value chain to realize the circular economy for packaging in America. This includes material suppliers, packaging manufacturers, brands, retailers, waste haulers, recyclers, consumers and government at all levels. As Sarah Dearman, vice president of circular ventures at The Recycling Partnership, advised in a stakeholder session, to make a difference, all organizations, governments and businesses must work together to address the challenges ahead.

From the beginning, the RLC has advocated that the way forward requires an acceptance of shared responsibility by every stakeholder. Simultaneously, the purpose of the RLC's year-long information gathering effort was to identify federal policy proposals to help fundamentally reimagine recycling in the United States. This is not to say that the federal government can or should act alone. Rather, the RLC set out to identify federal policy solutions because it views the federal government as having a critical role to play in ushering in a new era of material use and recycling system improvements.

² [Measuring Recycling: A Guide for State and Local Governments](#)

Key lessons from the stakeholder process.

Strong data is the foundation for all smart policy solutions. For too long, recycling in the United States has been characterized by its lack of reliable, comprehensive data. Stronger data is the necessary first step toward modernizing American recycling infrastructure, strengthening U.S. community recycling programs by determining needs, providing education and access and ultimately capturing valuable materials for the circular economy."

-Dylan de Thomas, Vice President of External Affairs, The Recycling Partnership

Data — You Can't Manage What You Can't Measure

One of the largest missing links in building the circular economy for consumer packaging is consistent and actionable data. Policymakers often struggle to advance meaningful and comprehensive solutions due to gaps in data from waste haulers, material recovery facilities (MRFs) and end markets because data collection and reporting requirements vary from facility to facility or program to program. The EPA is cognizant of this data challenge and has tried to find solutions since 1997, when the agency attempted to develop a standardized measurement system for all state and local governments.² More than two decades later, we are still struggling with the same issues while facing even more complexities with global market disruptions, packaging innovations and

swift changes in local programs. From what the RLC has learned through its stakeholder sessions, most data collected on where materials end up and what happens to them at their end of life stops at the trash or recycling bin.

To better understand where funding will make a difference, we need to better understand the pinch points of collection, sorting and processing capabilities and how it is correlated to the quality of recycled content that is sold back to manufacturers.

Just as important, we are often not collecting the *right* data. Measuring progress only in tons of material recycled or diverted fails to capture the changing nature of packaging and waste management infrastructure. For example, plastics are very lightweight, so if success is only measured by weight, the sheer number of plastic containers recycled may not be reflected in the metric. It is not just a matter of *how much* is recycled or diverted, but what is recycled or diverted.

Major data collection efforts are beginning to close the gaps in waste and recycling information. We started the stakeholder process with the environmental NGO (ENGO) community, which has been a leader in developing innovative methods for measuring plastic leakage into the environment. Chever Voltmer, director for plastics initiatives with

Ocean Conservancy, shared with the RLC why data collection is so critical for helping us understand not only what, but why and how trash ends up in our oceans.

In 2012, Ocean Conservancy founded the Trash Free Seas Alliance® (TFSA), bringing together businesses and conservation organizations to identify pragmatic solutions to solving plastic pollution. Its first report found that 75% of plastic waste entering the ocean worldwide was never collected to begin with, and the remaining 25% came from leaks in waste management systems.

In addition, Ocean Conservancy, in a seminal paper published in 2015 by a group of scientists in partnership with the organization, found that approximately eight million metric tons of plastic were entering the ocean each year due to mismanaged waste around the world. This sparked a global increase in awareness around ocean plastic pollution.

Another NGO, World Wildlife Fund (WWF), launched a corporate activation hub called ReSource: Plastic, which partners with major corporations to measure and report their plastic usage and what happens to the material at its end of use through an innovative and transparent reporting framework. This framework, the ReSource Footprint Tracker, helps companies take data-driven actions that can maximize their potential for impact and identify new opportunities for collective action. Ocean Conservancy and the Ellen MacArthur Foundation are thought partners to ReSource. The ReSource Footprint Tracker is now being used as part of the foundation for the U.S. Plastics Pact, a joint venture between The Recycling Partnership, WWF and the Ellen MacArthur Foundation. These types of collaborative initiatives unite stakeholders to work toward a common vision, each measuring success in the same way.

Similarly, in the academic space, research and innovation emphasize the imperative of strong data as a foundation to solve major problems. For example, as packaging formats have shifted, there has been a dramatic rise in plastic production. Understanding the volume of that

material in the supply chain and packaging ecosystem can help identify and prioritize solutions to manage different kinds of plastics at their end of life as recycling and recovery technology improves. Studies by Dr. Jenna Jambeck, environmental engineer and professor at the University of Georgia, show that as of 2017, humans created 8.3 billion metric tons of plastics, outgrowing all other man-made materials other than steel and cement. By 2050, that number is expected to reach 34 billion metric tons. According to Dr. Jambeck, an estimated eight million metric tons of mismanaged plastic waste enters our oceans in just one year.³ Understanding the amount of this material in use, and the challenges associated with waste systems that aren't working in countries around the world, can help prioritize solutions and point to a market need for improved recycling and recovery technology.

More comprehensive collection efforts increasingly yield data that shows where interventions can make the most impact. Advancements in digital watermarks for packaging materials, for example, present new opportunities to reduce food waste, decrease manufacturing errors, protect the authenticity and security of products, reduce waste, promote consumer engagement and more. Digital watermarks allow for precise tracking and data collection on packaging as it flows through the supply chain, including the waste and recycling system. Extensive data from across many industries and jurisdictions will be required to create circular supply chains. One of the most impactful actions we can take to reduce waste and reinvent recycling is to create a broad and in-depth data collection system that will identify what is working and what isn't.

Addressing a Patchwork of Systems Through Coordination and Leadership

Solving for a patchwork of thousands of different recycling systems will take coordinated leadership. The country's recycling system is confusing, in part, because there is not a coordinated national direction or standards

for that system. As part of EPA's 2019 America Recycles Day stakeholder meetings, ***The Environmental Research & Education Foundation found eighteen different definitions of recyclable or recycling across the states.⁴ Without agreed upon definitions and with thousands of unique operating systems, it is no wonder there is rampant confusion around what and how to recycle.*** At the same time, there are already over 100 active U.S. initiatives to reduce plastic consumption and pollution. By standardizing and harmonizing the recycling ecosystem from the top down, it will help align these efforts to be more effective.

Throughout the stakeholder process it became clear that there's an important role for the federal government to help modernize and scale solutions to match packaging innovation with end-of-life solutions, acting as the tip of the spear to help coordinate efforts within every level of government, the private sector and NGO community. This fall, EPA announced a national recycling goal and released a draft national recycling strategy. These are important steps forward. A robust, clearly articulated national policy and approach to our recycling system is needed from the federal government. The members of the RLC are actively engaged with EPA to support those efforts.

The RLC heard from government representatives and staff leads who are engaged in recycling policy on the ways states and the federal government are working to address America's recycling challenges. These discussions highlighted the breadth of issues governments are managing, including not only challenges to make recycling programs economically viable with global commodity shifts, but also the impacts of supply chain disruptions and a range of new materials. There is concern in many levels of government as to the future of recycling due to budget constraints and competing community priorities. However, the RLC remains optimistic about the high level of bipartisan support, solutions being brought forward and the power behind this movement.

³ Geyer et al., 2017. Production, use, and fate of all plastics ever made, *Science Advances*, 19 Jul 2017, Vol. 3, no. 7; Jambeck et al., (2015). Plastic waste inputs from land into the ocean, *Science*, 347.

⁴ [EREF- Analysis of State Recycling Definitions](#)

I think there's also an opportunity in this COVID-19 scenario to shift the fundamental groundwork of recycling. Additional recycling technologies are being considered as potential recycling alternatives.

-Jeremy Webb, Environmental Program Manager, Port of Seattle

The COVID-19 pandemic has meant additional challenges for recycling and waste programs, with new materials in the residential waste stream like masks and gloves, and changes to purchasing and consumption behavior that mean more material in residential settings. These changes have also led to even more consumer confusion around what to recycle. It is evident that state and federal government coordination will be key to bringing the attention and resources needed to move recycling forward during the pandemic. States and municipalities cannot solve their recycling problems on their own, nor should they have to. All stakeholders would benefit from national support to help identify innovations, scale solutions and provide consistent data. As states and municipalities consider how to address some of the challenges facing local recycling programs, stakeholders should collaborate and work to advance coordinated solutions. Indeed, the efforts the RLC is proposing can help inform, and should foster open dialogues with, states that are pursuing packaging and recycling policies like extended producer responsibility or recycled content requirements.

By providing stronger guidance and support at the federal level, recycling coordinators across the country will be able to work as a collective system, building upon the efforts of those who have been pioneering recycling solutions for decades.

There is not only bipartisan support for workable solutions in Congress, but it is also what consumers want to see from their government, with 93% of consumers saying that uniform, national recycling standards will alleviate confusion.⁵ Confusion around what can and can't be recycled, coupled with contamination, are two of the largest limiting factors on the amount of high-quality, available recycled material.

Consistent guidance and harmonized definitions around recycling can help address some of the challenges caused by widely varying packaging design. Increasingly complex packaging leads to many different approaches across municipalities. Some municipalities may make local recycling rules around what is accepted in the program based on packaging material type, shape, resin code or a combination of those. Wide varieties of products and items make it harder to identify, sort and process materials with big differences in value between primary, secondary and tertiary packaging. To that end, it is important to consider end-of-life management when designing packaging and consistent,

⁵ [EREF- Analysis of State Recycling Definitions](#)

harmonized systems can accelerate the impact of those efforts. In setting recycling program standards, there are extensive logistical challenges that haulers and processors must consider, such as infrastructure, storage space, cleaning, proximity of supply materials and additional staffing and training. Basic definitions and standards will provide guidance to packaging and product manufacturers to design for recyclability, help all these industries align on scalable solutions and provide consistency across jurisdictions and up and down the supply chain, helping to feed the circular economy on a national level.

Markets for Recycled Materials - A Supply and Demand Paradox

Collecting, sorting and processing recyclable material deliver economic and environmental benefit only if there is somewhere for that material to go. Using the material again is the purpose of recycling, decreasing the need to create new, virgin materials. Consumer-facing brands and their supply chain partners have made robust sustainability commitments to use more recycled content in a range of products and packaging, strengthening demand for recycled material. Unfortunately, despite these commitments, one of the biggest challenges for many brands is access to reliable supplies of quality and affordable post-consumer recycled content for future use. Especially for some plastics, like PET, the supply has not yet caught up to market demand. Quality is also a critical factor in recycled material availability. Even with PET, the high-quality specifications for use in food or beverage packaging means that the available supply of recycled content does not yet meet demand for use.

To build a functioning recycling system, we need to address end markets and support flexibility for market demand, which will drive the maximization of recycling capacity and unlock business opportunity. End-market development is needed to match packaging innovation and existing recycling industry investments. Federal support would help advance progress faster and create economic opportunity for U.S. businesses.

Essentially, a chicken and egg scenario has been created: there is not currently enough recycled material because there has not been enough of a market and there is not currently enough of a market because there is not enough cost-effective and reliable material.

The primary obstacles to developing end markets are contamination of the recycling stream, low-value material, the low cost of virgin plastic and scalability. High volumes of valuable materials need to be consistently moving through a facility for the operation to make economic sense. Dr. Bruce Welt from the University of Florida noted that true circularity can be achieved when the end product from recycling is higher quality, has broader applications and therefore more value.

In the interconnected recycling system, economics matter. As the experts in several stakeholder panels identified, including the retail and plastics sessions, the cost of virgin material is often much lower than recycled content. When considering programs to introduce circularity, Darcie Renn, director of sustainability for Albertsons, explained, **"The price volatility of virgin versus recycled content is something that has the potential to make or break some of these programs."**

Further, the waste and recycling experts we heard from cited that the value of a ton of material entering many MRFs is a third of what it was just three years ago, yet costs are more than 20% higher. To meet these challenges and demand from consumer-facing industries, focused investment in recycling infrastructure and technology is needed to produce valuable feedstock at scale.

Building Domestic Recycling Infrastructure for the 21st Century

There is a significant cost to creating a recycling system built for the 21st century, but there is a vastly more substantial cost to doing nothing. Solutions are needed to improve domestic capacity and capabilities around the United States so that more types of packaging can be recycled. Given significantly better data on the recycling system, financing and investment can and should be targeted so that the right solutions are being deployed in the right places. Funding raised for recycling system improvements must be dedicated to improving the recycling system, such as enhancing recycling infrastructure or educating consumers.

It is imperative that we do not play politics with funds intended for recycling or use them to solve budget shortfalls. Funding has a purpose that deserves to be fulfilled.

Recycling is a business and job-creating opportunity. According to a Closed Loop Partners analysis, there is an existing \$120 billion market opportunity in the United States and Canada for plastics and petrochemicals

AMERIPEN recognizes the need for the packaging value chain to help identify options to finance packaging recycling and what role all stakeholders, including consumers, government and industry, might play in that financing. Money does not solve all woes, and we believe that financing solutions must have a coordinated and comprehensive strategy that maps out clear objectives with complementary public policies for the solutions we might support. We also believe a shared responsibility approach is key to ensuring that all parties involved in recycling are working collaboratively toward systematic efficiencies.

-Dan Felton, Executive Director,
AMERIPEN

that could be met, in part, by recovering waste plastics.⁶ There is huge potential to capture more value from a wider range of materials through a significantly expanded recycling system.

In addition to upgrading existing equipment or building new facilities, there is also significant opportunity to make the best use out of the infrastructure that already exists. During the RLC's stakeholder session with the waste and recycling industry, expert panelists indicated there is 40% excess MRF processing capacity. Current infrastructure has capacity for approximately 24 million tons of material a year, according to the speakers, but only 17 million tons are being processed annually.

⁶ [Accelerating Circular Supply Chains for Plastic](#)

We are in a period of unprecedented development of cutting-edge recycling capabilities, such as robotics and artificial intelligence. These new technologies are expanding the scope of what can be recycled and increasing the quality of the recycled material available for use in packaging and value-added products. While it takes time to get recycling infrastructure and technologies to growth stage, the investment opportunities are promising. Bringing these emerging technologies to scale and fostering broad adoption will require further research and innovation, both of which could present opportunities for federal government leadership and support, particularly of the nation's academic and government science and research institutions. The rapid projected growth of post-consumer recycled (PCR) material demand and emerging opportunities for federal investment in infrastructure represent opportunities to move the industry forward to produce valuable PCR material at scale.

These are promising times for the future of recycling, yet the impacts of the COVID-19 pandemic cannot be ignored. There is at least a perception that the amount of single-use packaging in the system is up around the country. Additionally, the cost of expanding recycling infrastructure throughout the value chain comes at a time when businesses, states and municipalities are facing greater costs and challenges. Municipal budget cuts are also beginning to impact the amount or types of material collected through residential programs, as many states and cities constrict their budgets due to lost revenue, and many recycling programs are competing with low landfilling costs.

David Biderman, executive director and CEO of the Solid Waste Association of North America, explained, **“Local governments are facing a fiscal crisis, and they’re making difficult choices. If the choices are between schools, police and recycling, recycling is going to be third every time. Legislative support for recycling programs is very important.”**

But he also sees this moment as a tremendous opportunity for investment across the supply chain. He shared, **“This is not a time to be incremental. The system is too big and too much needs to be done. The waste industry has a responsibility to invest in its own infrastructure to make the system stronger. The municipalities need to do a better job of educating consumers and we need the folks who are downstream from the MRF to be more engaged with us on both financing and product development.”**

In November, EPA announced a goal to achieve a 50% recycling rate as a nation by 2030. This is an important step toward a collective target, but also highlights the need for recycling infrastructure in the United States to collect and process recyclable material. There is a strong role for the federal government to provide support to states to improve and expand their recycling facilities.

Policy Opportunities

Based on insights garnered from the stakeholder process and successful policy mechanisms used across other industries, the RLC has identified several tools the federal government can use to invest or incentivize investment in the next generation of recycling programs.

After six stakeholder sessions and hours of conversations with experts, plus each individual RLC member's own efforts and expertise, the RLC has taken our findings and developed a set of federal policy recommendations. These are based on the most urgent areas of focus and greatest opportunities for impact.

Sustainability shouldn't come at a price and, let's be honest, right now it does. It's up to everybody here and plenty of others to not make that the case in the future.

-John Kotlarczyk, Senior Director, CSR and Waste Reduction, Walgreens

The RLC calls for a national strategy to improve, advance and increase recycling in the United States. While recycling alone is not a silver-bullet solution to all packaging challenges, and measures such as source reduction, re-use and other design efforts are important parts of a holistic solution, the underlying recycling system is a critical foundation to creating a circular economy for valuable packaging material. In an effort to offer clear, workable solutions designed to support the reimagining of the domestic recycling system, the RLC offers the following policy recommendations based on three pillars:

1. DATA COLLECTION AND REPORTING REQUIREMENTS

One of the most significant barriers to advancing and modernizing America's recycling system is a lack of consistent, reliable data on the performance of the waste and recycling system. The EPA's America Recycles stakeholder effort found that the words "recycling" and "recycled" were defined 18 different ways by states. As a nation, we aren't even sure exactly how many individual recycling systems exist. The true figure is unknown, and no official assessment has been done to provide a definitive number.

Similarly, data is lacking on recycling system performance. The Recycling Partnership's State of Curbside report, for example, projects that curbside recycling is, to date, only recovering about one-third of recyclables from single-family households, but the report also calls for much better data to track the curbside recycling's performance.

In short, ***we cannot manage what we cannot measure***. Research and data collection pioneered by Ocean Conservancy, National Geographic and other partners have proven we can trace waste at a much broader, more accurate and deeper scale than in the past. However, a more focused national effort is needed that provides reliable data to all stakeholders, including the following actions:

Establish a Definitive Baseline of Performance

Launch a congressionally authorized, standardized data collection effort nationwide through the EPA and other agencies, through an interagency committee to definitively determine comprehensive baseline and performance data on commercial and residential recycling programs that feed into EPA's National Recycling Goal of a 50% recycling rate by 2030. This comprehensive data collection effort should include, by state:

- Waste generated and recycled, disaggregated by material type, including aluminum, steel, glass, mixed paper and polymer types for plastics (i.e. #1-7s, PHA, PLA, multilayered packaging, etc.) and forms (bottle, non-bottle rigid, flexible, etc. for plastics and carton, can, box, jar, etc. for other packaging material types) to the extent possible.
 - Total amount of municipal solid waste (MSW) generated annually from both commercial and residential sources.
 - Total amount of residential materials collected through curbside recycling programs annually.
 - Total amount of residential packaging materials collected through deposit programs annually.
- Recycling Programs and Performance
 - The number of community curbside recycling programs, including designations as curbside, multi-family or drop-off programs.
 - The annual average cost to communities for these programs and the number of jobs supported through collection, processing and other direct recycling-related activities.
 - The types of materials accepted by each program.
 - The inbound contamination and capture rates of community recycling programs including collection and sorting infrastructure used.
 - Distance between community recycling programs and MRFs.
- Consumer Access and Participation
 - The number of residents with access to recycling services on par with access to disposal, including demographics.

Identify Opportunities for Investment, Improvement and Innovation

- EPA should fund and conduct a needs assessment of the U.S. recycling industry and infrastructure, through a report to Congress, which includes but is not limited to:
 - The amount of infrastructure investment needed to modernize material recovery infrastructure to achieve consistent collection and processing of packaging material including glass containers, cans, plastics (rigid and flexible), cartons, boxes and paperboard and maximize the efficient delivery of materials to the circular economy.
 - Determine the amount of investment needed to provide all citizens with access to recycling services on par with their access to disposal.
 - Identify specific geographies with no or particularly limited recycling infrastructure capacity or access and prioritize those geographies or communities, to identify where targeted funds and improvements are most needed to provide access and/or process the amount and type of recyclable materials generated in a community or region.

Identify Sources of Mismanaged Waste

- Conduct a federal study on global impacts of U.S. plastic pollution through EPA or other agency, such as Department of Interior, National Oceanic and Atmospheric Administration or U.S. Department of State including:
 - An evaluation of the United States' contributions to global ocean plastic waste, including types, sources and geographic variations, building on existing research done by academic, advocacy, NGO or other expert organizations.⁷
 - An accounting for percentage of exported waste that is recycled, landfilled and leaked, by type of material, including specific plastic type.
 - A collaboration with the Office of the U.S. Trade Representative on the import and export of plastic waste to and from the United States, including the destinations of the imported and exported plastic waste by material and industry type and the waste management infrastructure and environmental conditions of these locations.
 - An analysis to determine the most effective domestic actions to reduce direct U.S. contributions to global ocean plastic waste.
- Support interagency research on domestic plastic waste through the White House National Science and Technology Council:
 - An assessment of the prevalence of marine debris and mismanaged plastic waste in saltwater and freshwater U.S. navigable waterways and tributaries.

⁷ [The United States' Contribution of Plastic Waste to Land and Ocean](#)

2. SYSTEMS STANDARDIZATION AND HARMONIZATION

The existing patchwork of recycling systems in the United States prevents economies of scale and contributes to consumer confusion and high contamination rates. By standardizing and harmonizing systems, more and different types of materials can be collected, processed and sold for value-added products or packaging. To achieve such goals, the federal government should implement the following measures:

Establish Standardized Definitions and Harmonization at the National Level

- Direct the EPA, in coordination with other agencies, to establish a single, national definition for the terms "recycling" and "recyclable." These definitions would be used and harmonized across all agencies, including the Federal Trade Commission and Food and Drug Administration.
- Grant additional authority to the Federal Trade Commission to enforce the use of recyclability claims on products or packaging via the agency's Green Guides, once a single, national definition of the terms "recycling" and "recyclable" has been established.

Establish National Goals and Minimum Performance Standards

- Direct the EPA to create a best practices framework, including minimum recycling rates at the state level and technological capabilities in MRFs or other recycling processing facilities based on the agency's national recycling goal of a 50% recycling rate by 2030 and best available data and feasibility. The minimum recycling rate target(s) could be specific to varying material types. The best practice standards set for states could recognize and reflect differences in geographical density, financial resources and other factors.
- The EPA, in conjunction with other agencies, should establish or adopt a certification system for recognizing recycling programs and/or MRFs that are in the top echelon of technology and operations, similar to the agency's *Energy Star* program or the third-party LEED standard. The program should recognize, update and adapt the recognition standards every five years, or as needed, to reflect and keep pace with changing technology.
- The Department of Commerce, in cooperation with the Department of Energy's Reducing EMBodied-energy and Decreasing Emissions (REMADE) Institute, will establish an advisory committee on packaging innovation, to explore packaging design, material and recycling technologies, including funding research and development and public-private partnerships in relation to national recycling goals and capabilities.

Harmonize Recycling Across the Federal Government

- Establish standardized recycling and waste programs throughout all federal government domestic operations, including bin color (recycling versus waste), and collection operations criteria by 2030. This effort can be phased in across internal government operations as domestic recycling infrastructure is developed and improved, allowing for consistent recycling efforts across agencies that reflect best practices for states as outlined by EPA. Expansion of this harmonization should also be considered for public-facing federal government operations, such as national parks.

3. DEVELOPMENT OF FINANCING TOOLS AND MARKETS

The U.S. recycling system includes a broad mix of technologies and processing and collection capabilities. Some systems are run with top-of-the-line technology, others have not seen significant investment or equipment improvements in decades. Similarly, the end markets for some recycled materials have seen dramatic changes due to global market forces, yet demand for some materials far outstrips current supply, creating a supply-demand paradox. Improving the financial viability of and investments in the U.S. recycling system are a critical part of any solution, and the federal government can play a key role through the following:

Assist States in Meeting National Recycling Goals and Performance Standards

- Create a federal block grant program to award financial assistance to states and tribal governments, on a competitive basis, to support improvements to and expansion of recycling infrastructure and recycling programs to meet national targets — including infrastructure, technology and recycling access — in such states, local governments and tribal governments.
 - Based on data from the waste and recycling census, deploy targeted funds for infrastructure improvements in prioritized states, regions or communities.
 - To receive the federal financial assistance, a state or tribal government must include matching funds, demonstrate a plan to establish minimum state-wide standards for MRF technology operations and either harmonize or demonstrate a plan to harmonize residential recycling programs' collected materials between single-family and multi-family dwellings.
 - To meet national recycling program performance standards, a state, local government or tribal government may use the financial assistance received under the grant program to:
 - a. Optimize recycling infrastructure by providing, expanding or supporting recycling-related technology or infrastructure that:
 - » **Increases recycling or collection rates.**
 - » **Expands and optimizes curbside recycling collection programs where appropriate.**
 - » **Expands other collection points and landfill avoidance programs for household/residential material recycling.**
 - » **Improves the quality of the recycling stream through reduced in-bound contamination.**
 - » **Improves sorting and separation of recyclable materials.**
 - » **Delivers increased high-quality feedstocks for use in manufacturing.**
 - » **Requires and/or incentivizes the use of recyclable and recycled materials in new products.**

- b. Transition curbside recycling programs to more efficient collection practices, such as drop-off sites, where appropriate.
 - c. Enhance the performance of curbside recycling and other recycling programs.
 - d. Promote public space recycling programs.
 - e. Develop rural recycling systems.
- Preference should be for activities that establish or further the economic viability of residential recycling programs, including targeting ways to collect and process more high-value materials, so that ongoing, sustainable revenue is generated.

Leverage Existing Infrastructure and Business Development Policy Tools to Include Recycling Infrastructure

- Should Congress consider a new, broad infrastructure bill or reauthorization of the surface transportation bill or other large-scale infrastructure package, the legislation should include funding for states and communities to improve recycling infrastructure, including investment in:
 - Improved sorting and processing technologies such as robotics, artificial intelligence, digital watermark scanners, optical sorters, eddy currents or magnets.
 - Recycling processing facilities, particularly in areas identified as priority geographies through EPA's data collection efforts.
 - Collection infrastructure, including trucks, recycling carts, establishment of non-curbside collection or drop-off facilities, where appropriate.
 - Consumer education efforts, to reduce in-bound contamination.
 - Away-from-home recycling infrastructure in public spaces such as beaches, parks, stadiums and municipal or urban centers to prevent litter and improve recycling rates of packaging.

Develop Tax Incentives for Investment in Recycling System and Infrastructure Improvements

- Amend the federal tax code to establish tax benefits for improvements to recycling processing equipment and upgrades whereby the federal government contributes a certain percentage of the cost of equipment or other infrastructure upgrades through a variety of tax structures. Such mechanisms provide a direct incentive to invest, spur rapid investment and provide a direct benefit to a recycling infrastructure project developer whether it be private or public entity. Models to consider include:
 - **Investment Tax Credits (ITC):** Similar to those provided to renewable energy producers, an ITC Program would encourage investment immediately, as the credit is applied upon construction. Such a credit could be applied to new recycling facilities, equipment or software to improve efficiency.

- **Production Tax Credits (PTC):** Similar to those provided to renewable energy producers, a PTC program would encourage investment in large-scale project development. The PTC could be structured to increase production of and meet demand for certain material types. For example, by only applying to facilities producing a minimum output of certain materials, such as those most in demand by industry or government.
- **Accelerated depreciation:** This model encourages rapid investment in recycling infrastructure improvements and equipment, as the more quickly a public or private entity can use the tax benefit (write-off) associated with depreciation, the higher the project valuation.

Support Economic Opportunity Through End-Market Development

- Increase federal agencies' purchasing of products with recycled content in line with EPA's updated Comprehensive Procurement Guidelines on products containing recycled content under Section 2002 of the Resource Conservation and Recovery Act (RCRA) by directing the Office of Management and Budget (OMB) to provide funding for all agency procurement offices to identify items relevant to their agency that have recycled content. It is critical that agency procurement offices consider the circular economy and prioritize the highest value reuse when making purchase decisions of recycled content products to ensure they are not contributing to or creating a "downcycle" market for materials that have different and better next uses. In addition, set a goal (or goals) for purchasing products with recycled content that agency procurement officers must meet annually.
 - EPA should also consider promoting and supporting innovations to use recovered materials in less traditional products like building and road materials.
 - EPA should track, based on agency procurement officer reporting, the baseline and subsequent increased federal purchasing by its agencies of products with recycled content.
- Provide federal grants to universities and other academic institutions to develop or advance the development of scalable, advanced recycling technologies or packaging or products using post-consumer or post-industrial recycled content.
 - Particular consideration may be given for research focused on difficult-to-recycle materials or global challenges like marine debris.
 - Incentivize public-private partnerships, for example the REMADE program and/or industry-funded efforts like Materials Recovery for the Future.
 - Efforts can be to improve or scale existing programs, emerging technologies or packaging to create new ones.
- Provide federal grants, matching funds and other types of assistance, coordination and/or research to support state recycling market development boards and commissions and consider expanding, in coordination with EPA, to more regional and national approaches, including best practices.

A Call to Action

The roiling of global markets for recycled material, municipal budget cuts and, in some places, significant underinvestment in recycling infrastructure mean we are facing a critical juncture for recycling in the United States. The system isn't working as it should, with greater volumes of plastic and packaging lost to landfills, wasting valuable resources, or worse, leaking plastics into the environment. The answer is to build circular supply chains which capture valuable materials, reuse them and continuously cycle materials through the economy rather than sending them to landfills.

To break the cycle of virgin materials progressing inevitably to landfills, we need comprehensive solutions. There can be no half measures to achieve a circular economy. A broad coalition of stakeholders is required from across the entire value chain aligned on the goal of building the circular economy by creating a modern and effective recycling system.

Over the past year, we have created that coalition in the Recycling Leadership Council, and we have demonstrated that broad consensus can be built on an ambitious blueprint for a circular economy.

This comes at a time when U.S. consumers are increasingly aware of plastics and packaging waste and have greater expectations of the federal government to find solutions. At the same time, bipartisan consensus around cleaning up plastic waste is stronger than ever, demonstrated by the unanimous support for the Save Our Seas 2.0 Act.

The time is now to make the circular economy a reality.

The Recycling Leadership Council calls upon Congress to write and pass comprehensive recycling legislation in 2021. This in-depth proposal represents broad stakeholder input and thought leadership, and we strongly recommend that lawmakers use this blueprint to propose legislation and investments to begin the fundamental reimagining of the American recycling system.

Recycling Leadership Council members will be actively engaged in policy at the state and local level to reinvent recycling, but without comprehensive federal leadership and standardization, we will not be able to create the scalable solutions that produce circularity. States and municipalities will not be waiting for federal leadership to implement new standards and processes, so it is important and pressing that we enact workable ideas and a clear direction moving forward.

Political consensus is already established for the need to invest in infrastructure, clean up our oceans, reduce emissions and build a more resilient and effective economy. Recycling is an integral part of addressing each of these priorities.

The RLC will deliver copies of the *Blueprint for America's Recycling System* to members of Congress along with members of the Biden administration. Members of the RLC will engage with congressional leaders about the detailed concepts in this proposal, as an established platform with a broad stakeholder support. Packaging, recycling and the environment are important issues to the incoming administration and our diverse coalition will also provide ideas and guidance to its leaders as they get to work.

In particular, we look forward to working with the leadership of the Senate Recycling Caucus, Sens. Tom Carper (D-DE) and John Boozman (R-AR), as well as Save Our Seas legislation sponsors Senators Sheldon Whitehouse (D-RI) and Dan Sullivan (R-AK); and Congresswoman Haley Stevens (D-MI-11) who launched the Congressional Plastic Solutions Task Force. As attendees of the official launch of the RLC in 2020, these members encouraged and helped guide us toward an ambitious plan. We will lean on their model of bipartisanship and collaboration to deliver meaningful, long-term solutions for our country and our planet.

Recycling is the critical foundation to a circular economy and, in many parts of the country, progress has stalled. National leadership is needed to advance, modernize and improve recycling all across the United States. That leadership and a plan to rethink recycling, begins with the *Blueprint for America's Recycling System*.

Appendix

RLC Member Initiatives

A central theme of the Recycling Leadership Council is that collaboration is necessary to achieve positive impact at scale. In addition, each organization involved in the RLC is a strong advocate for improving recycling in America and is leading its own initiatives to bring forward solutions. Below are some of these organizations' and their industries' accomplishments and best practices, which play a central role in success.

- 27** American Beverage Association
- 28** AMERIPEN - American Institute for Packaging and the Environment
- 28** Consumer Brands Association
- 29** Consumer Technology Association
- 29** Closed Loop Partners
- 30** Can Manufacturers Institute
- 31** FMI, The Food Industry Association
- 31** Flexible Packaging Association
- 32** Glass Packaging Institute (GPI)
- 33** International Franchise Association
- 33** Ocean Conservancy
- 35** Retail Industry Leaders Association
- 35** The Recycling Partnership

AMERICAN BEVERAGE ASSOCIATION

The American Beverage Association’s (ABA) Every Bottle Back program is an integrated and comprehensive initiative by The Coca-Cola Company, Keurig Dr Pepper and PepsiCo to underscore the industry’s commitment to the circular economy, reduce the industry’s plastic footprint and increase the collection and recycling of our valuable bottles and cans. ABA is partnering with leading environmental and sustainability organizations — *World Wildlife Fund*, *Closed Loop Partners* and *The Recycling Partnership* — to measure reductions and impacts, and ensure that bottles, which are carefully designed to be 100% recyclable, don’t wind up as waste in oceans, rivers, beaches or landfills.

This landmark initiative builds on the beverage industry’s commitment to material circularity and its robust goals around recyclability and recycled content inputs. ABA is working proactively with states and the federal government on new collection policies to increase and optimize the recovery and recycling of valuable bottles and cans.

[Learn more about Every Bottle Back.](#)



AMERIPEN – AMERICAN INSTITUTE FOR PACKAGING AND THE ENVIRONMENT

In the 1990s, recycling market development was widely embraced as a vital strategy to help grow domestic demand for recycled content. Over the years as recycling grew increasingly global, market development decreased its influence here in the United States, AMERIPEN – the American Institute for Packaging and the Environment, a trade association for the packaging value chain – believes that market development efforts are key to ensuring end-of-life options for packaging. As packaging continues to innovate to address emerging demands of e-commerce, changing demographics or sustainability needs, investment to support end market growth for emerging materials and formats is needed to ensure packaging will be recovered at the end of its intended use.

The AMERIPEN State Market Development Taskforce launched in early 2020 as a collaborative effort to connect brand owners and packaging producers with existing state market development organizations to identify data gaps, technical recovery and design challenges and supporting policies.

The task force recently completed a study to quantify the demand for recycled content as identified through publicly stated corporate goals versus what is currently available for sale in the U.S. Early indications suggest that demand exceeds supply. New ways to create access and address technical capacity and regulatory demands will need to be considered to better align demand with supply.

AMERIPEN intends to release the outcomes of this study, along with recommendations for potential action, in early 2021. This will help inform policy, including the potential for industry financial support and where investments could be leveraged best.

CONSUMER BRANDS ASSOCIATION

The Consumer Brands Association champions the industry whose products Americans depend on every day, representing more than 1,700 iconic brands. From household and personal care to food and beverage products, the consumer packaged goods (CPG) industry plays a vital role in powering the U.S. economy, contributing \$2 trillion to U.S. GDP and supporting more than 20 million American jobs.

The CPG industry is committed to packaging sustainability. Through packaging design, innovation and research and development, CPG companies are leading the way in reducing waste-to-landfill and improving the environmental footprint of packaging. For example, all of the 25-largest CPG companies have made voluntary public commitments to recyclable or compostable packaging or to using increased recycled content by 2030, some as early as 2025.⁸ From shampoo bottles made from ocean plastic to toothpaste tubes made from paperboard, this sector is dedicated to innovative solutions that minimize packaging waste.

Consumer Brands supports these efforts through unifying the industry and advocating for policies that incentivize sustainable business practices. In April 2020, Consumer Brands released its policy platform with recommendations to achieve the country's optimal recycling system. *Achieving America's Recycling Future* is the first [policy platform](#) released by the association and focuses on finding scalable solutions to address the underlying issues in the recycling and recovery system. Consumer Brands launched the Recycling Leadership Council in January 2020.

⁸ [Reduce. Reuse. Confuse. How Best Intentions Have Led to Confusion, Contamination, and Broken Recycling System in America](#)

CONSUMER TECHNOLOGY ASSOCIATION

As North America's largest technology trade association, CTA® is the tech sector. Its members are the world's leading innovators – from startups to global brands – helping support more than 18 million American jobs.

The consumer technology industry believes that environmental stewardship and economic growth are directly correlated. CTA's most recent [report on greenhouse gas](#) emissions in the tech sector showed the technology industry reduced its U.S. Scope 1 and 2 emissions by 7% and Worldwide Scope 1, 2 and 3 emissions by 4.1% between 2017 and 2018 – even as the industry grew more than 11%.

While consumers are using more tech products in their homes than ever before, consumer electronics devices are becoming smaller, lighter and more energy efficient – helping consumers reduce waste. According to the latest [CTA research](#), the industry has reduced material use in tech products by half over the last two decades and energy consumption from these products has decreased 25%.

CTA equips consumers with tools, like [recycling](#) and [repair](#) locators, to live greener, more sustainable lifestyles. Through engagement at [CES®](#) – the most influential tech event in the world – to policy to initiatives and research, CTA continues to lead our industry's recycling and sustainability efforts.

CLOSED LOOP PARTNERS

Closed Loop Partners was founded in 2014 and has a successful investment track record. It has provided equity and debt financing to help develop numerous circular design innovations, as well as bolster recovery infrastructure to capture materials after use. The firm's unique fund structure allows it to finance and invest in companies at any part of their growth journey, starting as early as seed venture capital, to private equity, buyouts and project finance. By accelerating the growth of early stage

companies, through to established companies, the firm's funds build upon one another, bridging gaps and fostering synergies to scale the circular economy.

The firm's Center for the Circular Economy is at the core of research, analysis and pre-competitive collaborations toward building a more circular economy. Consortia managed by the Center, including the NextGen Consortium and the Consortium to Reinvent the Retail Bag, convene leading brands and industries to solve seemingly intractable material challenges, harnessing design, innovation and powerful partnerships to reimagine products and packaging for sustainable impact at scale. For example, the NextGen Consortium is a partnership of food-service industry leaders working to identify and scale sustainable packaging solutions, launched in partnership with Starbucks and McDonald's. First on the list: reimagining the fiber cup. On the other hand, the Consortium to Reinvent the Retail Bag is a multi-year collaboration across retail sectors that aims to identify, test and implement viable design solutions and models that more sustainably serve the purpose of the current retail bag. CVS Health, Target and Walmart are Founding Partners of the Consortium to Reinvent the Retail Bag.

Closed Loop Partners takes a holistic, end-to-end approach to innovating, testing and scaling the circular solutions of the future. Their expertise spans the full lifecycle of a product, connecting upstream innovation to downstream recovery infrastructure and end markets, working across brands, countries, sectors and industries to create the systems change necessary for the advancement of the circular economy. To date, Closed Loop Partners has made 45 investments across the globe, with portfolio companies in four continents, five countries and 24 U.S. states. As a result of the investments, the firm has kept 1.3 million tons of material in circulation and out of landfills, avoided three million tons of greenhouse gas emissions and catalyzed \$270 million of co-investment in support of circular supply chains*.

*All numbers represent the firm's impact metrics as of the end of 2019, as seen in the firm's [2019 Impact Report](#).

CAN MANUFACTURERS INSTITUTE

The Can Manufacturers Institute (CMI) is the national trade association of the metal can manufacturing industry and its suppliers in the United States. The material types represented by CMI, aluminum beverage cans, are the most recycled beverage container in the United States and without the revenue from used beverage cans (UBC), most material recovery facilities (MRF) in the United States would not be able to operate. And yet, aluminum beverage cans are being lost at the MRF due to mis-sorting. Up to 25% of UBCs are missorted at a typical MRF. An average MRF in a non-deposit law state processing 50,000 tons per year and losing 25% of its UBCs would be improperly sorting 18.5 million cans in a typical year and potentially losing out on nearly \$300,000 in annual revenue.

These missorted cans can be captured with the right equipment such as an additional eddy current or a quality control robot. Additionally, aluminum can capture equipment can pay for itself with the revenue from the additional cans captured. CMI released a [study](#) in mid-2020

conducted by the solid waste management consultant Gershman, Brickner, and Bratton that found a theoretical MRF in a non-deposit law state installing an additional eddy current on its residue line would likely capture millions of aluminum beverage cans and generate enough additional revenue in one year to cover its capital cost.

While this equipment can pay for itself, the aluminum can industry is doing its part to ensure more of this equipment is installed in MRFs so additional aluminum beverage cans are sorted appropriately, sold and recycled. CMI [announced](#) a 2021 aluminum can capture grant program directly funded by aluminum beverage can manufacturers Ardagh Group and Crown Holdings. The grant program will provide clear examples of the efficacy and revenue impact that additional aluminum can capture equipment can have for an MRF. The results are expected to encourage more MRFs to invest in additional aluminum can capture equipment.



Material Recovery Facility



25%
of UBCs entering MRFs
are missorted



Estimated Potential Gains
per year for a single
theoretical MRF2 from
properly sorting all UBCs:

- 275 tons of UBCs
- 18.5 million cans
- \$297,500 in additional gross revenue (8.3%)

Capturing More UBCs Means:



FMI, THE FOOD INDUSTRY ASSOCIATION

FMI – The Food Industry Association advocates on behalf of a wide range of members within the food industry value chain. From food wholesalers and suppliers that create and provide goods available to consumers, to the grocery retailers that help stock and sell those goods, FMI members' collective reach and impact ultimately touches lives of over 100 million households in the United States and represents an \$800 billion industry with nearly 6 million employees. FMI continues to develop both short- and long-term strategies to assist members and policymakers in understanding the complete picture of packaging implications and marketplace solutions within the industry.

In 2020, FMI joined the U.S. Plastics Pact as a founding non-profit activator, an initiative which will help create a unified national framework for a circular economy for plastics. The association has also engaged with the Recycling Partnership, AMERIPEN, and other groups in order to help develop and promote shared climate policy priorities and initiatives. Currently, over half of FMI members have reported clear objectives and implementation timeframes for package waste reduction.

FMI's Sustainability Executive Committee continues to identify and share information on priority issues, including food and plastics waste, carbon emissions reduction, animal welfare and more. In addition, a dedicated Packaging Subcommittee is developing best practices and other considerations as the issue continues to grow in importance. Through these efforts and the RLC, FMI's commitment to positive sustainable change remains strong.

FLEXIBLE PACKAGING ASSOCIATION

The Flexible Packaging Association (FPA) is the voice of U.S. manufacturers of flexible packaging and their suppliers. Flexible packaging is produced from paper, plastic, film, aluminum foil or any combination of these materials. These are products that people use every day – including hermetically sealed food and beverage products; as well as sterile health and beauty items, pharmaceuticals, medical devices and personal protective equipment; pet food and treats; take-out and carry-out food service items; and e-commerce.

FPA understands the importance of reducing and recycling solid waste to minimize litter and optimize landfill space. FPA partners, with funding and resources, with other manufacturers, recyclers, retailers, waste management companies, brand owners and other organizations to continue making strides toward total packaging recovery. Some examples include the Materials Recovery for the Future (MRFF) project; the Hefty® EnergyBag® Program; and the University of Florida's Advanced Recycling Program. FPA is also a member of the Recycling Partnership, which now houses the MRFF.

The mission of the MRFF project is simple – flexible packaging material is recycled, and the recovery community derives value from it. The project has piloted changes to current mechanical recycling infrastructure to help establish methods and equipment protocol for flexible packaging. This year, the project finalized a successful full-scale demonstration project in Pennsylvania, and the program is now permanent for that community. Another program that has been successful for flexible packaging, and recently started in its largest major metropolitan area to date, Cobb County, Georgia, is the Hefty® EnergyBag® program. This program collects flexibles for use in energy recovery solutions as well as advance recycling. The University of Florida's Advanced Recycling program is in its infancy, and the goal of the program is to present a unique solution using advanced recycling technology to achieve a true circular economy for flexible packaging.

GLASS PACKAGING INSTITUTE (GPI)

The Glass Packaging Institute (GPI) is the North American trade association for the glass food and beverage manufacturers and glass recyclers, alongside suppliers of raw materials, equipment and technology to the industry.

As representatives of a 100 percent and endlessly recyclable package, we are delighted to work alongside brands as part of the Recycling Leadership Council, as they prioritize sustainability across their company portfolios and further reduce their environmental footprints.

Increasing Glass Recycling and Recycled Content Rates

GPI and member companies spent considerable time this past year with outside consulting experts, reviewing avenues and options to achieve a 50 percent glass recycling and recycled content rate by 2030. Later this month, the association will be issuing this report, and plans to explore options stakeholders, brands, as well as policymakers at the local and state level. A 50 percent recycled content goal would represent a 20 percent increase in recycled content, as the average bottle or jar nationwide already contains 30 percent recycled glass. GPI looks forward to guiding efforts among the companies to further improve upon an excellent packaging choice!

Improving Glass Recovery at Materials Recovery Facilities (MRF)

GPI also worked closely with the Glass Recycling Coalition (GRC), which issued a [MRF Glass Certification](#) program in late 2019. To date, seven US MRF have achieved this certification. The free certification program recognizes MRFs with additional equipment and operational procedures to clean up glass in both single- and dual-stream systems - producing more marketable and higher quality glass.

Glass certification criteria are judged on current infrastructure and a glass purity measure that aligns with the Institute of Scrap Recycling Industries (ISRI) [Three-Mix Specification](#). An independent committee scores criteria, which may qualify for gold, silver, and bronze certifications. MRFs holding this certification have a competitive advantage in the marketplace.

The GRC website currently hosts an interactive map showing MRFs, glass processors and end-markets across the country. MRFs achieving this certification will be noted on this [interactive map](#).

Learn more about the Glass Recycling Coalition at www.glassrecycles.org. You can visit GPI and learn more about the glass industry by going to www.gpi.org.

MRF Glass Clean-Up Certification Program



Measuring Glass Purity Instructions:

To apply for the MRF Glass Clean-Up Certification, GRC asks applications to take in-house samples of the glass you capture in your MRF at various times of the day. Follow the Sampling Process steps on the next page; then, take a photo of your sample to upload with your MRF Certification Application or email the photo to info@glassrecycles.org. An independent, non-competitive panel of judges will score your glass sample along with the results of the MRF Glass Survey.

INTERNATIONAL FRANCHISE ASSOCIATION

Successful franchisors constantly learn and innovate, believing in socially responsible growth and the sustainable stewardship of our planet. Good corporate stewardship is fundamental to success and investing in infrastructure today will create a better world for our communities tomorrow. With 300 different industries, over 1,400 franchise brands and 733,000 franchise owners in the United States, the franchising sector's recycling infrastructure can directly benefit communities, the environment and a responsible supply chain. For example, by 2025, 100% of McDonald's guest packaging will come from renewable, recycled or certified sources, and KFC's plastic-based, consumer-facing packaging will be recoverable or reusable globally. Also, by 2025, Taco Bell's consumer-facing packaging will be recyclable, compostable or reusable globally with chemical additives of concern removed. Yum! will remove Styrofoam and expanded polystyrene from all packaging by 2022, as well as meet the goal in its U.S. corporate offices by the end of 2020. In the hospitality sector, IHG has been working with green suppliers, such as The Fine Bedding Company, to source Voco bedding that uses filling produced from recycled plastic water bottles and to date has diverted more than 3 million water bottles from landfill.

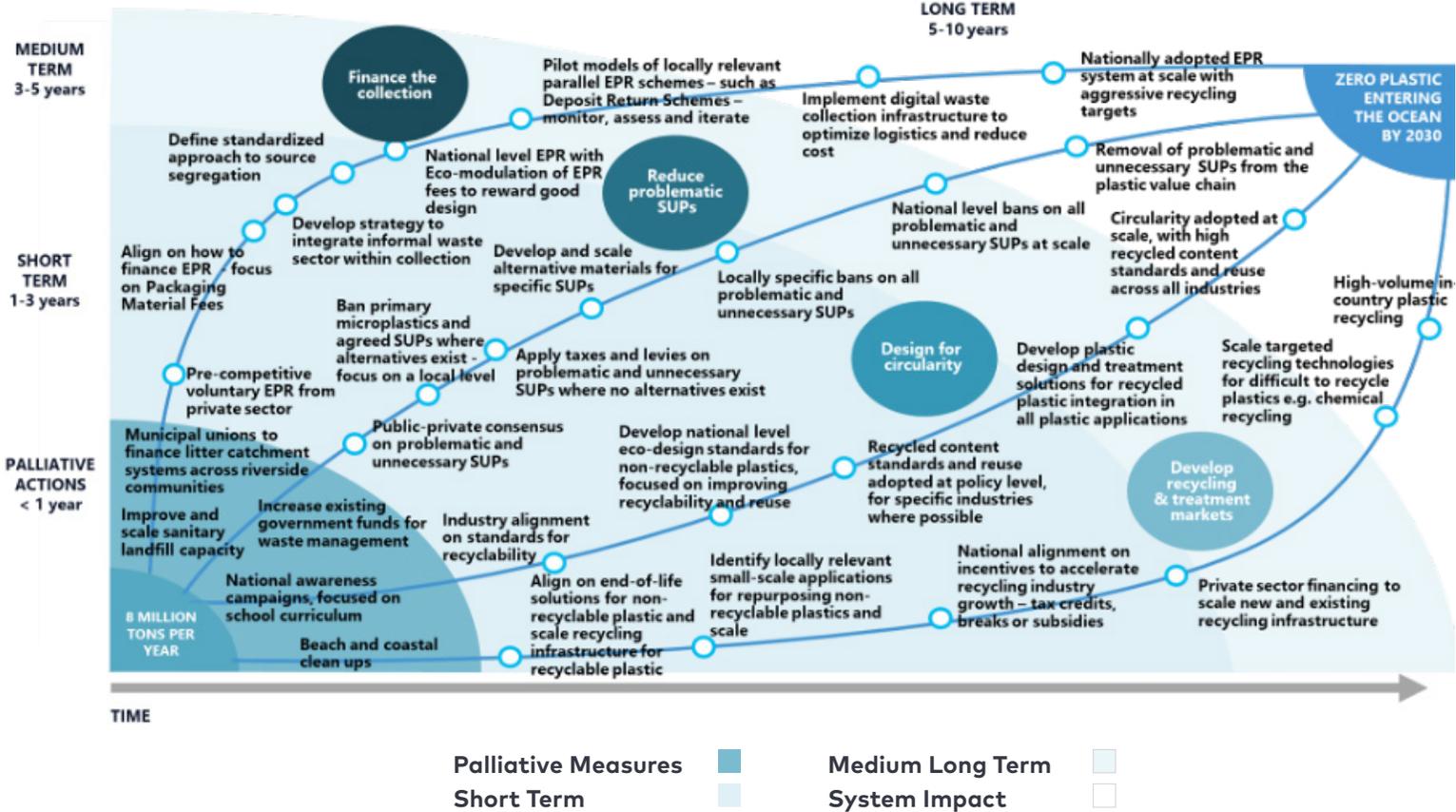
OCEAN CONSERVANCY

Ocean Conservancy collaborated with members of the Trash Free Seas Alliance® to publish the *"Plastics Policy Playbook"* in 2019. The process began with a long list of policy measures that were consolidated and tested against various criteria for impact and implementation to arrive at a shortlist of 24 measures. The resulting measures were grouped across four themes: 1) Finance the Collection; 2) Reduce Problematic and Unnecessary Single-Use Plastics; 3) Design for Circularity and; 4) Developing Recycling and Treatment Markets.

The report found that Extended Producer Responsibility (EPR), in the form of packaging material fees, has the highest potential to reduce the current financing gap (up to 75%). This is followed by mandatory recycled content standards, which could reduce the gap 34%. Bans on problematic and unnecessary single-use plastics (specifically, plastic grocery bags, plastic straws and stirrers, plastic cups and lids, plastic cutlery, foam food containers, oxo-biodegradable plastic materials, PVC packaging and primary micro-plastics) can improve collection by reducing the contamination of post-consumer waste streams.

In addition, five prerequisites for success were identified: 1) combine measures and address multiple points on the value chain; 2) engage the informal sector; 3) raise public awareness; 4) inspire political will; and 5) enforcement.

OCEAN CONSERVANCY (CONTINUED)



While the research focused on high-leakage geographies in Asia, the findings are relevant more broadly, including in the United States.

“The findings reinforce what we’ve long suspected, which is that we need a suite of solutions to address the problem of ocean plastic,” said Chever Voltmer, plastics initiatives director at Ocean Conservancy. **“The good news – as we’ve seen first-hand in developing this report with key partners from the TFSA – is that we are seeing both governments and the private sector ready and willing to do their part.”**

RETAIL INDUSTRY LEADERS ASSOCIATION

The Retail Industry Leaders Association (RILA) is the U.S. trade association for leading retailers. They convene decision-makers, advocate for the industry and promote operational excellence and innovation to propel developments that foster both economic growth and sustainability. Their aim is to elevate a dynamic industry by transforming the environment in which retailers operate.

RILA members include more than 200 retailers, product manufacturers and service suppliers, which together account for more than \$1.5 trillion in annual sales, millions of American jobs and more than 100,000 stores, manufacturing facilities and distribution centers domestically and abroad.

RILA supports the sustainability performance of our influential membership through executive peer-to-peer discussion forums, expert educational sessions and resource development. In 2020 alone, RILA published an industry report *The Waste Landscape and Solutions for the Retail Industry* and convened over a dozen member benchmarking calls and educational webinars for its Sustainability, Zero Waste and Environmental Compliance Committees to share leading practices on waste and recycling topics. These topics ranged from material specific conversations on foam packaging, polybags and textiles to reducing the environmental impacts of unsold inventory, waste policy trends and waste diversion accounting. RILA is also tracking COVID-19 impacts on environmental policies like plastic bag drop-off and bottle return regulations and released a blog sharing their view that safety and sustainability do not need to be mutually exclusive, even during this challenging time.

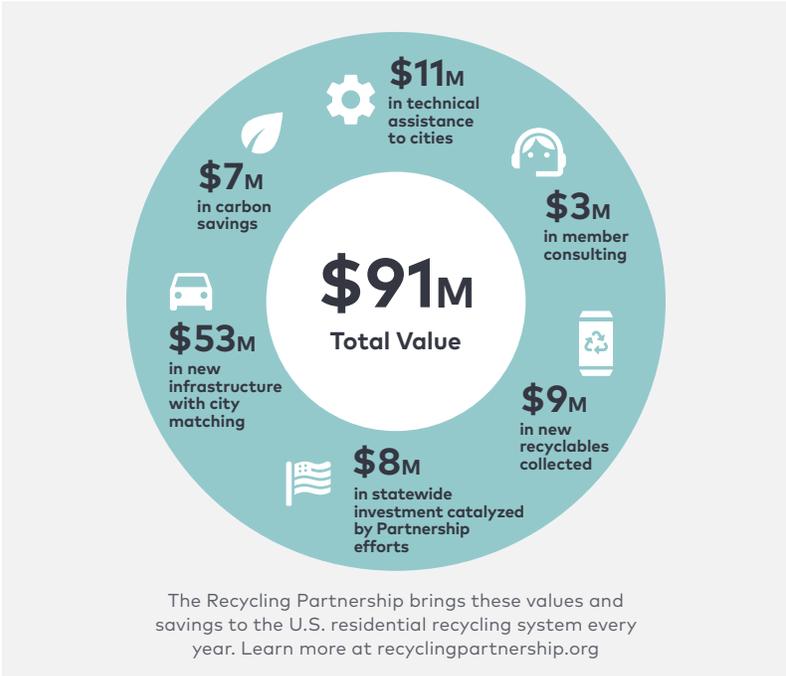
RILA is a proud signatory to the U.S. EPA America Recycles Pledge and looks forward to working with their industry association peers and the U.S. government to support waste reduction solution building and promote circular economy principles.

THE RECYCLING PARTNERSHIP

The Recycling Partnership (The Partnership) is a national nonprofit organization that leverages corporate partner funding to transform recycling for good in states, cities and communities all across the United States. The Partnership applies a systems approach to their work, focusing on four key areas:

Community Engagement

The organization was designed to be an action agent, delivering better recycling programs nationwide. In six years, The Partnership has partnered with nearly 2,000 communities, delivering stronger recycling programs to more than 60% of the U.S. population.



Pathway to Circularity to Advance Materials

Many companies have ambitious sustainability goals related to the recyclability of their packaging portfolios. The Partnership launched the Pathway to Circularity to guide producers through a strategic assessment to help them navigate the complexity of the industry, ensuring their packaging is both technically recyclable and commonly recycled in practice.

*Graphic originally from The Recycling Partnership's 2020 Impact Report

Policy to Drive Impact & Combat Headwinds

The Partnership launched the Circular Economy Accelerator in April 2019 to bring together forward-thinking companies to proactively pursue policy solutions to catalyze the circular economy for good. This mission-driven policy arm pushes for and seeks to shape policy that incentivizes recycling over disposal; secures sustainable funding for recycling infrastructure and education; and expedites innovative public-private solutions.

Data to Drive Decisions & Behavior Change

Data is the backbone of every initiative The Partnership undertakes, whether it is centralizing community recycling information nationwide, researching effective strategies for reducing contamination, or urging Congress to appropriate funds to the U.S. Environmental Protection Agency (EPA) to capture data on the true number and details of existing residential recycling programs to better inform strategic action.



**RECYCLING
LEADERSHIP
COUNCIL**