

**FEDERAL PROGRAMS FOR THE
CIRCULAR ECONOMY: STATE AND LOCAL
PERSPECTIVES ON EFFORTS TO IMPROVE
REUSE AND RECYCLING**

HEARING
BEFORE THE
**COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS**
UNITED STATES SENATE
ONE HUNDRED EIGHTEENTH CONGRESS
SECOND SESSION

MAY 22, 2024

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS
SECOND SESSION

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WEDNESDAY, MAY 22, 2024

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 10:25 a.m. in room 406, Dirksen Senate Office Building, Hon. Thomas R. Carper (chairman of the committee) presiding.

Present: Senators Carper, Capito, Boozman, Sullivan.

**OPENING STATEMENT OF HON. THOMAS R. CARPER,
U.S. SENATOR FROM THE STATE OF DELAWARE**

Senator CARPER. Good morning, again, for those who have been with us for the first part of this. I said to Senator Capito, this is a little bit like a day-night double-hitter, except we get to do it all in the daytime.

I want to welcome everyone to this second half of our workload today. I am pleased to call the hearing to order.

Today, we are gathered to talk about one of my favorite subjects, and I think a favorite subject of many members of our committee, and that is recycling. Specifically, today we are here to discuss a topic that we have explored any number of times before this committee, and that is circular economy.

First, I want to welcome our witnesses to the committee today: Secretary Bizer, Ms. Fife-Ferris, and Mr. Marshall. There is a college in West Virginia named after you, the Thundering Herd, where my sister actually went to college. We thank you all for joining us this morning.

What exactly is a circular economy, anyway? As you will recall, the circular economy is a model of production and consumption to which things we use during our daily lives are reused, repaired, or recycled instead of allowing those items to end up in a landfill or to litter our communities across America.

As a number of our colleagues know, I care deeply about limiting waste through recycling and reusing. In fact, I have recycled just about everything from paint cans to electronics.

I like to run. I like to run outside a couple days a week, and as I run along, if I come across beer cans or bottles or whatever, I pick them up. People sometimes wonder what I am doing, but I just like

to pick them up and recycle them when I get home. I am too old to change.

One might ask, why is it important that we build a circular economy? Well, reusing and recycling products not only helps keep our communities cleaner, but it is an essential part of the solution to a series of crises facing our planet. These include escalating climate change, overflowing landfills, and alarming amounts of plastic choking our oceans.

For example, recycling can reduce energy consumption. Producing aluminum products from recycled materials uses 95 percent less energy than creating them from first-use materials, and it is not just aluminum. Many goods, like paper and glass, are more energy-efficient to produce from recycled materials. With more energy-efficient processes, manufacturers reduce their greenhouse gas emissions.

Further, reducing waste from the products we use has significant economic benefits. For example, in 2020, the Environmental Protection Agency's Recycling Economic Information Report estimated that recycling and reuse activities support approximately 681,000 domestic jobs. How many jobs is that? Just for comparison's sake, that is more jobs than the entire work force of the State of Rhode Island.

Unfortunately, according to the Environmental Protection Agency, today, we only recycle approximately 32 percent of our waste in the United States. That presents us with both a challenge and an opportunity. In adversity lies opportunity.

As many of our colleagues know, that is something I believe in deeply, and I think my colleagues do, as well. I believe we have an opportunity to clean up our communities, an opportunity to support jobs and economic growth, and protect our planet by actively supporting recycling and reuse as ways to reduce waste in our economy.

Fortunately, we have taken bipartisan action in recent years to seize the day and seize the opportunity. In the 116th Congress, as some of you may recall, members of this committee worked together to lead the passage of the Save Our Seas 2.0 Act. That law established the Solid Waste Infrastructure for Recycling, or SWIFR, grant program at the Environmental Protection Agency to support waste management programs across our Country.

As some of you will recall, last Congress, the Bipartisan Infrastructure Law, which Senator Capito and I helped to write, we literally worked on it in this committee hearing room and beyond with the Administration, but last Congress, the Bipartisan Infrastructure Law provided funding for this grant program. Specifically, this historic law provides \$275 million over 5 years for the SWIFR program and some \$75 million over 5 years for recycling education and outreach grants.

EPA announced awards for the SWIFR grant program in November of last year, representing the largest Federal investment in recycling in over 30 years. Every single State has been awarded funding through that program.

SWIFR grants are flexible and can be used for many different purposes. For example, in Delaware, we will use part of our funding to conduct research on using recycling glass as a, this is very

unique, I think this is very cool stuff, using recycled glass as a cost-effective alternative to sand for beach replenishment. The city of Baltimore, Maryland, where Ben Cardin is from, will use its SWIFR grant to build a solar-powered composting facility, and the State of Arkansas will use its funding to update its statewide waste management plan for the 21st century.

Today, we will hear more about how the city of Seattle, Washington is using its SWIFR grant to build a warehouse to help reuse salvaged lumber from old buildings. If more cities found ways to reuse building materials, as Seattle is doing, we could create approximately 200,000 jobs. Let me say that again: if more cities found ways to reuse building materials as Seattle is doing, we could create approximately 200,000 jobs and reduce carbon emissions associated with building materials by almost 40 percent by the year 2050, according to the Ellen MacArthur Foundation's estimates.

Today, we are looking forward to learning more from our panelists about what is working in communities across our Nation. As the members of this committee have often heard me say more than a few times, we need to find out what works and do more of that.

As members of this committee will recall, in the Senate, we are continuing to advance bipartisan solutions that will support the innovative work happening on the ground in communities across America. Ranking Member Senator Capito, along with Senator Boozman and yours truly, authored two recycling bills to improve data collection on our Nation's recycling and composting systems and to expand recycling infrastructure in rural communities. In fact, these bills just passed the Senate about 2 months ago, back in March.

In closing, I believe that we should seize the opportunity in front of us to create a circular economy that protects our planet, strengthens our communities, and creates jobs. We must do so by collaborating across all levels of government. That includes non-profits, and it includes the private sector, which we will hear from a lot here today.

Before we turn to our panel of witnesses, I want to turn it over to Senator Capito and thank her for her terrific leadership on these issues, not just for West Virginia, but for our Country.

Senator Capito?

**OPENING STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM THE STATE OF WEST VIRGINIA**

Senator CAPITO. Thank you, Mr. Chairman. I want to thank the panel for being here with us today. We are going to revisit a topic that we have talked about a lot in the committee: the benefits of recycling and policy options to improve our recycling infrastructure.

After hearing about specific recycling challenges, Chairman Carper and I introduced and shepherded through the Senate the two bills that the Chairman talked about. These two bills, the Chairman's bill is the Recycling Composting and Accountability Act, and my bill is the Recycling Infrastructure and Accessibility Act.

They both await action in the House, and for the life of me, I cannot believe that we cannot get these bills over the finish line. We have been trying for, like, 3 years, and they are quite simple

and just a very beginning step, but we are going to keep trying, and we are going to push this and try to get into law. Maybe if I named it after you, maybe we would have better luck.

Senator CARPER. No, no, we are trying to get them passed.

[Laughter.]

Senator CAPITO. We are also committed to an ongoing evaluation by the Committee of the capacity of our Nation's recycling systems to handle increasing amounts of waste.

A fundamental challenge is how to improve the recycling collection infrastructure across the Nation in the face of low demand for recycled materials. In examining that challenge, we should consider what, if any, additional role there is for government, or at what level.

The Federal Government's role should reflect the well-established spirit of cooperative federalism that the regulation of waste management is based upon. Federal policy solutions should supplement, not replace or override, State, local, and private initiatives and programs.

One area to consider is whether more clarity is needed for recycling labeling to provide better information to households. Recycling information should be easy to understand and in line with today's recycling infrastructure.

The three chasing arrows label that we are accustomed to seeing on consumer products is outdated and actively misleads consumers. The average consumer should not need a microscope to decipher the fine print on a label to see if something is recyclable in their community.

The lack of consistent and clear labeling on everyday products is due to great variation in existing infrastructure and local recycling requirements across the Country. That is why the pizza box can be recycled here in D.C., but it goes straight into the trash when I am at home.

Today's hearing is focused on the role of Federal programs to support local waste management efforts. As we will hear today, Federal grants alone are not a magic bullet solution, but they are one tool that can help spur private sector investment to build that collection infrastructure. Grant recipients can leverage that funding into zero-interest or below-market rate loans. This helps to reduce risk and attract private sector investments into emerging technologies and infrastructure.

Competitive grants are also inherently flexible funding mechanisms. This is particularly impactful within the recycling sector, as grants can be tailored to the unique needs of a particular recycling facility or community.

As we consider the potential role that Federal Government may fill in our recycling infrastructure, I do have two key areas of concern.

First, competitive grant programs are frequently accompanied by rigorous and complex application requirements. The short timeframes and complicated requirements can disadvantage rural communities that are unable to compete with large urban centers due to a lack of resources. The lack of rural recycling infrastructure is one of the key challenges, I think, facing our recycling system. We

must address rural participation in our competitive grant programs.

Second, the U.S. recycling system will never be sustainable if there is an overreliance on Federal grant funding. Grants should be used to attract and not replace private sector investment into recycling infrastructure.

Recycling systems operate on the premise that materials can be recovered, reprocessed, and then resold to consumers. Without viable end markets with consumers willing to pay for recyclable goods, those recycling systems will collapse, and we have seen that, sort of, in the past, regardless of how much taxpayer dollars are thrown into this.

So, I look forward to hearing from our panel today. With that, I yield back my time.

Senator CARPER. Thanks so much. I am going to turn now to our panel of witnesses. On behalf of all the members of this committee, thank you for joining us today to share your perspectives on Federal programs on the circular economy. Thank you even more for the good that you do with your lives for our States and our Country and for our planet.

First, we are going to hear from Secretary Elizabeth Biser, who is currently Secretary of North Carolina's Department of Environmental Quality. Who was your predecessor in that role?

Ms. BISER. Administrator Michael Regan.

Senator CARPER. No kidding. Do you ever talk to him?

Ms. BISER. I do.

Senator CARPER. Good, all right. My wife is from North Carolina. She is from Boone, up in the mountains. I told her that we are having the Secretary from North Carolina come, and she said to tell you hello, and go get them, girl.

Secretary Biser was appointed by an old friend, Roy Cooper, the Governor of North Carolina in, what was it, 2021? Yes. Secretary Biser joined us, I think it was in 2021, to share some of her thoughts on the circular economy concept. We look forward to hearing from you again today about how circularity has changed in the past two and half years, and it has changed.

Next, we are joined by Susan Fife-Ferris, who serves as the Director of Solid Waste Planning and Program Management for Seattle Public Utilities. In her role, Ms. Fife, you go by Ms. Fife-Ferris, is that right?

Ms. FIFE-FERRIS. Yes.

Senator CARPER. There you go, okay. F-squared, there we go. She leads the city's solid waste management division, focusing on strategic and long-range planning. Welcome.

Last, we are going to hear from Cody Marshall, who is the Chief System Optimization Officer for the Recycling Partnership. Mr. Marshall leads the Recycling Partnership's efforts to provide grants and resources to local and State recycling programs across our Nation.

We thank you all for coming before our committee today. We are grateful to you for joining us to discuss this important topic. We will now begin witness testimony. I am going to ask Secretary Biser to be our lead-off hitter. Proceed with your statement at this time, thank you.

Senator Boozman is about to—I think he has, John? Senator Boozman? Before you, I just want us to take a minute. He is a great partner in this, a great leader on this front, not just for his State, but for our Country. I just want to say, what a joy and honor it is to work with you, especially on these issues.

Senator BOOZMAN. Let me just say likewise to you and Shelley for working so hard, and then again, the key to it all has been our staff. They work really hard and do a great job together. As you pointed out earlier in the business meeting, I mean, this is how this place ought to work, again, not only between us, but between our staffs working really hard. Thank you all for being here, and we appreciate all you do very, very much.

Senator CARPER. Thank you, sir. There is a great song, “She Works Hard for the Money,” and our staff work really hard for the money, as you know. We are grateful for that. All right. Thank you.

Ms. Biser, why do not you go ahead and jump into it?

STATEMENT OF HON. ELIZABETH BISER, SECRETARY, NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

Ms. BISER. Thank you again, Mr. Chairman and Ranking Member Capito, members of the committee. I really appreciate the opportunity to come back today to talk about the circular economy in North Carolina and specifically how I have utilized efforts and investment under the Infrastructure Investment and Jobs Act to further our recycling efforts.

These investments, Mr. Chairman, as you noted, mark the most significant Federal investments in recycling in decades to States. As we are seeing through the fact that every single State and territory in the district all opted into the Solid Waste Infrastructure and Recycling Grant Program, the SWIFR Program, we see that this is a universal issue across States.

As a president of the Environmental Council of States, I can tell you that sustainable material management is one of—

Senator CARPER. You are also the president as well? That is a lot of titles.

Ms. BISER. Lots of titles. Some of them, it is on the minds of a lot of my colleagues. One of the things that we are focused on this year in our organizational parties is advancing the circular economy.

Today, I will talk to you a little bit about how North Carolina is using investments from the IIJA to advance our circular economy, how building State capacity for recycling is so vital to addressing the needs of our infrastructure, developing end markets, and making sure that we are furthering resident education.

In North Carolina, we like to say a healthy economy and a healthy environment go hand in hand. In order to make that a reality, we need a firm foundation of good data on which to make smart and strategic investments. The majority of SWIFR funding to States is going toward data collection efforts and development of solid waste management plans, in some cases, for the very first time in other States.

At North Carolina Department of Environmental Quality, we are using the approximately \$600,000 that we received to conduct a statewide materials management optimization study. That will in-

clude a statewide waste characterization study, market assessments for key commodities, a gap analysis for material recovery facilities, and a recycling hub-and-spoke infrastructure assessment to address recycling in the rural parts of our State.

The State is going to enable us to make smart and strategic decisions about where to invest resources where we can get the maximum return on investment. This is critical because the conversation is different than it was when I was last here to talk about this issue in 2021.

States like mine have not traditionally been worried about landfill capacity issues. We have been talking about this more in terms of job and economic investment, but now we are starting to see the conversation evolve. In North Carolina, our two largest regional landfills, which together, accept about 25 percent of our State's waste, are approaching capacity within the next decade. This comes at a time—

Senator CARPER. Where are those located?

Ms. BISER. They are in Charlotte and in the Southeastern part of our State.

Senator CARPER. Okay, thanks.

Ms. BISER. This comes at a time when our State is growing very rapidly, so boosting our recycling efforts is going to ensure that that end-of-life material, that is actually feeding our economy, creating jobs, economic investment, and creating manufacturing feedstock for local industries that desperately need it.

In fact, more than 15,700 North Carolinians are directly employed by the 550 recycling businesses in our State. As we continue to make investments, we anticipate we will see those numbers continue to grow.

We are also making investments in education and outreach. We know that there is a significant amount of contamination in the waste stream due to wish-cycling, or residents putting materials in their bins that do not belong there, and that results in contamination issues that increase costs for local governments and make the sortation and processing recyclables more difficult.

North Carolina is also using SWIFR funding to advance our Recycle Right and our Use the Food NC materials management campaigns. These two campaigns advance the goals of reducing the amount of contamination in the recycling stream and also reducing the amount of wasted food going into our landfills. We are also providing grants to local governments to help them with their education and outreach efforts, as well.

One way we know that we can reduce confusion about what they can recycle where, Senator Capito, you mentioned the pizza box example, is to invest in MRF infrastructure. Accepted materials vary across jurisdictions because the level of modernization and what materials different MRFs can accept vary across jurisdictions, and so the information that we gather through our SWIFR-funded study will help us identify where there are gaps in the MRF processing infrastructure and where modernization efforts can improve the quantity and the quality of materials that are recycled.

While we tend to think about the traditional recyclables of our plastic bottles, our aluminum cans, cardboard, we also need to think about the infrastructure to handle waste and food, which

composes nearly a quarter of the waste stream. the climate footprint of wasted food is large. In fact, a recent EPA study showed that wasted food is responsible for nearly 60 percent of methane emissions from solid waste landfills.

Senator CARPER. Would you say that again?

Ms. BISER. The EPA study found that wasted food is responsible for nearly 60 percent of methane emissions from solid waste landfills. It is a staggering number.

Senator CARPER. Thank you.

Ms. BISER. At the same time, we have more than 44 million Americans that live in food insecure households who could very much benefit from the food that is still edible that makes its way to landfills.

My agency in 2022 did a study to see what our composting capacity was versus how much food we are generating. We found that we generate nearly 2.5 million tons of food waste per year, while our capacity for commercial composters in the State can only handle 350 tons, so that leaves a 2.1 million ton gap.

We know that investments in composting infrastructure are an example of how States can encourage end market development, generate jobs, and leverage private economic investment and mitigate waste by turning that potential waste product into a commodity.

We also provide data and information to manufacturers who are considering locating to our State to help them look at where material is being generated, and those investments also help protect our environment and grow our economy.

I will emphasize again that we cannot pursue these actions without sufficient State capacity and resources. We know that recycling is an inherently local activity, and having the State capacity be robust and have that information and data we need to help our local governments is key to helping advance the circular economy.

I encourage Congress and this committee to continue to invest in recycling, to build State capacity, and to support the infrastructure, education, and end markets needed to move toward a true circular economy. Everyone, whether we are in North Carolina or across the Country, is thinking about how we can more sustainably manage our materials. There is no better example of a healthy environment and a healthy economy going hand-in-hand.

I am grateful for the opportunity today to share my State's perspective, and I greatly appreciate this committee's support, and especially Senator Capito and Senator Carper, your support of this issue. Thank you.

[The prepared statement of Ms. Biser follows:]



Written Statement for the Record

Secretary Elizabeth S. Biser
North Carolina Department of Environmental Quality

Hearing on "Efforts to Improve Reuse and Recycling"

Testimony before the

US Senate Committee on Environment and Public Works

May 22, 2024

Chairman Carper, Ranking Member Capito, and members of the Committee, I appreciate the opportunity to speak with you today about the circular economy in North Carolina and, specifically, about how we've utilized funding from the Infrastructure Investment and Jobs Act (IIJA) to further our recycling efforts.

These investments represent the most significant federal funding for recycling to states in decades. Investing in recycling is a universal issue, evidenced by the fact that all states, territories, and the District opted into the Solid Waste Infrastructure for Recycling (SWIFR) grant program authorized by the Save Our Seas 2.0 Act and funded through IIJA.¹ As the president of the Environmental Council of the States, I can tell you that sustainable materials management is on the minds of many of my colleagues— in fact, advancing the circular economy is one of our organizational priorities for this year.

It is critical that all states are at the table. This is an issue that is increasingly complex, as we are all grappling with challenging waste streams, such as lithium-ion batteries, and aging— and sometimes insufficient— recycling infrastructure.

Today, I'll explore how North Carolina is using the investments from IIJA to advance our circular economy and how building state capacity is critical to addressing needs in our infrastructure, developing end markets, and furthering resident education.

In North Carolina, we often say that a healthy economy and a healthy environment go hand in hand. In order to make this a reality, we need a foundation of good data on which to make smart and strategic investments. Recycling data is difficult to come by, due to the complexity of tracking the waste stream, the inherently local nature of recycling, and a lack of state resources to track and compile necessary information.

While we are excited to see direct infrastructure investments through SWIFR in cities such as Durham, North Carolina, which received funding to renovate and re-design a drop-off station serving historically disadvantaged neighborhoods, the majority of funding to states is going to data collection efforts and the development — in some cases for the first time ever — of solid waste management plans.

At the North Carolina Department of Environmental Quality (NCDEQ), we are using the approximately \$600,000 we received in SWIFR funding to conduct a statewide materials management optimization study. Currently, we rely on an annual survey of local governments to gather statewide data on recycling. The study we are conducting will include a statewide waste characterization study, market assessments for key commodities, a gap analysis of material

¹ *Solid Waste Infrastructure for Recycling Grant Program*, US Environmental Protection Agency, 2023, <https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grant-program>.

recovery facility (MRF) capacity and effectiveness, and a recycling hub-and-spoke infrastructure assessment to address capacity in rural areas of our state.

This data will enable us to make smart, strategic decisions about where to invest resources in order to maximize the return on investment for the circular economy.

This is critical because the conversation around recycling is different today than it was when I was here in 2021 to discuss our efforts to advance the circular economy. Traditionally, we tend to see policy initiatives and investment efforts to divert materials from landfills in Northeastern states, where land is scarcer and there are fewer options for cost-effective landfill disposal. States like mine have traditionally not been worried about running out of landfill capacity, and therefore the discussion around the circular economy has been more about creating jobs and economic investment than the cost of landfill disposal or space constraints.

Now, we're seeing the conversation begin to shift. While job creation is still a focus, the need to extend the lifespan of existing landfills is also becoming a bigger focus. In North Carolina, our two largest, regional landfills – which, together, accept approximately 25 percent of our state's waste – are approaching capacity within the next decade.²

This comes at a time when our state is growing. North Carolina is now the ninth-most populous state in the country, and we are proud to have been named the number one state in the country for doing business by CNBC for the second year in a row.³ We're beginning to talk about solid waste capacity in the same way we talk about water infrastructure – in order to continue to support the level of growth we're experiencing, we need to think proactively about our solid waste infrastructure.

That conversation can't just be about finding more landfill space. Boosting our recycling efforts will ensure that end-of-life materials feed our economy, creating jobs and economic investment, and creating manufacturing feedstock for local industries. In fact, 15,700 North Carolinians are directly employed by the over 550 recycling businesses in our state.⁴ As we continue to make strategic, data-driven investments in recycling, these numbers will continue to grow.

In order to support this growth, we need strong state recycling programs. Recycling is an inherently local activity. It depends on individual residents making decisions about where to put

² *Capacity of North Carolina Landfills – NCDEQ's Annual Report*. (2023). North Carolina Department of Environmental Quality for the Environmental Review Commission. <https://webservices.ncleg.gov/ViewDocSiteFile/83470>.

³ *With a world-class workforce and a booming economy, North Carolina repeats as America's Top State for Business in 2023*. (2023). CNBC. <https://www.cnbc.com/2023/07/11/north-carolina-is-top-state-for-business-led-by-workforce-economy-.html>.

⁴ *Employment Trends in North Carolina's Recycling Industry – 2020*. (2020). North Carolina Department of Environmental Quality. <https://www.deq.nc.gov/energy-mineral-and-land-resources/land-resources/publications/2020-recycling-employment-study-final/download>.

materials– the trash can or the recycling bin. It depends on local governments and/or private haulers operating curbside or drop-off programs. Local governments have limited resources to invest in recycling education, and they depend on the state recycling program for technical assistance and investments in end markets and infrastructure.

Investments from the IJA are enabling state programs to build capacity through data gathering efforts that will help inform future infrastructure investments and increase educational outreach.

Education

In addition to the data-gathering efforts that SWIFR is enabling in my state, we are also making investments in education and outreach. We know that a significant amount of contamination in the recycling stream is due to “wish-cycling,” or residents putting non-recyclable items in their recycling bins. This results in contamination, which increases costs for local governments and makes the sortation and processing of recyclables more difficult.

North Carolina is using SWIFR funding to advance our RecycleRight and Use the Food NC materials management campaigns. These educational campaigns utilize radio, television, billboards, advertisements, and print media to advance two goals: reducing contamination in the recycling stream and reducing the amount of wasted food. We are also providing grant funding to local governments to improve education and outreach efforts at the local level.

These SWIFR-funded efforts will bolster ongoing programs, such as our MRFshed mapping program. Through this program, we work with the MRFs in our state to map out the list of materials that each one accepts and create localized recycling educational materials for communities in each MRF’s coverage area. This effort provides local governments with informed, standardized education campaigns that they can use to educate their residents at no cost to them.

Infrastructure

One method to reduce resident confusion about what they can recycle where is to invest in consistent modernization of MRF infrastructure. The reason that accepted materials lists vary from jurisdiction to jurisdiction is because MRFs vary in their ability to accept certain materials, based on the infrastructure of the MRF. The information that we gather from our SWIFR-funded materials management optimization study will help us understand where there are gaps in MRF processing and identify “MRF deserts.” It will also help us analyze where modernization efforts could improve the quantity and quality of materials recycled by increasing utilization of robotics and artificial intelligence at MRFs.

While we tend to think about recycling bottles, cans, and cardboard, we also need to think about the infrastructure gaps in the handling of wasted food. There are several reasons to focus on food waste in addition to traditional recyclables. Wasted food comprises nearly a quarter of landfilled waste in municipal solid waste landfills, taking up valuable landfill space.⁵ The climate footprint of wasted food is large—ranging from the resources that went into growing, packaging, transporting, and storing the food to the methane emissions released at landfills. In fact, a recent study by the Environmental Protection Agency (EPA) found that wasted food is responsible for 58% of methane emissions from solid waste landfills.⁶ Lastly, there are 44.2 million Americans who are food-insecure who could very much benefit from the still-usable food that ends up in landfills.⁷

One way by which the federal government could help advance this issue is to take action on food labeling. The only product with a federally required expiration date is infant formula.⁸ The purpose of many dates found on food products is to preserve brand quality but is not actually related to the safety of the food—meaning that a lot of food gets thrown away while it is still perfectly safe to eat. Clear, accurate labeling is critical to preventing unnecessary food waste. One option to provide this clarity would be to include both “best by” and “expires on” dates for food packaging, thereby accounting for both brand quality and safety.

When food cannot be diverted to human consumption, there are methods of diversion that allow it to be turned into a commodity rather than tossed in a landfill: EPA’s Wasted Food Scale prioritizes animal feed, compost, and anaerobic digestion as better options for disposing food that can no longer be safely consumed.

From an infrastructure standpoint, investing in composting infrastructure can both generate jobs and mitigate food waste by turning it into a commodity. A 2022 study by NCDEQ found that while North Carolina generates nearly 2.5 million tons of food waste per year, permitted commercial composters in our state can only handle 350,000 tons of waste annually. This leaves a 2.1-million-ton gap.⁹

⁵ *From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste*. (2023). US Environmental Protection Agency. <https://www.epa.gov/land-research/farm-kitchen-environmental-impacts-us-food-waste>.

⁶ *Quantifying Methane Emissions from Landfilled Food Waste*. (2023). US Environmental Protection Agency. <https://www.epa.gov/land-research/quantifying-methane-emissions-landfilled-food-waste>.

⁷ *Food Security in the US*. (2022). US Department of Agriculture. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/>.

⁸ *Food Product Dating*. (2023). US Department of Agriculture. <https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating>.

⁹ *North Carolina’s Food Waste Compost Capacity Gap*. (2022). North Carolina Department of Environmental Quality. <https://www.deq.nc.gov/environmental-assistance-and-customer-service/composting/north-carolina-2022-compost-capacity-report/download?attachment=>.

With additional, sustained investment in recycling and the circular economy, we can begin to address this gap and other infrastructure needs. We know that grant funding for local governments, MRFs, and end markets is effective. At NCDEQ, we provide about \$1.1 million per year, leveraging private investments, to grow our circular economy infrastructure. For example, Clear Path Recycling in Fayetteville, North Carolina, received \$140,000 over three grants to install equipment to improve its efficiency and increase its yield, adding over 6,500 tons to its annual recycling capacity. It also leveraged \$1.7 million in private investment and created 90 local jobs.

Sustained investment in the SWIFR program is crucial to helping bridge these gaps and provide a more consistent recycling infrastructure across the country.

End Markets

When China's National Sword policy went into effect in 2018, it had a significant impact on recycled material markets, especially for plastic and paper. The silver lining of this event, however, is that it led to the development of stronger domestic end markets for some recycled materials, bringing jobs and economic investment stateside in the process and ensuring that the value chain remains within our communities.

States have an ongoing role to play in encouraging the development of end markets. Providing data and information to manufacturers who are considering locating in our state can help them make strategic investments that protect the environment and strengthen the local economy. For example, NCDEQ provided information on the regional generation of recycled plastic bottles, which led to an industry expanding in our state. In addition to favorable tax treatment for recycling-related industries, we work with our partners across state agencies and across government to offer technical assistance and invest in supporting infrastructure to produce benefits for our residents, communities, and businesses.

I'll emphasize again that we cannot pursue these actions without sufficient state capacity and resources. We need investment and engagement at all levels, including from the federal government, to create a truly circular economy.

Other State Efforts

In April 2023, I convened the North Carolina Circular Economy Council to bring together representatives from various stages of the supply chain and recycling industry to identify ways to expand and accelerate beneficial impacts of recycling in the state. We have conducted tours and held discussions that allow Council members, as well as local and state officials, to gain a deeper understanding of how all parts of the circular economy support one another. From the resident who recycles their plastic bottle, to the MRFs that sort the bottle and send it to be

processed into flake, to the manufacturer who receives a clean feedstock and turns it into a new bottle or yarn— each of these steps becomes more efficient when one is made better.

We have made great progress over the past several years, but there is plenty of work still to be done. We have heard that the announcement for Round 2 of the SWIFR and Recycling Education and Outreach grant programs may come by the end of this year. I encourage Congress and this Committee to continue investing in recycling, to build state capacity, and to support the infrastructure, education, and end markets needed to move towards a truly circular economy.

Everyone, in North Carolina and across the country, is thinking about how we can more sustainably manage our materials. It will take collaborative policy and funding solutions, with everyone at the table, to meet our goals. There is no better example of a healthy environment and a healthy economy going hand in hand.

I am grateful for the opportunity today to share my state's perspective and appreciation for this Committee's support of recycling and the circular economy. Thank you.

Senate Committee on Environment and Public Works
Hearing Entitled “Federal Programs for the Circular Economy: State and Local Perspectives
on Efforts to Improve Reuse and Recycling”
May 22, 2024
Questions for the Record for The Honorable Elizabeth Biser

Chairman Carper:

1. In your written testimony, you raise North Carolina’s ability to collect recycling data has attracted businesses to come to your state, creating economic activity and jobs. Please describe a few other ways that you have been able to use data to support recycling and circular economy activities at the state or regional level?
 - a. How could improving recycling data collection help the federal government to implement policies that support a circular economy?

Strong data on material generation, recycling opportunities, and end markets is critical to making smart, strategic investments—whether for private businesses deciding to locate in our state or for government at all levels developing infrastructure, education, and outreach. In North Carolina, we gather and provide access to data on various aspects of recycling as we have the capacity to do so. We look forward to expanding our available data with funding received through the Infrastructure Investment and Jobs Act and the associated Solid Waste Infrastructure for Recycling (SWIFR) Grants program.

One example of how we use this data to support recycling across the state is through our MRFshed mapping. We work with material recovery facilities (MRFs) to compile the list of materials that each facility accepts, share the information through an interactive online map, and create localized recycling educational materials for communities in each MRF’s coverage area. This effort provides local governments with informed, standardized education campaigns that they can use to educate their residents at no or minimal cost.

We also collect data that allows us to identify gaps in our recycling and materials management infrastructure, encouraging business and infrastructure development to fill those gaps. For example, North Carolina faces approximately a 2.1-million-ton gap in permitted commercial composting capacity versus the actual quantity of food waste generated annually in the state. This data shows a strong opportunity for economic development, which would provide jobs to our residents while supporting the circular economy in our state.

Data on material generation that we have provided to private industries has also helped facilitate expansions of existing industrial facilities that rely on recyclable materials and helped attract new industries.

Similarly, improved recycling data collection nationwide would allow the federal government to make targeted investments: from understanding what types of infrastructure and end markets are supporting the circular economy or need additional support to providing specific and relevant educational information on recycling to residents that improves recycling outcomes and creating

access to recycling in small and rural communities. Collecting the data that enables these outcomes is critical and relies in large part on state capacity, for which federal funding is key.

2. North Carolina offers local grant programs to improve solid waste management. Would you please describe some of the grant programs that North Carolina administers and the results you have seen from these programs over time?

In North Carolina, we know that grant funding for local governments, MRFs, and end markets is effective. At the North Carolina Department of Environmental Quality (NCDEQ), we provide about \$1.1 million in grants per year to business and local governments, leveraging private investments to grow our circular economy infrastructure.

Our Recycling Business Development Grants are matching grants. Just in the spring of 2023, awarded grants were expected to generate around 135 jobs and more than \$1.3 million in new private investment. Clear Path Recycling in Fayetteville, North Carolina, received \$140,000 over three grants to install equipment to improve its efficiency and increase its yield, adding over 6,500 tons to its annual recycling capacity. It also leveraged \$1.7 million in private investment and has created 90 local jobs.

We also administer programs including Food Waste Reduction Grants, Community Waste Reduction and Recycling Grants, and Multifamily Recycling Grants. Each of these programs have seen significant returns on investment and have resulted in improved infrastructure to support the circular economy at all stages, from residents recycling bottles and cans in their homes to commercial composters hauling tons of food waste that has been diverted from landfills. For example, in just the 2023 round of the Food Waste Reduction Grants, nearly \$400,000 was awarded across businesses and local governments to divert an additional 20,200 tons of food waste from landfills in the state.

Many of our grant programs are available to organizations in both the [public](#) and [private](#) sectors. Multifamily Recycling Grants, for instance, have a variable match required based on the applicant's organization type; all projects include an educational component and result in new access or recovered tonnage from multifamily residences. Education and expanded access to recycling also form the cornerstones of the Community Waste Reduction and Recycling Grants, which provide support to local governments to address their unique needs. The economic and environmental benefits generated by these grants show that a healthy economy and a healthy environment go hand in hand.

3. Are there any actions that Congress should consider to support efforts to reduce food waste and loss?

In order to reduce food waste and loss, a key component is to make it easier for businesses and individuals to divert food from landfills to preferred uses. The most preferred pathway for edible food is, of course, to be consumed—yet food waste comprises nearly a quarter of municipal solid waste disposed of in landfills. One method to prevent such food waste would be to clarify food dating through labeling requirements that differentiate “best by” dates from “expiration” dates.

With the exception of infant formula, dates on food packaging are not required by federal law. As such, they are applied inconsistently and may create confusion that leads to the disposal of

safely edible food. Clarity in the distinction between a “best by” date, by which the food packager or manufacturer deems the food will maintain its highest quality, and the “expiration” date, after which the food is no longer safe to eat, would support consumer confidence in making choices about food use.

It is important generally for consumers to understand what options are available to them for food use, whether through donation, compost, or otherwise. The provision of funding through the Environmental Protection Agency to support the development of education and outreach materials, in addition to funding for infrastructure development, would further encourage the diversion of food from landfills. Providing technical assistance to businesses managing food, incentives that encourage food donation rather than disposal in landfills, and investments in infrastructure, such as composting, that improve access to preferred management pathways are additional ways that Congress could support efforts to reduce food waste and loss.

4. Your written testimony points out that North Carolina’s two biggest landfills are expected to reach capacity within the next decade. What will happen to municipal solid waste if and when these landfills reach capacity in North Carolina?
 - a. How is your state working to address these concerns regarding limited landfill space?

To continue to support the level of growth we are experiencing, we have to think proactively about solid waste infrastructure. In North Carolina, the remaining capacity for the 41 active municipal solid waste landfills is estimated to be about 28 years. However, two of our three largest landfills each have only about a decade of capacity remaining.

If and when these landfills reach capacity, assuming space constraints that limit expansion (which may not be the case in every instance), the waste they formerly accepted will have to pass through additional transfer stations and be hauled farther away. Fortunately, we can extend the life of our existing landfills through recycling and reduction of food waste. Diverting materials from the landfill allows our solid waste infrastructure to continue supporting economic growth, rather than becoming a limiting factor. Communities and companies in North Carolina are investing in recycling infrastructure, including through municipal MRF expansion to significantly increase recycling capacity in high-growth areas.

5. In your view, how could the federal government help reduce consumer confusion over labels on packaging that are designed to inform consumers on whether a good can be recycled or composted?

Updating and clarifying best practices for labeling recyclable and compostable items is important to provide clarity to consumers, reduce contamination in the waste stream, and produce clean, efficient materials for end-market users. The Green Guides, published by the Food and Drug Administration, are in the process of being updated for the first time since 2012, and NCDEQ provided [comments](#) regarding labeling and other practices in April of 2023.

One of the most meaningful changes Congress could make would be to remove the chasing arrows symbol from the resin code. Consumers assume that if they see the chasing arrows

symbol, the associated packaging is recyclable. However, the resin code is simply indicating what type of plastic the packaging is, not whether it is widely recyclable. This code appearing with the chasing arrows symbol results in resident confusion and contamination in the recycling stream. Congress could direct the ASTM standard be used for the resin code, which includes an equilateral triangle.

6. In 2018, China's National Sword Policy went into effect. Before the enactment of this policy, about half of the world's recyclables were shipped to China for processing. Additionally, global events such as the COVID-19 pandemic have influenced recycling markets and domestic supply chains for materials. Please describe what the impacts of China's National Sword Policy and the COVID-19 pandemic have been on North Carolina's recycling industry?

In the aftermath of China's National Sword policy going into effect, there were several dozen cities who stopped or paused their recycling programs. Now, a lot of communities realize that recycling isn't something that can be turned on and off like a faucet. Markets can be volatile, but the United States' market is responding to global events. China National Sword significantly affected paper and plastic markets, and we've seen considerable investment in domestic capacity in the years following the policy's implementation. This has resulted in increased economic investment and jobs throughout the US.

Material streams shift over time— for example, paper markets were again impacted by the increased prevalence of OCC, or cardboard, as residents replaced in-person shopping with delivery orders during the COVID-19 pandemic. Communities and their citizens continue to be actively committed to recycling and are finding ways to improve the health of the overall system through addressing contamination, increasing efficiency, and re-writing materials processing contracts to better suit the market conditions and needs of today. Recycling is an inherently local activity that begins when a resident places a bottle or a can in the bin at their home or work, and the development of strong domestic end markets ensures that the value of that recycled material remains in their communities.

7. I believe that in order to continue to build towards the vision of a circular economy, stakeholders at all levels of government, nonprofits, and the private sector must have a seat at the table to share ideas. How are you collaborating with a wide variety of stakeholders to improve recycling and reuse efforts?

In April 2023, I convened the North Carolina Circular Economy Council to bring together representatives from various stages of the supply chain and recycling industry to identify ways to expand and accelerate beneficial impacts of recycling in the state. Council members include manufacturers, industry associations, non-profits, and others, each with a strong dedication to recycling and the circular economy. We have conducted tours and held discussions that allow Council members, as well as local and state officials, to gain a deeper understanding of how all parts of the circular economy support one another.

Providing forums such as the Circular Economy Council for stakeholders to come together leads to better and more efficient leveraging of resources, development of policy perspectives, and opportunities for collaboration and education. In another example of how North Carolina is

bringing together stakeholders from across an industry, we have convened our food banks and food hubs to identify how we can improve the pathways for food waste prevention in our state. We regularly engage with local governments, private businesses, and community members as we provide education, technical assistance, and grant support to expand the circular economy in North Carolina.

8. One thing we have heard before on this Committee, is that our nation's municipal recycling facility infrastructure is outdated. Specifically, there are new technologies to assist with the mechanical recycling of goods, such as robotics or optical sorters. What kinds of upgrades to municipal recycling facilities are needed to maximize our ability to mechanically recycle a variety of goods?

Investing in innovation is key to improving the efficiency and effectiveness of MRFs across the country and will lead to cleaner feedstocks for manufacturers, lowering the costs that are incurred as a result of contamination. At this point in time, the evolution of packaging has outpaced our material recovery infrastructure: we need to design flexible systems that can adapt to tomorrow's challenges, not just solve today's problems.

There are already many impressive examples of innovative MRFs that are using new and developing technologies to improve efficiencies and produce cleaner feedstocks. They are using combinations of robotics, artificial intelligence, machinery, and manual sorting to retain the most value out of the materials in their recovery stream. For example, improved optical sorters can both properly identify an increasingly complex plastics recycling stream and help clean up paper coming through the MRF, while advanced robotics are used for sorting and improved disc screens help address winding plastic bags.

In March of 2024, I had the opportunity to tour the Balcones Recycling facility in Austin, Texas, with the Environmental Council of the States. Alongside colleagues from other states and the federal government, we saw how the company is incorporating emerging technologies like artificial intelligence and robotics alongside machinery and manual sorting to improve the efficiency of their material sortation process and produce cleaner feedstocks.

As MRF infrastructure is improved and the materials stream that facilities can process becomes more standardized, there will be positive impacts to resident confidence in recycling. Being able to recycle the same materials at home as at work will reduce confusion and improve capture rates, creating a positive feedback loop as more feedstocks become available for end markets after MRF sortation and processing.

9. In order to fully realize the environmental and economic benefits of recycling, we need to ensure that when a product goes into our recycling system replaces virgin materials that would otherwise be used. What end markets currently exist for recycled products and are there any emerging end markets in your state?

North Carolina is home to over sixty manufacturers using recycled content in their products. Our state has a long history of recruiting these industries, and they account for many of the commodities recycled in communities across the state. Companies like Owens-Illinois and

Ardagh use recycled glass to create new bottles. Within thirty days, the bottle you're holding today can be back on the shelf with a new life.

This is a great example of a circular economy, and I'm proud to say the entire process, from the resident placing their bottle in the recycling bin to the sortation at material recovery facilities to the glass processor to the bottle manufacturer, is all contained within the state of North Carolina. There are other manufacturers in our state who take recycled plastics and turn them into corrugated pipe, new bottles, and even textiles—the demand for recycled material as feedstocks is large.

In order to support these end markets, it is important that we improve recycling capture rates at the local level, increase access to strong recycling infrastructure including through the modernization of MRFs in our state, and provide data that allows businesses to make smart, strategic investments.

10. Recycling a “win-win” solution because it diverts waste which is not only good for the environment but also good for the economy and recycling creates jobs. Would you please share how waste diversion can increase employment rates and contribute to economic growth?
 - a. What are some of the specific and ancillary jobs associated with waste diversion in your state?

I am proud to say that in North Carolina, recycling directly supports over 15,700 jobs across more than 550 private businesses, from haulers to MRF workers to manufacturers. Beyond private sector employment, the economic benefits of recycling continue—creating jobs for North Carolinians in local governments who manage recycling programs and generating valuable feedstocks for the manufacturers who rely on recycled materials to create new products. According to the EPA, recycling results in 1.17 jobs for every 1,000 tons of recycled material.

The economic impact of recycling is large, accounting for over \$3.2 billion in economic activity annually in our state. This truly shows how a healthy economy and a healthy environment go hand in hand: food waste, for example, accounts for nearly 60% of methane emissions from solid waste landfills, while increased composting infrastructure would both mitigate this climate impact and create jobs. NCDEQ supports the development of recycling jobs and businesses across the state through our grant programs—over the last five years, these recycling grants have led to the creation of over 315 jobs and added over 300,000 tons to diversion capacity.

11. In your opinion, what actions should the Environmental Protection Agency take to make it easier for rural and disadvantaged communities to access and apply for the Solid Waste Infrastructure for Recycling grants?

An important way in which EPA could make it easier for rural and disadvantaged communities to access SWIFR funds is for the agency to direct resources to states to provide formal technical assistance programs. States are uniquely situated to provide this assistance, having both specific knowledge of community needs and opportunities and a broader perspective of where resources may best be used. This support would build on the first round of SWIFR funding to states, which focused on data collection and the development of state solid waste plans.

With data in hand, states are able to leverage our knowledge of where gaps exist in recycling infrastructure and access. Additional resources to provide technical assistance would further enable states to empower the communities we serve. Technical assistance helps local governments understand the options available to them: the types of projects that would benefit the circular economy within their community and region, what they will need to do to comply with the grant if awarded, and how they can best advocate for their needs through the grantmaking process. A formalized technical assistance program would support state capacity to proactively reach out to communities that might benefit from available funding. In turn, states can serve as a resource center to support the development of applications for small, rural and disadvantaged communities that may need help putting together strong applications.

I want to stress that states would need additional resources for this effort. Many state recycling programs operate on small budgets. Investments in recycling are needed across the country, and all communities should have a fair chance to receive funding. Federal investments such as the SWIFR grants are key to filling data gaps and making smart, strategic infrastructure investments. Many small, rural, and disadvantaged communities face unique challenges with recycling, and to move towards a truly circular economy, it is critical that these gaps are addressed. Support from EPA to states for technical assistance will help to ensure that these communities are not left behind.

12. What are the top one or two legislative actions that Congress should consider to help our nation move towards a truly circular economy?

The SWIFR grant program has laid the groundwork for continuing transformational investments in recycling across the country— providing ongoing funding for data collection and strategic infrastructure projects is crucial to advancing the circular economy nationwide. Additionally, a necessary and complementary action involves clarifying labeling practices for recyclables, from resin codes to food dating. With improved access to and understanding of recycling options, residents of all states will realize environmental and economic benefits from a truly circular economy.

The need for ongoing investment in recycling data and infrastructure is evidenced by the rare occurrence of all fifty states and the District of Columbia opting in to participate in the first round of the SWIFR grant program. We know that in North Carolina, there is still plenty of work to be done to improve the availability of recycling programs in communities across the state, modernize infrastructure to standardize accepted materials in the places where residents live and work, and increase the capture rate of recyclables to provide valuable feedstock to manufacturers who rely on these materials for their business. State capacity to support these actions is limited by available resources, and federal funding is a helpful supplement to state programs. The provision of continuing funds to the SWIFR grant program will advance the transition to a circular economy in states and communities across the country.

Alongside investments in improved data and infrastructure, one of the most meaningful changes Congress could make would be to clarify the labeling of recyclables and food that helps residents and consumers understand their available choices. A key example is to remove the chasing arrows symbol from the resin code on plastics packaging. While the resin code actually indicates what type of plastic the package is composed of and not whether it is widely recyclable,

consumers often assume that if they see the chasing arrow symbol, they can recycle that item. Congress could direct packagers to use the ASTM standard for the resin code, which includes an equilateral triangle rather than the oft-confounded chasing arrows symbol.

Clarity in labeling can also support the prevention of food loss and waste through differentiating “best by” dates from “expiration” dates. With the exception of infant formula, dates on food packaging are not currently required by federal law. As such, they are applied inconsistently and may create confusion that leads to the disposal of safely edible food. Labeling requirements could be put in place that clarify the distinction between a “best by” date, by which the food packager or manufacturer deems the food will maintain its highest quality, and the “expiration” date, after which the food is no longer safe to eat. Complementary policies, such as clear labeling, support the success of recycling investments and the circular economy at all levels.

Senator Whitehouse:

1. As you know, the SWIFR Grant Program was created as part of my and Senator Sullivan’s Save Our Seas 2.0 Act. What types of programs do you think would be most beneficial in a Save Our Seas 3.0 bill?

The need for investment in recycling and circular economy issues is high. Among the most critical of these needs are improving the collection and availability of recycling data to inform decision-making at all levels, addressing infrastructure gaps, and confronting food waste.

Strong data on recycling carries economic and environmental benefits, but the collection of such data often relies on the limited resource of state agency capacity. Programs like SWIFR that provide investments for data collection and analysis and plan development support current and future possibilities to improve access to recycling, encourage recycling business development, and make an efficient, effective, and equitable transition to a more circular economy.

On the basis of strong data, it is critical to invest in addressing infrastructure gaps for recycling access, transport, and processing. There are many areas of the country with no access or very poor access to recycling, just as there are many collection programs that are still using old, inefficient modes of recycling collection. To improve recycling outcomes, it is necessary to help communities offer recycling services that are as easy to access, understand, and use as their garbage services.

Making sure those services are provided in the most efficient, convenient way possible will facilitate resident confidence in their ability to recycle right. Different communities have different needs, and there will be variation in what types of infrastructure are best suited to an area depending on its population density and other factors. For example, in rural areas, hub and spoke models can expand recycling access while keeping transportation costs lower. In urban areas, multifamily recycling presents another rich opportunity to extend recycling access and convenience and to build new sources of clean material supply.

Investing in innovative MRF upgrades also support the production of clean feedstocks for manufacturing—MRFs across the country have begun exploring ways to improve the efficiencies and outcomes of their sorting processes. However, many more are still relying on processes that have been outpaced by changes in packaging and products, and it will be

important to invest in modernization that leads to more consistent accepted materials streams to improve consumer confidence and clarity.

Food waste, while not thought of as traditional of a recyclable commodity as plastics or cardboard, nonetheless has a large role to play in the circular economy. Food waste comprises nearly a quarter of the waste found in municipal landfills and is responsible for nearly 60% of landfill methane emissions to the atmosphere. Investments and policies that support the prevention of food loss and waste, from supporting food banks and commercial composters to providing labeling regulations and educational guidance, also ensure the resources used to grow and transport that food go to productive use. Addressing food waste requires a comprehensive view and, like all recycling efforts, would greatly benefit from increased investment in data availability and infrastructure development.

2. One mechanism for achieving a circular economy for plastics and packaging is through extended producer responsibility. As you know, EPR is widely supported by plastics manufacturers, product companies, and environmental groups. How could a federal EPR system support state and local waste management and zero-waste strategies?

North Carolina is an example of a state that is unlikely to see adoption of EPR in the near future: so, we are watching the states where EPR has been or is in the process of being adopted, and we anticipate that the benefits of their actions will also reach our state and states across the country. For instance, eco-modulation, which sets fees or establishes incentives based on recyclability or other characteristics of packaging, is a common feature of these programs. As a result, packaging design and material decisions will be more likely to take recyclability into account, and this benefit will reach across state lines as product packaging is not state-specific and can take advantage of economies of scale through consistency in manufacturing.

A federal EPR program would provide consistency in these decisions and expectations across the board. Additionally, a federal program could be leveraged to help provide necessary resources to address infrastructure, education, and data collection, advancing our collective transition towards a truly circular economy.

3. Many state and local waste management systems across the country are struggling to cope with the deluge of plastic waste choking our households and environment. My bill, the REDUCE Act, would place a \$0.20 per pound fee on virgin plastic used for single-use plastic products. How can phasing out single-use plastics and reducing virgin plastic production benefit local waste management systems?

While decisions on material bans are part of the political process, we know that there is a need to improve how waste management and recycling systems handle recyclables to support the circular economy. In North Carolina, most PET and HDPE plastic containers are banned from disposal in landfills—so, it is important that there is sufficient recycling infrastructure in place to manage these materials. After the landfill ban went into effect, we saw increased private investment in the hauling and processing of plastics, public expansion of recycling programs, and a significant increase in the tonnage of plastics recycled across the state.

There are many ways to encourage circulating materials throughout the economy, and we are focused on making sure that the infrastructure is in place to support these recyclables becoming

valuable manufacturing feedstock rather than ending up in a landfill or dumped in the environment. Through technical assistance, education, and grants, we provide support to local governments, businesses, and individuals as they strive to responsibly manage their materials. Manufacturers in our state rely on recycled materials as feedstock for their products, and it takes a strong recycling system to keep materials moving throughout the circular economy.

Senator CARPER. Thank you so much. Thanks for joining us again in this room. Thank you for your testimony today.

Now, we are going to turn to Ms. Fife-Ferris to hear her testimony. Welcome. Good to see you today. Thanks for joining us. Please proceed.

STATEMENT OF SUSAN FIFE-FERRIS, DIRECTOR, SOLID WASTE PLANNING AND PROGRAM MANAGEMENT DIVISION, SEATTLE PUBLIC UTILITIES

Ms. FIFE-FERRIS. Good morning. Good morning, Chairman Carper, Ranking Member Capito, and members of the committee. My name is Susan Fife-Ferris, and I am Director of Solid Waste Planning Management for Seattle Public Utilities. Thank you for inviting me today to testify.

Seattle has been an international leader in the solid waste management for decades, including waste prevention, recycling, and composting organic materials. Our vision is zero waste. We owe our success to strong public and private support focused on protecting and improving community and environmental health.

Our city still faces challenges and has limited control or influence over the large and complex solid waste system. This is why leadership at the national level is so important to help eliminate waste and create a truly circular economy. Funding for the Solid Waste Infrastructure for Recycling, or SWIFR, grant program included in the Bipartisan Infrastructure Act has been critical for important reuse and recycling strategies and projects throughout our Nation.

Seattle is a fortunate recipient of one of these grants, which will allow us to establish a salvage lumber warehouse to support our local deconstruction sector in salvaging lumber that can be reclaimed and reused from old buildings. The SWIFR grant will provide seed money necessary to attract a private company to site a salvaged lumber warehouse to ensure that recovered lumber can be stored, marketed, and sold. This funding will help fill a critical gap in the infrastructure and lay the foundation for sustained preservation of the precious resource that this lumber represents.

We strongly encourage the Senate to extend the SWIFR funding, as well as other funding mechanisms, such as the Consumer Recycling Education and Outreach grant program beyond the 2026 end date.

The Federal Government can also play a critical role by supporting consistent and accurate data collection at a national level and using this data to drive effective programs and investments in the solid waste field. Seattle has collected data and used data to inform our management of solid waste for over 30 years, and we know how important and foundational it is.

Therefore, we support passage of the Chairman's legislation, the Recycling and Compost Accountability Act. That is a great start for providing the support needed for data collection and analysis nationwide.

The Ranking Member's legislation, the Recycling Infrastructure and Accessibility Act, would also be an important step forward to help increase collection of recyclables by making recycling more convenient and accessible. Many communities throughout the

Country do not have access to basic recycling, resulting in valuable materials going into a landfill. I hope the committee will move both bills forward.

Our Reuse Seattle Initiative is an example of where a government entity can play a role in developing a circular economy and facilitating the reduction and eventual elimination of single-use plastic products and packaging in the food service industry.

The Federal Government can play a role by supporting the development of standards and providing local governments funds to invest in reuse systems and infrastructure. Federal investments can provide the seeds that help grow the reuse ecosystem.

Additionally, we support the Federal Government financially incentivizing waste prevention, reuse, and the use of post-consumer recycled content through grants and tax credits. Adopting a national design for recyclability standards for products and packaging that includes standards for use of post-consumer recycled content.

Reducing subsidies to virgin materials, such as petrochemical feedstocks, that directly compete with the post-consumer recycled plastics, creating accountability throughout the recycling system by setting mandatory capture rate goals tied to timelines, standardized reporting requirements, and verification of responsible end markets.

Supporting a national framework for extended producer responsibility for packaging and paper products that holds producers responsible for their products and packaging ensures they provide adequate and stable financial support for the recycling industry and local communities. Supporting whole life cycle analysis of materials that considers externalities such as plastic residuals that impact marine life, and adopting National labeling standards to reduce consumer confusion and support ability to recycle responsibly.

We applaud the Senate to support the United States' shift to a circular approach. As you look to the future, Seattle strongly encourages you to place a greater emphasis upstream on waste prevention and reuse while also continuing to support increased downstream diversion and recyclables and organics to reliable and responsible markets.

Thank you.

[The prepared statement of Ms. Fife-Ferris follows.]



*Federal Programs for the Circular Economy:
State and Local Perspectives on Efforts to Improve Reuse and Recycling*

Written Testimony of Susan Fife-Ferris, Seattle Public Utilities, City of Seattle

U.S. Senate Environment & Public Works Committee

Washington, DC, May 22, 2024

Good morning, Chairman Carper, Ranking Member Capito, and Members of the Committee.

My name is Susan Fife-Ferris, and I am Director of Solid Waste Planning & Program Management for Seattle Public Utilities, City of Seattle. Thank you for inviting me to testify today.

Seattle has been an international leader in solid waste management for decades, including waste prevention, recycling, and composting of organic materials. Our vision is zero waste. We owe our success to strong public and private support that has resulted in thoughtful planning and policies and dedicated and sufficient program resources focused on protecting and improving community and environmental health.

Seattle understands not everywhere has this type of support; however, we know there are actions that can be taken by every community.

However, our city still faces challenges and has limited control or influence over the large and complex solid waste system. This is why leadership at the national level for both recyclables and organic materials is so important to help eliminate waste and create a truly circular economy.

Need Continued and Expanded Federal Grant Funding

Funding for the Solid Waste Infrastructure for Recycling (or SWIFR) grant program included in the Bipartisan Infrastructure Act has been critical for important reuse and recycling strategies and projects throughout our nation.

Seattle is the fortunate recipient of one of these SWIFR grants, which will allow us to establish a Salvaged Lumber Warehouse to support our local deconstruction sector in salvaging lumber that can be reclaimed and reused from old buildings.

The SWIFR Grant will provide the seed money necessary to attract a private company to site a salvaged lumber warehouse in our area to ensure that recovered lumber can be stored, marketed, and sold. This partnership with the federal government and with the private sector will help us fill a critical gap in the infrastructure and lay the foundation for sustained preservation of the precious resource that this lumber represents – the bounty from our region's old growth forests.

This is just one example of how federal grants can be used to support a circular economy.

We strongly encourage the Senate to extend the SWIFR funding as well as the other funding mechanisms, such as the Consumer Recycling Education and Outreach grant program, beyond 2026.

Need Nation-wide Data Collection and Analysis

The federal government can also play a critical role by supporting consistent and accurate data collection at the national level and using this data to drive effective planning, policy, programs, and investments in the solid waste field.

Seattle has collected and used data to inform our management of solid waste for over thirty years, and we know how important and foundational it is. As an example, we use waste characterization studies to understand what is in our various waste streams. We collect data down to the specific material type and use that information to inform our decisions on what to target, such as food waste and single-use packaging, and the strategies to use, such as developing standards, offering incentives, and/or rolling out new programs. Data tells a story and helps us see what is working and what isn't over time.

For this reason, we urge Congress to pass Chairman Carper's bill, S. 1194 – Recycling and Composting Accountability Act, as a great start at providing the support needed for data collection and analysis nation-wide.

Need Recycling Infrastructure and Accessibility Support

In addition, Seattle strongly supports Ranking Member Capito in her sponsorship of S. 1189 – Recycling Infrastructure and Accessibility Act, which would also be an important step forward to help increase collection of recyclables by making recycling more convenient and accessible. Many communities throughout the country don't have access to basic recycling, resulting in valuable materials going to landfill. We urge Congress to pass this legislation.

Need Standards and Funding to Expanded Opportunities for Reuse

Seattle's Reuse Seattle initiative is an example of where a government entity can play a role in developing a circular economy and facilitating the reduction and eventual elimination of single-use plastic products and packaging in the food service industry.

Seattle is working through three channels for action:

1. *Promoting Bring Your Own Cup (BYOC)*, where customers are encouraged to bring their own cup or mug to their favorite coffee shop or cafe.
2. *Promoting and facilitating durables and reusables for dine-in*, where single-use disposable food and beverage containers are replaced with durable or reusables when in-shop dining is an option.
3. *Fostering and enabling an integrated reuse system*, where the city is working in partnership with vendors and businesses across Seattle to create the blueprint for scalable and affordable reuse options.

This is not a government run program – but a program where Seattle creates the conditions for Reuse Solutions to flourish by:

- *Recruiting partners*, such as music venues, stadiums, and educational institutions.
- *Making connections*, by bringing stakeholders together to discuss logistics and possibilities.
- *Offering incentives* of up to \$500 in dishware to supporting businesses as they move from single-use to reuse.

- *Establishing standards* for reusable containers and cups to ensure they meet the needs of the businesses and customers.
- *Coordinating systems* to ensure that the reusable containers and cups can be used, dropped in a convenient collection location, transported, washed, redistributed, and reused.
- *Promoting a reuse culture*, through education, information, and collaboration.

We envision a network of reuse systems for food and beverage containers at Seattle institutions, venues, businesses, and communities. By creating systems of collection, transportation, washing, and digital infrastructures, Seattle is working to making reuse convenient and accessible across our city. Our goal is that the private and non-profit sector will embrace and operate the various elements of a reuse system, creating new green jobs. Additional information can be found at www.ReuseSeattle.org.

The federal government can play a role by supporting the development of standards and providing local governments funds to invest in reuse systems and infrastructure. Federal investments can provide the seeds that help grow the reuse ecosystem.

Need Federal Action to Prevent Food Waste from Going to Landfill

Composting of organic materials, such as food and yard waste, imitates the natural processes of decay and regeneration and results in a beneficial soil amendment. If landfilled, these organic materials produce large amounts of methane as they decompose, which is a powerful greenhouse gas. Currently, approximately 40% of food in the United States goes uneaten, and so Seattle has identified food waste as a top priority for prevention and diversion to either rescue or composting.

Examples of Seattle's efforts include:

- *Love Food, Stop Waste* program, which provides consumers with information and tools to help reduce food waste at home. Additional information is available at [Stop Food Waste - Utilities | seattle.gov](http://StopFoodWaste-Utilities|seattle.gov)
- *Pacific Coast Food Waste Commitment*, where Seattle, as a participating signatory, is collaborating with food businesses such as grocery retailers and manufacturers to reduce food going to landfill across the West Coast by 50% by 2030.
- *Food Rescue* program, where Seattle is partnering with businesses and nonprofits to improve how edible, unsold food gets donated to those that need it in Seattle and diverted from both the organics and landfill streams. Additional information is available at [Food Donation - Utilities | seattle.gov](http://FoodDonation-Utilities|seattle.gov)

In addition, Seattle recently established a Food Rescue Innovation Grant program to help improve the distribution of edible, unsold food to feed people while reducing food going to waste. This is one critical way of helping people have enough to eat while keeping valuable food out of the organics or landfill streams. Our studies have shown that food is the single largest material going to garbage from Seattle businesses and is a significant contributor to greenhouse gases. This grant will provide seed funding to test innovative approaches that could ultimately be scaled or replicated with private sector, nonprofit, or philanthropic funding. Additional information is available at [Food Rescue Innovation - Utilities | seattle.gov](http://FoodRescueInnovation-Utilities|seattle.gov)

The federal government can take action to provide seed funding and tax credits for the investment into innovations and needed infrastructure to prevent food waste upstream and help keep edible food from being wasted and getting into the hands of the food insecure.

Need Federal Support in Other Areas

Additionally, Seattle supports the federal government:

- Financially incentivizing Waste Prevention, Reuse, Refill, Repair, and Use of Post-consumer Recycled Content, through grants, subsidies, and tax credits.
- Adopting national design for recyclability standards for products and packaging that include standards for use of post-consumer recycled content.
- Reducing subsidies to virgin materials, such as petrochemical feedstocks that directly compete with post-consumer recycled plastics.
- Creating accountability throughout the recycling system by setting mandatory capture rate goals and actions tied to timelines, standardized reporting requirements, and verification of responsible end markets.
- Supporting a national framework for Extended Producer Responsibility (EPR) for Packaging and Paper Products that holds producers responsible for their products and packaging and ensures they provide adequate, ongoing, and stable financial support for the recycling industry and local communities.
- Supporting whole life cycle analysis of materials that considers externalities, such as plastic residuals impact to marine life.
- Adopting national labeling standards to reduce consumer confusion and support their ability to recycle responsibly.
- Supporting recyclers through incentives and tax credits in the same way the government has supported renewable energy providers. Decades ago, renewable energy was a small fraction of our country's electricity portfolio. Now more money is invested in renewables than in fossil fuel electricity. That same approach will support the recycling industry, especially those recycling plastics.
- Supporting and emphasizing an upstream approach to address the root causes of waste to reduce impacts on health and the environment in future legislation and funding support and throughout EPA's Draft National Strategy to Prevent Plastic Pollution, which supports the United States' shift to a circular approach that is restorative or regenerative by design, enables resources to maintain their highest value for as long as possible, and aims to eliminate waste in the management of plastic products.

Conclusion

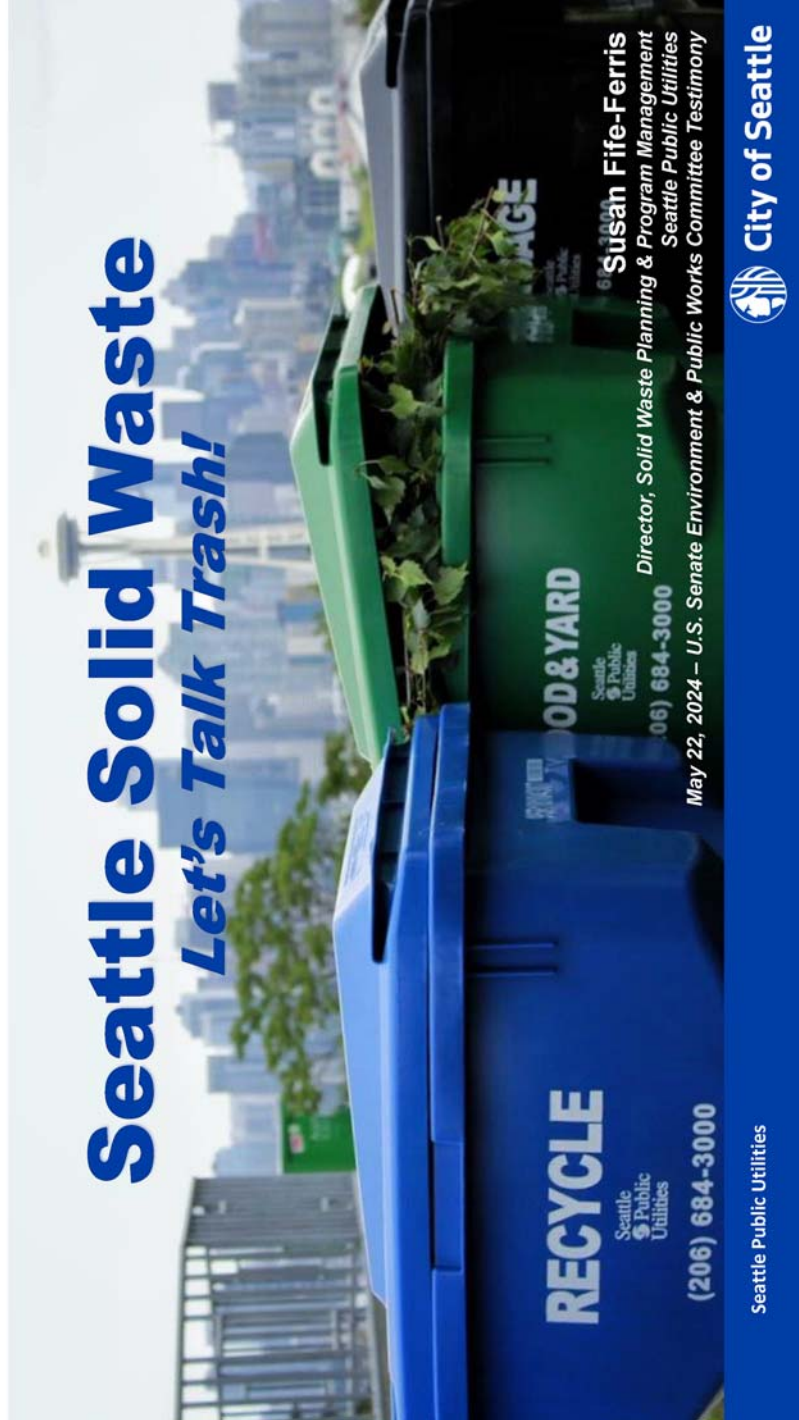
It is an honor to be able to share with you today how Seattle's vision of a zero waste future builds toward an inclusive and circular economy, where all materials with value are reused or recycled, and nothing is wasted.

We applaud the Senate's efforts to support the United States' shift to a circular approach. As you look to the future, Seattle strongly encourages you to place a greater emphasis

upstream on waste prevention and reuse, while also continuing to support increased downstream diversion of recyclables and organics to reliable and responsible markets.

Attachments

1. *Seattle Solid Waste – Let's Talk Trash! PowerPoint*, prepared for the U.S. Senate Environment & Public Works Committee Testimony of Susan Fife-Ferris on May 22, 2024
2. *Letter to the United States Department of State re: Seattle Public Utilities' Global Plastics Treaty Input – Critical Concepts to Include*, dated January 2, 2024
3. *Seattle Public Utilities' Response to Request for Public Comment Docket ID No. EPA-HQ-OLEM-2023-0228, Draft National Strategy to Prevent Plastic Pollution*, dated July 31, 2023
4. *Seattle Public Utilities' Circular Economy Summary*, from February 2023.



Seattle Solid Waste

Let's Talk Trash!


RECYCLE
Seattle Public Utilities
(206) 684-3000

FOOD & YARD
Seattle Public Utilities
(206) 684-3000

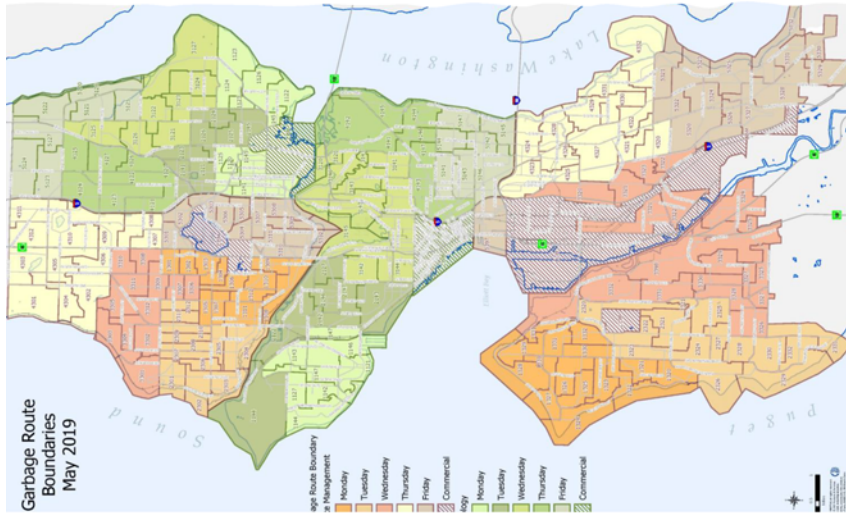
TRASH

Susan Fife-Ferris
Director, Solid Waste Planning & Program Management
Seattle Public Utilities
May 22, 2024 – U.S. Senate Environment & Public Works Committee Testimony

Seattle Public Utilities



City of Seattle



Who does Seattle Solid Waste serve?

Seattle's 2023 Residential Population: ~758K

Number of Solid Waste Customer Accounts:

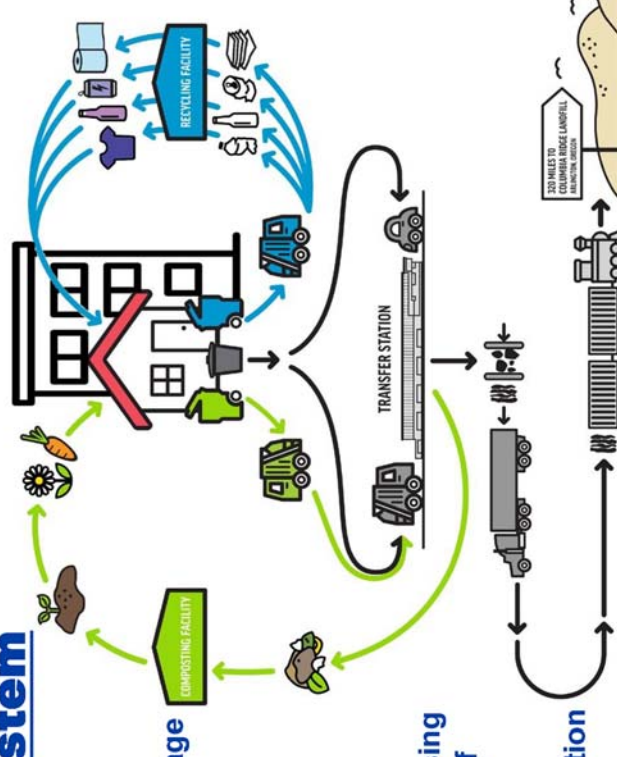
- ~168K Residential
- ~5K Multifamily
- ~9K Commercial Garbage

Number of Businesses in Seattle: ~20K

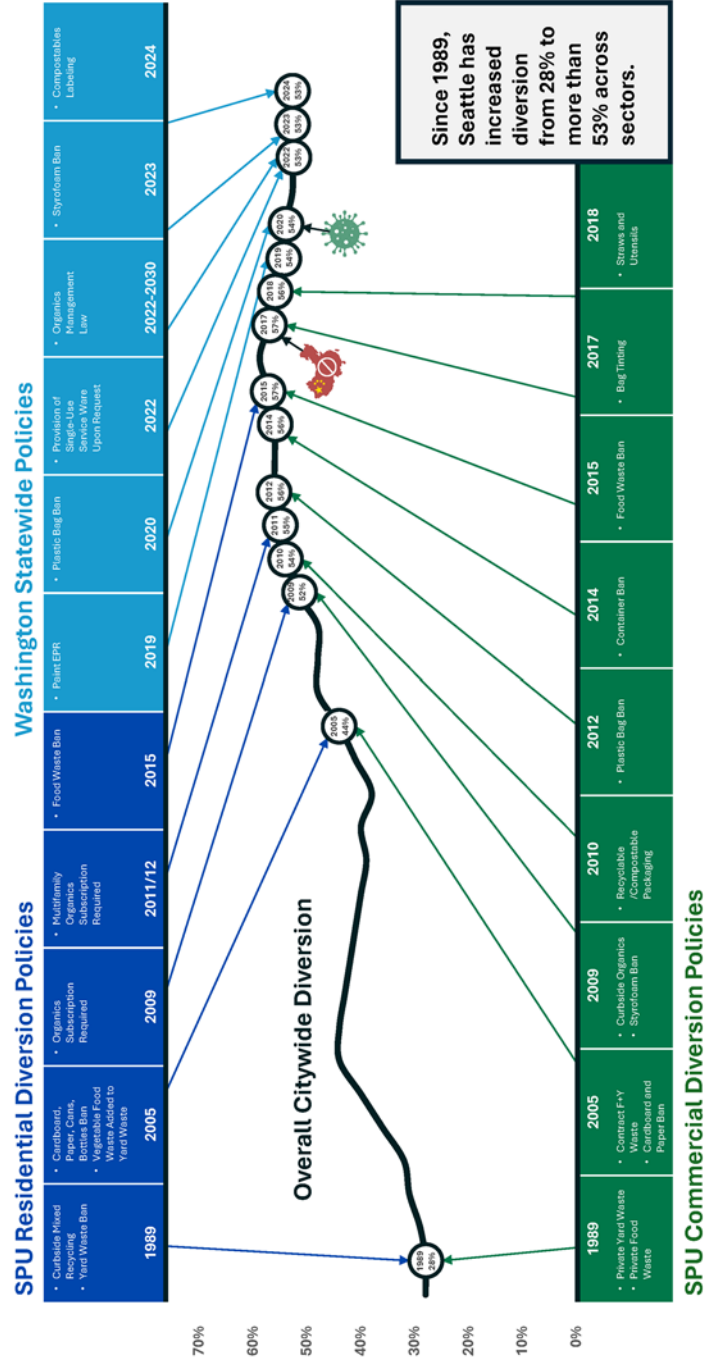
Number of Employees in Seattle: ~450K

Seattle's Solid Waste System

- **EVERYONE HAS TO DO IT!**
- Conveyance System starts with People!
- Enterprise Fund with Incentivized Rates
- Recyclables & Organics Banned from Garbage
- Contracted Curbside Collection
- Garbage & Organics Transferred at Seattle Public Utilities-owned (SPU) Facilities
- Contract with Privately-owned:
 - Material Recovery Facility (MRF) for Recyclables Processing
 - Compost Facilities for Organics Processing
 - Long-haul Rail to Landfill for Disposal of Garbage
- Commercial entities can Independently Contract for Recyclables & Organics Collection



Policy + Programs + Incentives = Increased Diversion over time



Seattle's Drivers & Challenges - Historical

- Closure of Seattle-owned Landfills (1983 & 1986)
- Cost of County-owned Landfill, with limited life horizon & onerous contract terms
 - Seattle had to be out by 1993 or tied into 40-year contract with County
- County proposed moving to waste-to-energy – hugely unpopular
- Grassroots support for Recycling, both Residential & Commercial
- “Waste Not Washington Act” adopted (1989), requiring curbside recycling statewide in urban areas
- Evolved All 3 Legs of the Stool

37



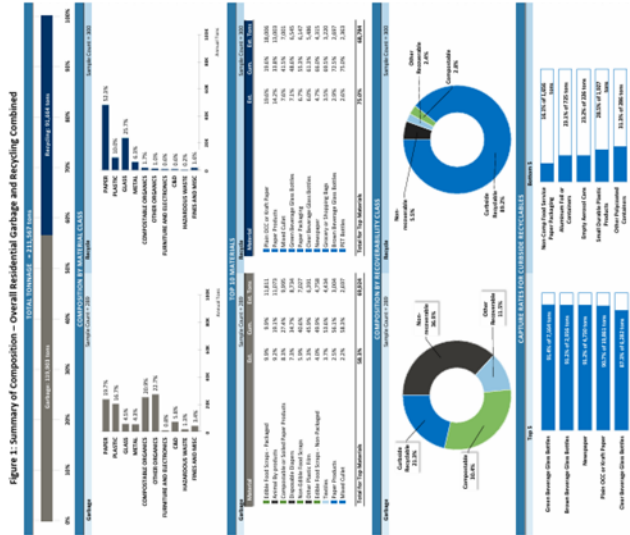


What Seattle has that Contributes to our Success?

The 3-legged Stool –

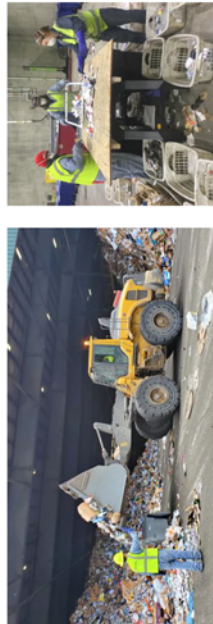
1. Environmental Ethos
2. Political Will
3. Dedicated & Sufficient
Resources

Not everywhere has this!



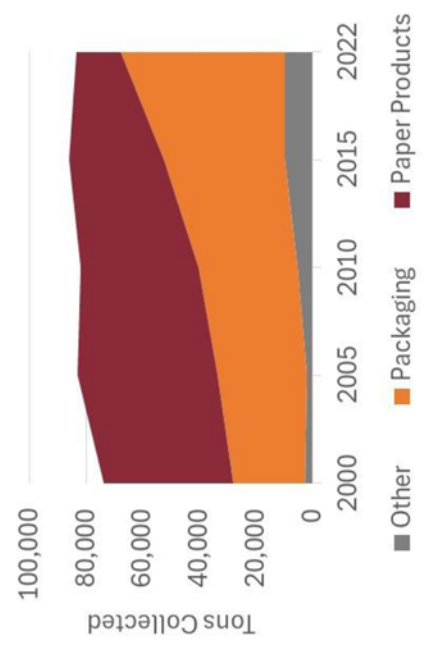
How Do We Know What's in our Waste Streams?

- Gather data & analyze it!
- Conduct Waste Composition Studies on a regular cadence
- Conduct studies for:
 - Each of our Customer Sectors – Residential (Single-family & Multifamily), Commercial, Self-haul, & Construction, Demolition, & Landclearing (CDL)
 - Each of our Material Streams – Garbage, Recyclables, & Organics

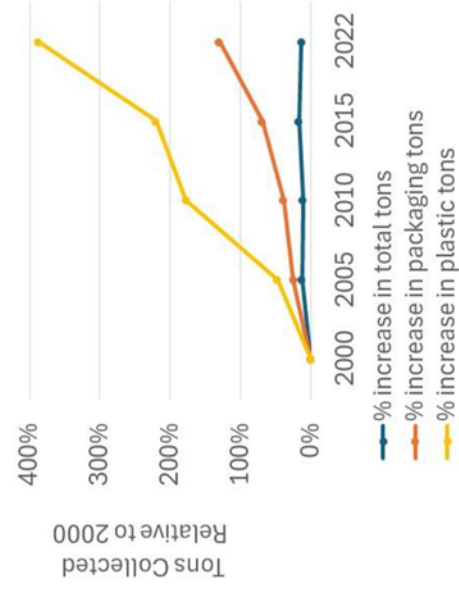


What Data Tells Us - Recycling Stream has Changed

Presence of Packaging in Seattle's Residential Recycling, 2000-2022

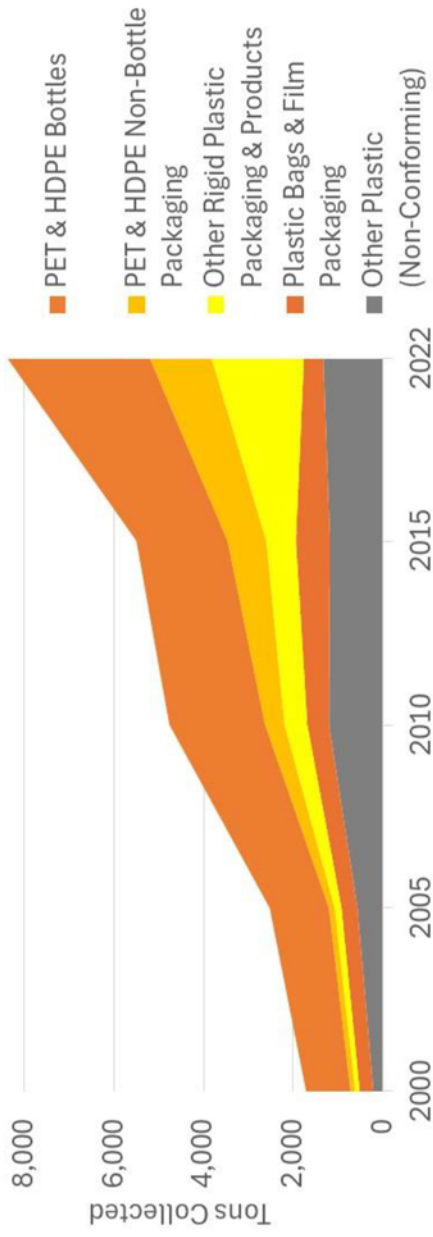


Increase in Plastics in Seattle's Residential Recycling, 2000-2022



Data Tells a Story – Types of Plastics has Changed

Plastics in Seattle's Residential Recycling, 2000-2022



Current Challenges – Seattle & Elsewhere

- **Constantly Changing Waste Streams** – e.g., light-weighting, mixed material formats, increased types & amounts of plastics
- **Organizational Inability to Respond & Adapt to Changes Quickly** or At All
- **Continuous Need to Educate, Educate, Educate** Customers
- **Increased Densification of Housing Stock** – e.g., Customers & Contractor Access to Containers, Equity of Service Levels, Competing Interests
- **Horizontally & Vertically-integrated Contractors** – e.g., Landfill owners also own MRF with competing/conflicting economic interests; business units not clearly defined & true costs not easily determined; lack of chain of custody verification to responsible end use markets
- **Lack of Recycling Infrastructure &/or Ability to Pay for Improvements & Innovations**
- **Hard to Compete with Long-subsidized Virgin Materials**
- **Lack of Reliable Domestic Markets** or Any Markets At All – Need Demand to Drive Investment
- **Balancing Supply & Demand, when Outside City's Control** or Influence



Current Challenges – Elsewhere

- **Missing a Leg of the Stool**
 - ❖ Critical to have all 3 –
 - ✓ Environmental Ethos,
 - ✓ Political Will, &
 - ✓ Dedicated & Sufficient Resources
 - ➔ to be Successful!
- **Funding Not Directly Tied to Services** – e.g., funding comes from property taxes, general funds, etc.
- **Lack of Data &/or Ability to Analyze the Data to Drive Planning, Policy, Programs, & Operations**
- **Inability to Pilot, Fail, & Adjust** – need to be able to learn & adapt

Seattle's Planning for the Future 2022 Solid Waste Plan Update

- Emphasizes racial equity & building resilience
- Aligns key Zero Waste policy with SPU's Strategic Business Plan, Washington's "Beyond Waste" Plan, & Seattle's Climate Action Plan
- Takes a life cycle view of materials that focuses "upstream" to eliminate or minimize waste at the source to reduce harmful impacts
- Highlights limitations of the recycling rate to measure waste prevention
- Calls for development of metrics & targets to measure waste prevention, climate, programmatic, & policy impacts

[2022 Solid Waste Plan Update: Moving Upstream to Zero Waste - Utilities | seattle.gov](#)

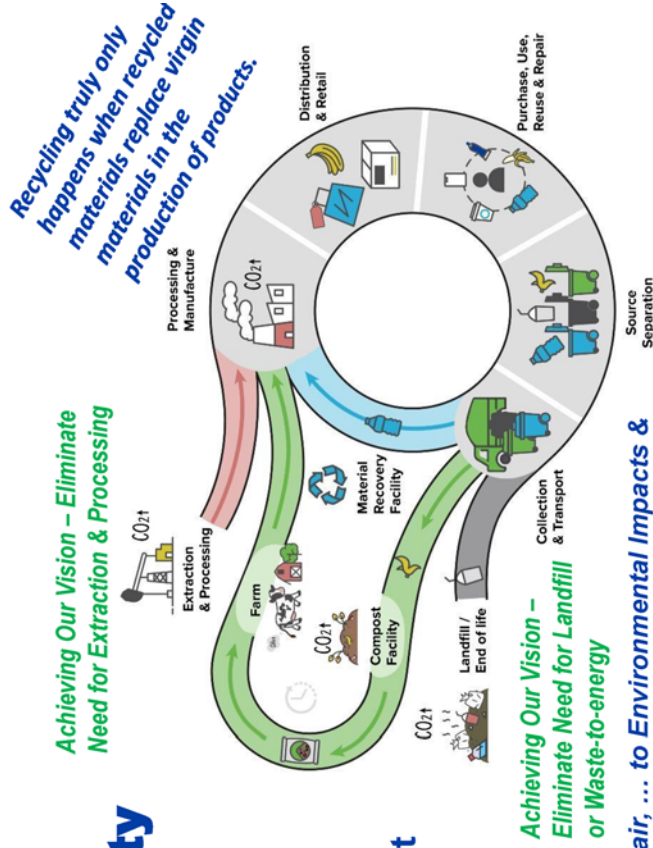


Moving Upstream & Supporting Circularity

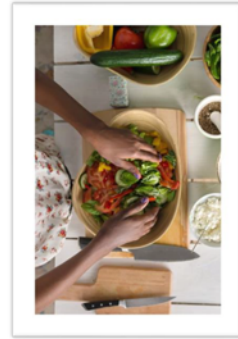
Seattle's Vision is Zero Waste

- Prevent Waste
- Deliver climate & other environmental benefits
- Create economic opportunities & innovation opportunities

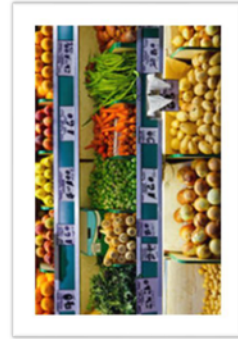
Recycling can NOT be considered in a silo – it is part of a larger SWM System! Must also consider – Waste Prevention, Reduction, Reuse, Repair, ... to Environmental Impacts & Externalities.



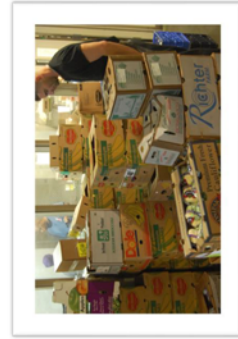
Key Waste Prevention & Upstream Efforts



Consumer Food Waste Prevention



Commercial Food Waste Prevention



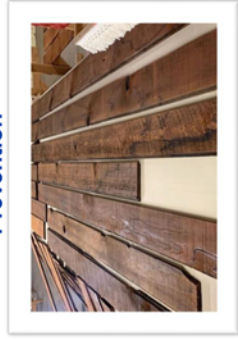
Food Rescue



Reusable Food Service Ware



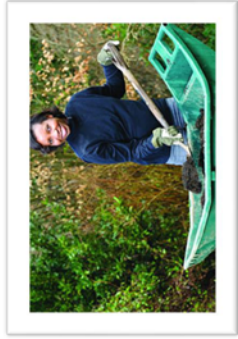
Commercial Bag Requirements



Building Salvage



Community & Business Grants



Composting & Natural Yard Care

Some Actionable Recommendations – Part 1

- **Financially Incentivize Waste Prevention, Reuse, Refill, Repair, & Use of Post-consumer Recycled Content**, through grants, subsidies, & tax credits
- **Adopt National Design For Recyclability Standards For Products & Packaging** that include standards for use of post-consumer recycled content
- **Reduce Subsidies to Virgin Materials**, such as petrochemical feedstocks that directly compete with post-consumer recycled plastics
- **Create Accountability** throughout the system by setting mandatory capture rate goals & actions tied to timelines, standardized reporting requirements, & verification of responsible end markets
- **Support a National Framework for Extended Producer Responsibility for Packaging & Paper Products** that holds producers responsible & ensures they provide adequate, ongoing, & stable financial support for the recycling industry & local communities



Some Actionable Recommendations – Part 2

- **Support Whole Life Cycle Analysis of Materials** that considers externalities, such as residuals impact to marine life
- **Adopt National Labeling Standards** to reduce consumer confusion & support their ability to recycle responsibly
- **Support Recyclers through Incentives & Tax Credits** in the same way the government has supported renewable energy providers
- **Support & Emphasize an Upstream Approach** to address the root causes of waste to reduce impacts on health & the environment in future legislation & funding support



Program Highlights

- Seattle's Organics Program
- Seattle's Deconstruction Program
- Reuse Seattle





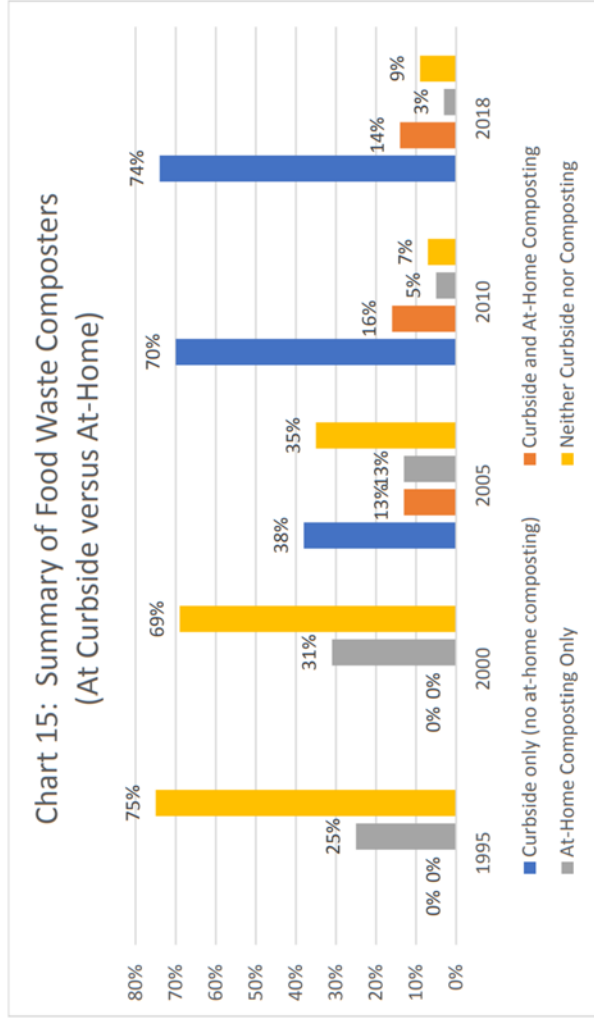
Seattle's Organics Program

Overview of Seattle's Organics System

- Organics service is mandatory for all customer sectors
- Curbside service for Single-family (SF) & Multifamily (MF)
 - More MF households than SF households in Seattle
- Accepted in Organics stream:
 - Yard Waste
 - Food Waste
 - Approved Compostable Service Ware



Participation Rates Reflect Decades Of Dedicated Work



Source: 2018 Home Organics Waste Management Survey Report

Diversion is Only Part of the Story

- Market development & promotion
- What is the highest & best use?
- What are our goals?

Note: Organics, especially Food Waste, in a Landfill is a major contributor to Climate Change via production of Methane Gas



Food Waste Matters!

Disposed Food Waste =
Missed Opportunities

Disposed Food Waste =
Poorer Environmental Health



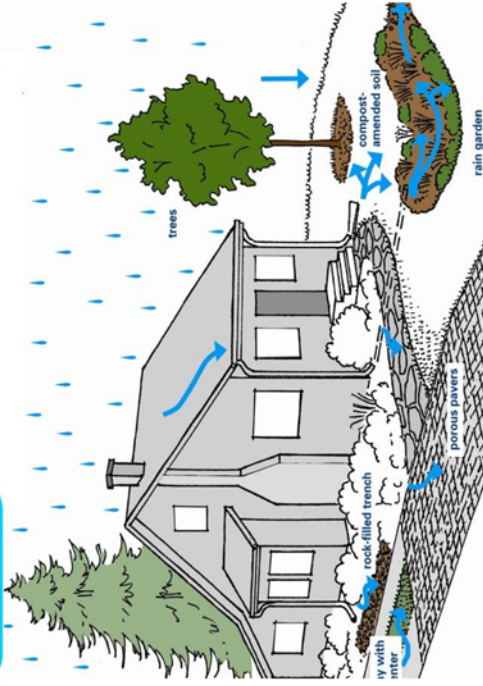
EPA. From Field to Bin: The Environmental Impacts of US Food Waste Management Pathways





Green Stormwater Strategies

- Improve soil functions with compost & plants
- Slow runoff, spread it out, filter it, soak it in



New & Existing Sites

- Build soil with compost & organic mulch
- Add trees & other natives
- Add “bioretention” (rain gardens) green roofs, etc. using compost



Supporting the Organics Circular Economy Beyond Diversion

- Supporting compost subsidy & technical assistance programs at the state level
 - Sustainable Farms & Fields
 - Conservation District Assistance
- Research Support & Collaboration with local universities (WSU & UW)
 - Climate impacts, soil health, erosion, water savings
- Participate in crafting & supporting legislation (e.g., WA State HB 1799)
- Economically quantifying climate benefits & other ecosystem services
- Promote urban agriculture that focuses on soil building

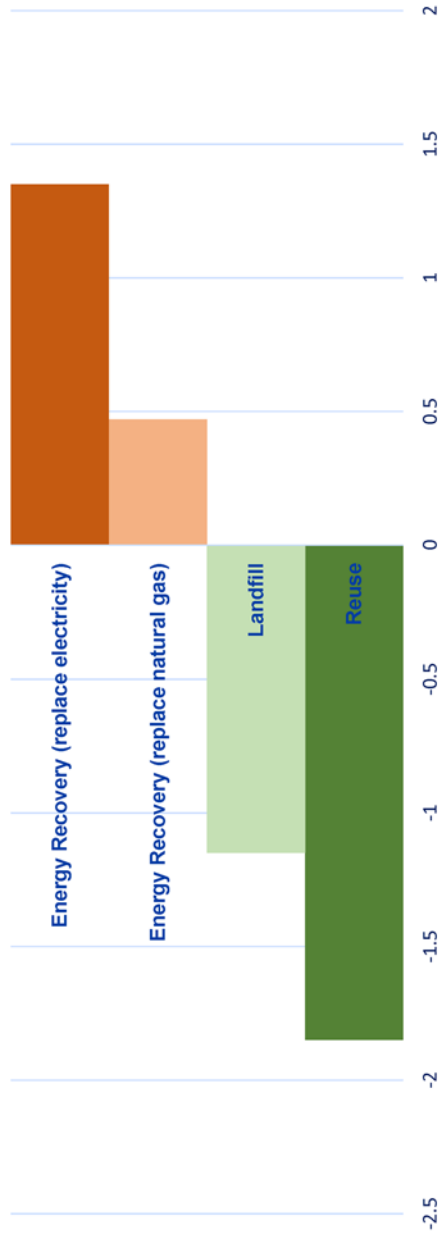




Seattle's Deconstruction Program

99% of Recovered C&D Wood: Boiler Fuel

Carbon stored, released, & offset from End of Life fates for wood (kg CO₂eq/kg wood)



Reuse & landfill are carbon sinks (i.e., they have positive impacts on carbon storage). Reuse is the most favorable, in part because it offsets the need to harvest new wood. Landfilling wood also sequesters the carbon in the wood because the wood breaks down slowly in a landfill. - Source: Oregon DEQ's 2019 Report

Seattle Public Utilities



City of Seattle

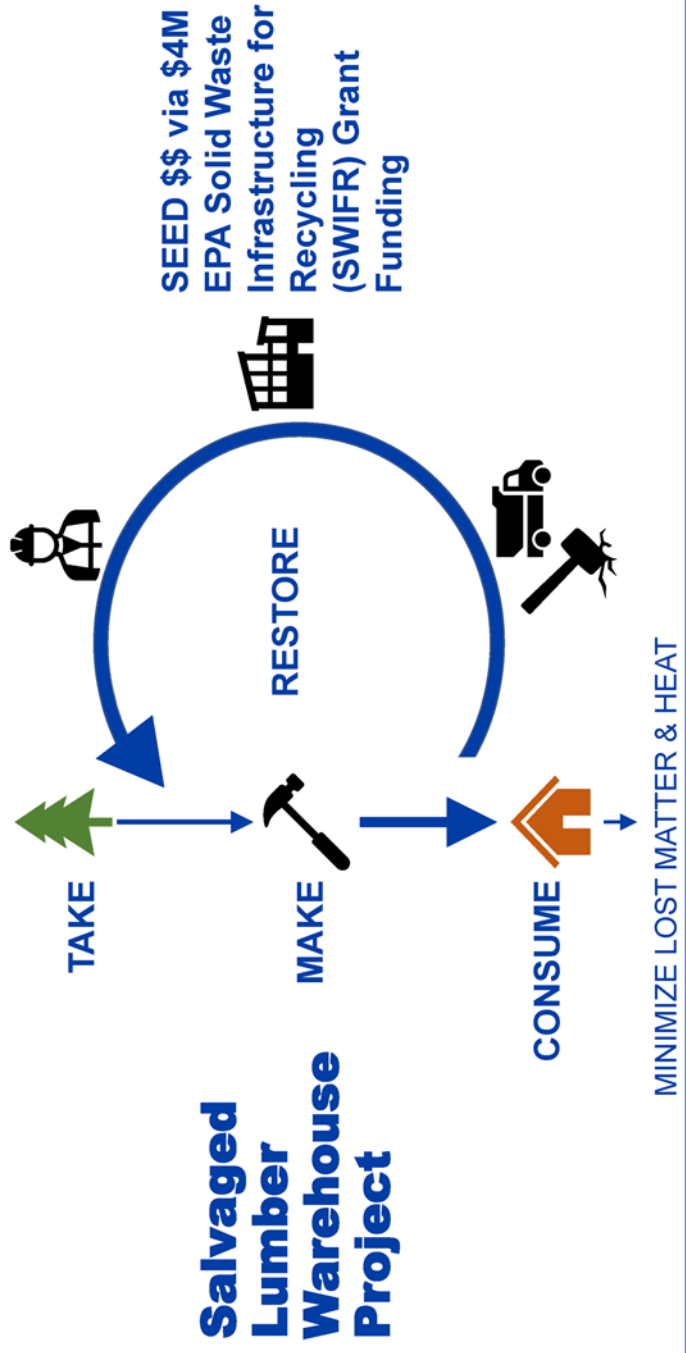


Deconstruction Incentive Program Pilot

Summary

- \$4,000 per deconstruction project grant
- Must use approved deconstruction contractor
- Residential, wood-framed buildings are eligible
- Pilot program started late 2022 & runs through 2024
- Also, provides expedited electrical disconnects





Reuse Seattle



Advancing Reuse: 3 Channels for Action

Promote BYO



Promote & Facilitate Durables & Reusables for Dine-In



Foster & Enable Integrated Reuse Systems





Create a **Standardized, City-wide Reusable Food & Beverage Container** System that is:

- **Scalable**
- **Affordable**
- **Equitable**
- **Everywhere**



Seattle's Vision!



**Stadiums &
Arenas**



**Movie
Theatres**



**Outdoor
Festivals /
Events**



**Business /
Tourist Hubs**



**Public Place
Collection**

Seattle Public Utilities



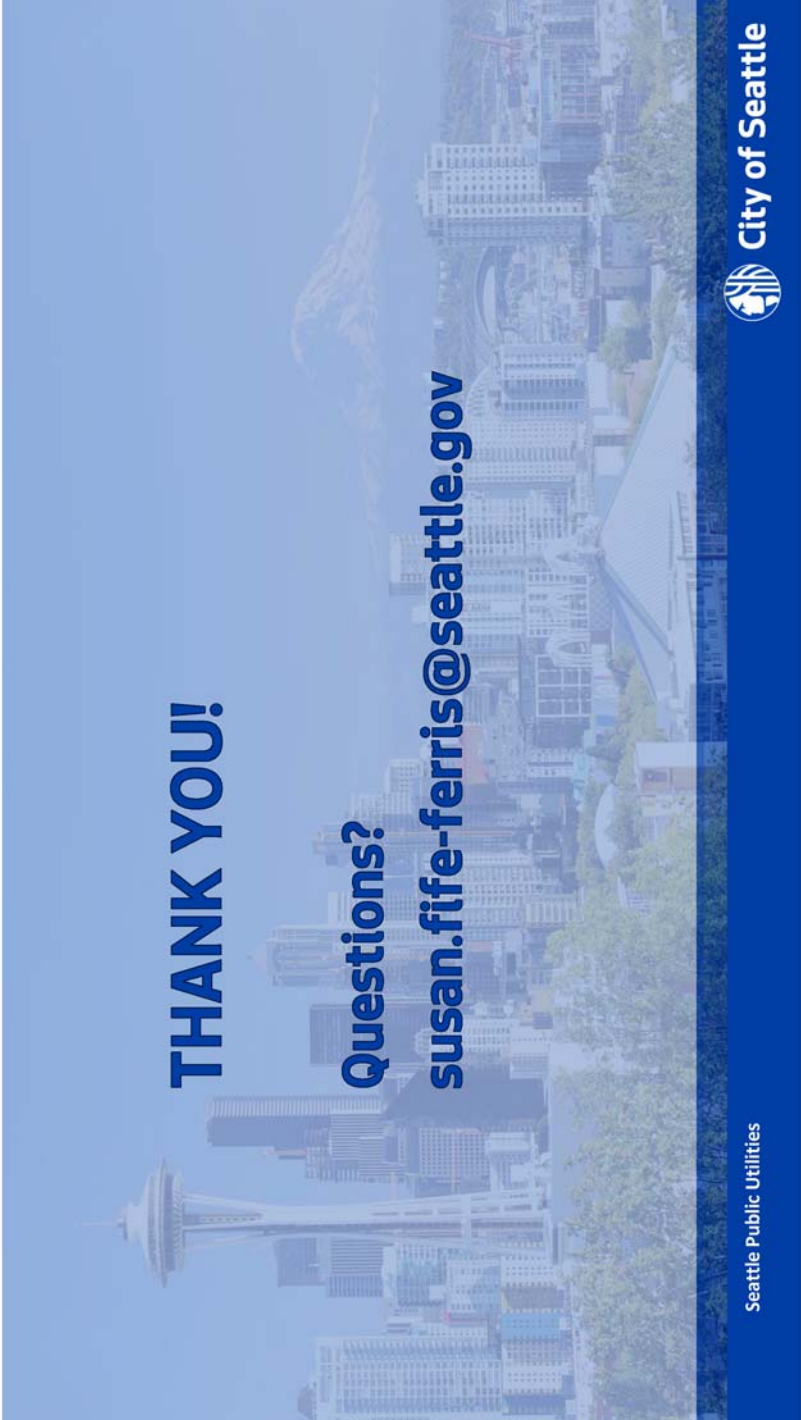
City of Seattle

What's Seattle's Role?

Create the conditions for Reuse Solutions to flourish by:

- Recruiting **PARTNERS** • Establishing **STANDARDS**
- Facilitating **CONNECTIONS** • Coordinating **SYSTEMS**
- Offering **INCENTIVES** • Promoting **REUSE CULTURE**






THANK YOU!

Questions?
susan.fife-ferris@seattle.gov

Seattle Public Utilities

 City of Seattle



January 2, 2024

Ayse Kaya (Kaya Orloff), Ph.D.
 Senior Advisor to the Special Representative
 Subnational Diplomacy Unit
 U.S. Department of State

Re: Seattle Public Utilities' Global Plastics Treaty Input – Critical Concepts to Include

Dear Ms. Kaya -

Thank you for the opportunity on November 2, 2023, to meet with you and other members of the team from the U.S. Department of State involved in negotiating the Global Plastics Treaty on behalf of the United States of America. At the time, you asked us to share any concepts that we would like to make sure are included in the Global Plastics Treaty. We appreciate your "ask," and have included the concepts of most importance to the City of Seattle, along with some background, below.

I'm also attaching a copy of Seattle Public Utilities' comments submitted on July 31, 2023, to the United States Environmental Protection Agency regarding the objectives laid out in the Draft National Strategy to Prevent Plastic Pollution. We feel that these comments are directly relevant to what is negotiated at the international level.

Concepts Seattle feels are critical to include in the Global Plastics Treaty, include:

1. **Financially Incentivize Waste Prevention, Reduction, and Reuse and Refill Systems** – Financial incentives and subsidies that support the continued production of plastics, especially single-use plastics, should be eliminated and those financial incentives and subsidies should be reallocated to supporting waste prevention, reduction, and reuse and refill systems.
2. **Focus on Entire Lifecycle of Plastics** – It is critical to not just focus on downstream waste management of plastics but focus on the entire lifecycle of plastics. The entire value chain of plastics must be considered, including developing new and improved tools to assess the benefits of the emerging circular economy and expanding lifecycle analyses to ensure all externalities are captured.¹
3. **Set Mandatory Goals and Actions tied to Timelines and Standardized Reporting Requirements** – Voluntary goals and actions are not reliable and aren't working, given the crisis we face with plastics pollution. Mandatory goals and actions, especially around the most harmful, problematic, and unnecessary plastics, must be adopted with specific timelines outlined and regular standardized reporting requirements.

¹ "WWF recently released a [report](#) warning that the true cost of plastic on the environment, health and economies can be as much as 10 times higher for low-income countries, even though they consume almost three times less plastic per capita, than high-income ones." *WWF Press Release, 11/19/2023*

4. **Develop Standards related to Plastics Pollution Prevention** – Standards are critical upstream to ensure plastic products are designed for recyclability and are successfully captured through a mechanical recycling process. Standards are also important to the ability to vet and verify responsible end markets for recycled plastics, establish definitive and harmonized understandings as to what can be considered “recyclable” and “compostable,” and scale up meaningful and successful reuse and refill systems.
5. **Build in Accountability** – Accountability is critical to ensure success. We must be able to ensure that only plastics-to-plastics processes are acceptable, and the majority of plastic materials are returned to plastics. Additionally, all remaining non-plastic byproducts must be responsibly managed in ways that do not cause environmental harm. Processes that use means other than traditional mechanical recycling should only be used if they are demonstrated to have comparatively lower lifecycle impacts to mechanical recycling or for which mechanical recycling is not a technologically viable option.
6. **Cap Plastics Production, Set Reduction Goals, and Eliminate Problematic and Unnecessary Plastics Production and Consumption** - The most important metrics in a circular economy are reduced extraction and demand for virgin materials and reduced manufacturing of single-use goods and packaging, coupled with reduced overall climate emissions and pollution. Phasing out single-use, unrecyclable, and frequently littered plastic products should be established as goals, including specific phase-out dates and potential temporary exemptions where necessary.
7. **Ensure Adequate Funding and Financial Support** – Addressing plastic pollution cannot be accomplished without adequate funding and financial support available to those in need of it. Funding mechanisms should be built into the Treaty. Financial incentives and subsidies discussed above and Producer Responsibility discussed below are two such financial mechanisms.
8. **Hold Producers Responsible for their Plastic Products** – Local governments have long had to financially support the end-of-life management of the plastic products that show up in the waste stream. Producers have not been held responsible for the plastic products they put into the market and the resulting costs associated with the management of those products once they are no longer used for their initial purpose – these costs, both direct and external, fall on local jurisdictions and their citizenry depending on how that material is ultimately managed (or not in the case of pollution). Extended Producer Responsibility is one way of internalizing these costs to the producers and should be included as a way to ensure that producers are held responsible for the lifecycle costs of their plastic products.
9. **Develop Methods to Measure and Track the Reduction of “Forever Chemicals”** – Chemicals such as per- and polyfluoroalkyl substances (PFAS) need to be addressed. Requiring the development of methods to measure and track the reduction of these forever chemicals is one of the first steps to better understand the size of the issue, how people are exposed, and the resulting health effects.

While there are other concepts the City of Seattle would like to see included in the Global Plastics Treaty, these are the top nine concepts most important to our jurisdiction at this time.

Finally, while outside of the Global Plastics Treaty, I noted in our call back in November that it **is critical that the U.S. Congress ratify the Basel Convention**. There are regulatory issues arising related to plastics recycling, especially for plastics from electronics. Because the U.S. has not ratified the treaty, U.S.-based companies and recycling programs cannot export plastics for recycling in many instances, and it is extremely challenging to find legal and economically viable options for plastics recycling within the U.S. This is an especially acute issue right now for electronics recycling operations – plastics comprise ~30% of the materials handled through electronics recycling operations, and domestic recycling capacity is currently inadequate to handle the computer and appliance plastics generated by recyclers. Seattle needs federal-level proactive engagement to solve this issue. Possible solutions include ratifying the Basel Convention and providing funding to scale up domestic recycling operations for plastics, especially for electronics plastics.

We appreciate the work you are conducting to seek input from local jurisdictions on the issues revolving around plastics, and hope that the discussions leading up to the next round of Global Plastics Treaty negotiations in Ottawa, Canada, in April of 2024 prove fruitful.

We welcome the opportunity to continue to be engaged and provide additional input as would be useful.

Sincerely,

Susan Fife-Ferris
Director, Solid Waste Planning & Program Management
Seattle Public Utilities
City of Seattle
susan.fife-ferris@seattle.gov | 1-206-678-5665



July 31, 2023

U.S. Environmental Protection Agency (EPA)
Office of Resource Conservation and Recovery
Re: Draft National Strategy to Prevent Plastic Pollution
Submitted via the federal eRulemaking portal
Docket ID: EPA-HQ-OLEM-2023-0228

**Response to Request for Public Comment Docket ID No. EPA-HQ-OLEM-2023-0228,
Draft National Strategy to Prevent Plastic Pollution**

Seattle Public Utilities is pleased to submit these comments to the EPA regarding the objectives laid out in the Draft National Strategy to Prevent Plastic Pollution.

We applaud the EPA's efforts to "support the United States' shift to a circular approach that is restorative or regenerative by design, enables resources to maintain their highest value for as long as possible, and aims to eliminate waste in the management of plastic products," and we strongly encourage the EPA to place a greater emphasis upstream on waste prevention and reuse throughout the strategy, rather than downstream waste management and recycling.

The City of Seattle has been an international leader in solid waste management for decades, advancing a zero-waste vision thanks to public support for environmentally focused programs and thoughtful planning. Today, Seattle's vision of a zero waste future builds toward an inclusive and circular economy, where all materials with value are reused or recycled, and nothing is wasted. To advance toward zero waste, Seattle looks at the whole life cycle of materials to eliminate waste and toxins, prevent pollution, reduce carbon emissions, and conserve natural resources. Seattle's life cycle view of materials reflects industrywide shifts toward solid waste management approaches focused on preventing waste in the first place. We get closer to zero waste by producing and using less. That is why Seattle's 2022 Solid Waste Plan Update: Moving Upstream to Zero Waste (2022 Plan Update) prioritizes waste prevention in solid waste system planning. As part of our emphasis on waste prevention, Seattle is working to address the root causes of waste to reduce impacts on health and the environment. We encourage the federal government to support and emphasize this upstream approach throughout the Draft National Strategy to Prevent Plastic Pollution.

Which actions are the most important and would have the greatest positive impact at the local, regional, national, and global levels?

We support a number of the actions outlined in the Draft National Strategy to Prevent Plastic Pollution, highlighting the following areas as the ones that would have the greatest positive impact:

- **Prioritize reuse as a strategy to prevent plastic pollution (relevant actions: B2, B2.1, B2.2).** We encourage the federal government to invest in community-scale reuse to continue supporting the growing local reuse movement, by prioritizing development of reuse systems and capacity across all EPA grant programs—especially over recycling and other downstream/waste management solutions. Investing in the emerging reuse services sector is also critical to build and expand reuse

capacity and support economic growth in this area. And the EPA and other federal agencies should recognize and emphasize the need to establish national and international standards on reuse (for example, through [PR3's Reusable Packaging System Standards](#)).

- **Prioritize elimination, waste prevention, and redesign as strategies to prevent plastic pollution (relevant actions: A1, A1.1, A1.3, A1.4, 1.5).** We encourage the federal government to place a greater emphasis on actions that will help eliminate problematic and unnecessary plastic production and consumption. This could be through support of entrepreneurs and innovators to develop and design alternatives to single-use plastics, collaboration with the private sector to encourage alternative delivery systems (e.g., product as a service), or support of legislation at the local level (e.g., plastic bag bans, straw bans, expanded polystyrene bans).
- **Increase ambitions on federal procurement and prioritize waste prevention in procurement (relevant actions: A1.2, A2.3).** We urge the federal government to increase their ambitions and lay out an aggressive pathway to phase out single-use, unrecyclable, or frequently littered products. We urge the EPA to demonstrate leadership among the federal agencies by establishing its own green procurement and event policies to eliminate single-use products and packaging wherever possible. In addition, we urge the federal government to use its purchasing power to develop and drive the market for reusable products (e.g., by replacing all single-use foodservice ware items with reusable foodservice ware in federal operations and federally-sponsored events).
- **Conduct research on and develop guidance on Extended Producer Responsibility (EPR) systems (relevant actions: A1.4, B1).** As described in the comments submitted by the Product Stewardship Institute, the EPA should provide federal guidance for states on implementing EPR for consumer packaging and paper products. Additionally, the federal government should partner with expert organizations and research institutions to specifically provide guidance to state agencies on how best to prioritize reuse in new and emerging EPR for packaging and updated Deposit Return Systems (DRS) laws.
- **Maintain environmental justice and equity as an overarching principal across all plastic pollution prevention efforts (relevant actions: A2.4, A2.5, B4.4, B4.5, C1.1 and more).** Seattle is encouraged by the inclusion of action A2.4 and A2.5 specifically, recognizing the inequitable health impacts of plastic production in the country. We also urge the federal government to emphasize the opportunity for green jobs and economic development through plastic pollution prevention strategies and ensure these opportunities are equitably distributed.

In addition to these key focus areas, we are sharing specific comments below on other listed actions:

- **A2.6: Develop methods to measure reductions in greenhouse gas emissions from the life cycle of plastic products and alternative materials as part of meeting global, national, and state greenhouse gas emissions goals.**
 - In addition to developing these methods, we encourage the federal government to identify existing or emerging sources of funding for climate mitigation (e.g., the EPA's Climate Pollution Reduction Implementation Grants) and expand their focus to include waste prevention, reuse, materials management, and consumption-based emissions – as opposed to a focus on building and transportation related emissions.

- *A2.2: Review, develop, update, and use sustainability standards, ecolabels, certifications, and design guidelines that decrease the environmental impacts of plastic products across their life cycle.*
 - We encourage the EPA to measure reductions in PFAS, PFOA and other toxic pollution from the life cycle of plastic products and alternative materials.
- *B3. Facilitate more effective composting and degradation of certified compostable products.*
 - We support actions to improve composting systems and recommend the continued prioritization of reusable products over compostable products. We also caution against the use of compostable packaging outside of food contact applications.

What are the most important roles and/or actions for federal agencies to lead?

Federal agencies can support local, state, and tribal governments, community organizations, and the private sector by playing these important roles:

- (1) Leading the way with federal procurement and purchasing
- (2) Providing funding for infrastructure that support and prioritize reuse systems, as well as funding for recycling and composting infrastructure where it is needed
- (3) Supporting the development of standards as they relate to plastic pollution prevention e.g. vetting and verification of responsible end markets for recycled plastics, definitive and harmonized standards around what can be considered ‘recyclable’ and ‘compostable’, and standards on reuse systems
- (4) Convening and coordinating national efforts – we are encouraged by the announcement of the *Interagency Policy Committee (IPC) on Plastic Pollution and a Circular Economy*

Is your organization willing to lead an action or collaborate with others to implement actions?

Yes. Seattle Public Utilities is willing to collaborate with others to implement actions. As a local government, we are seen as a leader in plastic pollution prevention and would be interested in sharing our experiences on:

- **Food and Beverage Container Reuse:** The City of Seattle has formed a public-private partnership to create the first standardized, city-wide reusable food and beverage container system, [Reuse Seattle](#). Its goal is to make food and beverage container reuse scalable and affordable for consumers, businesses, and the city.
- **Advancing Circularity through Legislation:** Seattle passed some of the first local ordinances banning EPS foam foodservice ware and single-use plastic bags. Seattle requires that all shopping bags, foodservice containers, and utensils be reusable, recyclable, or compostable, with limited exemptions. Seattle continues to advocate for upstream producer responsibility for packaging and paper products, the right to repair, and post-consumer recycled content minimum requirements.

What are potential unintended consequences of the proposed actions that could impact communities considered overburdened or vulnerable, such as shifts in production or management methods?

In working to prevent plastic pollution, the EPA must keep in mind that production and management of all material substrates have environmental impacts, and that material substitutions that are not carefully selected can result in higher overall impacts. This is one reason that prioritizing support for eliminating

single-use packaging and facilitating the transition to reusable alternatives is so important. The EPA can and should continue supporting development of reuse systems and capacity across all EPA grant programs.

What key metrics and indicators should EPA use to measure progress in reducing plastic and other waste in waterways and oceans?

The most important metrics in a circular economy are **reduced demand for virgin materials and reduced manufacturing of single-use goods and packaging—coupled with reduced overall climate emissions and pollution**. EPA should coordinate with other federal agencies on improved tools and methodologies for measuring the impacts of waste prevention and reuse. In particular, collaborate to develop new, improved tools such as expanded LCA parameters so that all stakeholders can confidently assess the benefits of the emerging circular economy, reinforcing why waste prevention and reuse have always been at the top of the waste hierarchy.

Additional key metrics for a circular economy include: a decrease in overall municipal solid waste generation; decreased human toxicity, pollution, and community health impacts from production and manufacturing through to end-of-life materials management; and job creation and other community health metrics.

What criteria should processes meet to be considered “recycling activities” (e.g., “plastics-to-plastics outputs are ‘recycling’ if these processes reduce the life cycle environmental impacts in comparison to traditional mechanical recycling”)?

We support establishing clear and consistent criteria for determining what may be considered “recycling activities” and believe that these criteria should be based on the principle that recycling is a means to an end, not the goal itself. The purpose of recycling is to reduce the life cycle impacts of materials on the planet and its people. Only processes that meet this threshold should be designated by EPA as making a positive contribution to the plastic pollution prevention strategy and granted the designation of “recycling activities.” Specifically, only plastics-to-plastics processes—in which the vast majority of materials is returned to plastics, and all remaining non-plastic byproducts are responsibly managed in ways that do not cause environmental harm—should be considered recycling. Processes that use means other than traditional mechanical recycling should only be used if they are demonstrated to have comparatively lower life cycle impacts to mechanical recycling or for which mechanical recycling is not a technologically viable option.

Are there other actions that should be included in the Strategy?

[NO FURTHER COMMENTS]

Do you have any additional information or recommendations for EPA regarding these or other proposed actions in the draft strategy?

[NO FURTHER COMMENTS]

Points of contact for comments:

Ashima Sukhdev
Climate Mitigation & Circular Economy Policy Advisor
Seattle Public Utilities, City of Seattle
ashima.sukhdev@seattle.gov

McKenna Morrigan
Strategic Advisor, Waste Prevention and Product Stewardship
Seattle Public Utilities, City of Seattle
mckenna.morrigan@seattle.gov



Circular Economy

Overview

*An international leader in solid waste management and water stewardship for decades, Seattle has made progress thanks to public support for thoughtful planning and environmental centered programs. Today, Seattle's vision of a One Water, Zero Waste, and Community Centered future lays the foundation for an inclusive **circular economy**, where all materials, water, and resources are valued, and nothing is wasted.*

What is a circular economy?

In our current "linear" economy, we take resources from the Earth, make products from them, use the products, and eventually throw them away as waste. This "Take, Make, Use and Waste" economy is not sustainable. In a circular economy, we stop waste from being produced in the first place by ensuring that materials and products are valued and continue to cycle through new uses.

In a circular economy, we aim to do better with less, we use resources for longer and more often, and we aim to minimize and even eliminate waste.

The circular economy includes actions such as: buying and using less; protecting water quality; conserving and reusing water; making and buying products that last longer; designing products and systems for reuse, repair, refurbishment or remanufacture; sharing, donating, or re-selling items so others can use them; and returning valuable organic nutrients to the soil to support regeneration.

A circular economy tackles some of our greatest global challenges like climate change, biodiversity loss, waste, and pollution while potentially unlocking \$4.5 trillion in economic value by 2030.¹ A circular economy can support economic development, entrepreneurship, innovation and skills development, and create equitable green jobs.² It also empowers people to act locally, knowing their actions make an impact.

Circular economy & SPU

A circular economy supports SPU's vision of **One Water, Zero Waste, Community Centered** – recognizing that all resources have value and should be managed effectively, for everyone.

- **One Water.** We value and carefully manage water through protection, conservation, capture, restoration, and reuse. A circular economy values natural resources in all its forms, including water.
- **Zero Waste.** We strive for a waste-free society where all resources have value, and we seek to waste nothing. A circular economy looks at the whole life cycle of materials so we can eliminate waste, prevent pollution, encourage product durability and reusability, and conserve resources.
- **Community Centered.** We put people at the heart of our work and work with them to understand and address their priorities. Our vision is for an inclusive circular economy that benefits community – from addressing pollution to creating economic opportunity and access.

¹ Accenture Strategy, Ellen MacArthur Foundation
² Circle Economy

Circular economy initiatives

SPU supports and promotes several policies and practices that are creating a circular economy. These include:

- **Strategic Planning:** SPU's [Strategic Business Plan](#) identifies the creation of an inclusive and circular economy as a strategic priority, as does the [2022 Solid Waste Comprehensive Plan Update](#). The upcoming Waste Prevention Strategic Plan will also center waste prevention as a pillar of SPU's ongoing work. SPU's [Shape our Water](#) plan guides drainage and wastewater investments in Seattle, supporting efforts on water quality, improving aquatic health, water reuse, and treating water as an essential resource. The [2019 Water System Plan](#) sets goals for water conservation. In addition, circular economy solutions are integrated into the city's [Food Action Plan](#) and [Climate Action Plan](#).
- **Food Waste Prevention and Food Rescue:** SPU's [Love Food, Stop Waste](#) program provides consumers with information and tools to help reduce food waste at home. As a signatory of the [Pacific Coast Food Waste Commitment](#), SPU is collaborating with food businesses such as grocery retailers and manufacturers to reduce food going to garbage across the West Coast by 50% by 2030. In addition, SPU is partnering with businesses and nonprofits to improve how edible, unsold food gets donated to those that need it in Seattle and diverted from the organics or garbage streams.
- **Food and Beverage Container Reuse:** SPU has formed a public-private partnership to create the first standardized, city-wide reusable food and beverage container system, [Reuse Seattle](#). Its goal is to make food and beverage container reuse scalable and affordable for consumers, businesses, and the city.
- **Building Salvage and Deconstruction:** To reduce the landfilling of materials used for buildings and encourage reuse of these same materials, Seattle requires building salvage assessments for all demolition projects and larger alterations projects. In addition, the City bans specific recyclable building materials from being landfilled. SPU, along with the Seattle Department of Construction & Inspection (SDCI), is also running a pilot residential deconstruction financial incentive program that aims to increase deconstruction projects in the city.
- **Composting and Recycling:** Through a combination of legislation, innovations in operations, residents' interest, and outreach, Seattle has very strong and long-standing residential recycling and composting programs that achieve some of the highest outcomes of collection programs anywhere. SPU works collaboratively with King County and other agencies across Washington state to develop compost markets, both for landscaping practices and agriculture (i.e. encouraging compost created from Seattle's organic waste to be used in regional agriculture).
- **Community and Business Grants:** SPU runs a [Waste Free Communities Matching Grant](#) program and is a partner to the Seattle Good Business Network's [PreCycle Innovation Challenge](#) and [NextCycle Washington](#), supporting the burgeoning community of businesses, community organizations, and individuals that are building the circular economy in Seattle.
- **Water Conservation:** SPU is committed to water conservation and partners with our customers to protect this important resource through our regional water conservation program, the [Saving Water Partnership](#).
- **Water Quality Protection:** SPU is committed to protecting water quality, improving aquatic health, and solving problems at the source to benefit all life that relies on our local waterbodies, while enabling effective reuse.

Circular economy initiatives cont'd.

- **Water Reuse:** SPU is positioning the utility to partner with other public sector agencies and private sector partners to advance more widespread adoption of on-site non-potable water reuse, which are systems that allow us to recapture, clean, and reuse water all within the footprint of one or more buildings. In addition, RainWise, a joint program by King County Wastewater Treatment Division and SPU, supports private property owners to install green infrastructure (rain gardens and cisterns) on their property, which can also support water reuse. Collectively, 25 million gallons of stormwater is managed by RainWise installations every year.
- **Advancing Circularity through Legislation:** Seattle passed some of the first local ordinances banning EPS foam foodservice ware and single-use plastic bags. Seattle requires that all shopping bags, foodservice containers, and utensils be reusable, recyclable, or compostable, with limited exemptions. Seattle continues to advocate for producer responsibility for packaging & paper products, the right to repair, and post-consumer recycled content minimum requirements.
- **Advancing Circularity through Contracting & Procurement:** Seattle's [Sustainable Purchasing Policy](#) aims to purchase goods and services in a manner that integrates environmental stewardship, social equity, and fiscal responsibility. The City supports a circular economy by prioritizing the purchase and use of post-consumer recycled-content products. In addition, SPU is developing an innovative investment program to advance equity through the green economy, including the circular economy, by means of targeted contracts and purchasing.

Senate Committee on Environment and Public Works

Hearing Entitled “Federal Programs for the Circular Economy: State and Local Perspectives on Efforts to Improve Reuse and Recycling”

May 22, 2024

Questions for the Record for Susan Fife-Ferris, City of Seattle, Seattle Public Utilities¹

Chairman Carper:

1. *The city of Seattle offers local grant programs to improve solid waste management. Would you please describe some of the grant programs that your community administers and the results you have seen from these programs over time?*

Susan Fife-Ferris' Response:

The City of Seattle operates several local grant programs that provide funding to improve our solid waste management system, including prevention of waste from being produced.

Following is a summary of some of these grant programs:

- a. **Waste-Free Communities Matching Grant Program** – Seattle Public Utilities' (SPU) Waste-Free Communities Matching Grant Program was launched in 2018 to support community-initiated and led waste prevention projects. Waste prevention means creating less waste by buying and using less, using reusable items, and sharing or donating items so others can use them. When we prevent waste, we help the environment, protect public health, build community, and save money. In addition to preventing waste, projects selected must be innovative or increase equitable access and outcomes for Seattle residents and businesses.

Seattle has awarded a total of \$781,419 in grant funding to support 45 grant projects over five funding cycles, with awards ranging from \$2,500 to \$40,000 per project. The program leverages a minimum 25% match requirement from grant recipients to further extend the value of SPU dollars.

The grant program has funded a wide variety of projects, primarily within the following categories:

- *Reducing single-use items* so there's less waste to throw away, such as transitioning to reusable food service and retail packaging.
- *Repairing and repurposing items* instead of throwing them away, such as clothing, bicycles, electronics, and furniture.
- *Redistributing and reusing resources* that would otherwise go to waste, such as food, lumber, and clothing.

¹ Please note there are hyperlinks throughout this document to external online sources indicated by underlining.

- *Sharing resources in the community* to reduce purchasing, such as tools and outdoor gear.
- *Educating the community* on how to prevent waste, such as reducing food waste at home and in restaurants.

Results have varied greatly, with some projects continuing to grow and expand after the grant period, some unable to continue their efforts due to insufficient long-term funding, and some stalled or never launched due to capacity issues or other challenges.

Grant project highlights include:

- *Woodland Park Zoo (WPZ)*: The grant provided funding for water refill stations and education in support of WPZ's goal to protect wildlife from plastic pollution by reducing the sale of single-use plastic bottles. WPZ further expanded its effort after the grant period by transitioning to reusable cups. Approximately 1.3 million guests each year are now able to reduce waste when they visit the Zoo and learn why it's important.
- *Sledge Seattle*: The grant provided funding for a local contractor to develop a case study demonstrating deconstruction and salvage as a sustainable business practice for developers and contractors. Through their project, they salvaged and reused 30,290 pounds of lumber and continue using the data they collected to advocate for increasing deconstruction practices in their industry.
- *Refugee Artisan Initiative (RAI)*: SPU provided three rounds of funding to help RAI grow from a new, small nonprofit into an established and successful organization. RAI recruits and trains immigrant and refugee women in artisan skills and micro business development, with a focus on teaching them to repurpose fabric waste and other types of waste into new products. RAI artisans keep 5,000 pounds of waste out of the landfill each year and have made more than 120,000 products for sale and donation.

While not all grant projects have shared the same level of success, they have all provided a learning opportunity. The grant program has helped SPU to better understand the waste prevention landscape in Seattle, including how the community engages with and benefits from waste prevention, barriers to sustaining and growing waste prevention efforts, and opportunities for further learning and partnerships.

Seattle has used this information to inform other waste prevention efforts. For example, the grant has funded multiple projects focused on collecting and redistributing food that would otherwise go to waste. However, while the projects helped increase food access through new equipment and staff capacity, they did not improve systemic challenges of insufficient donor/recipient communication, inadequate vehicles and drivers for recovering the donated food, and other larger issues. This informed deeper research, cross-sector convenings, on-site technical assistance at grocery stores and food banks, and a new Food Rescue Innovation Grant Program (described below) in 2024.

- b. **ReThink Waste Grants** – Since 2019, SPU has partnered with WM to award a total of \$10,000 annually in grants to small businesses (<30 employees), community organizations, and local non-profits to implement projects to increase recycling, composting, and waste prevention at the community level. The grant awards are in amounts of \$500 to \$5,000.

This is a low entry barrier grant for small innovative projects that might not be robust enough to qualify for larger grants. The goal is to foster a culture of grassroots innovation and implementation for waste reduction and diversion projects. The three-page application can be done online or as a fill-in form. Outreach and application support (as needed) is done in advance of the application deadline.

Past grant recipients and projects have included:

- *Shared Spaces Foundation / the Heron's Nest Outdoor Education Center* – Plastics recycling: plastics shredding and extruding machines to process plastics from households, businesses, and Duwamish River clean-up events.
- *El Centro de la Raza* – Waste reduction: modernizing water bottle filling stations at El Centro's historic building.
- *Utility Squared Community* – Recycling education: educating youth about waste reduction through workshops and curriculum development.
- *Restaurant 2 Garden* – Food waste reduction: expanding food waste recovery in the Chinatown-International District.
- *Duwamish Valley Sustainable Association* – Waste reduction education: training ten community members to conduct neighbor-to-neighbor outreach on waste reduction and waste sorting.
- *Phinney Ridge Neighborhood Association* – Reuse: encouraging reuse and sharing economy through support for a local tool library by supporting increased hours of operation, purchase of more tools, increased number of Fix-it Cafes, and offering do-it-yourself (DIY) classes to encourage tool library use.
- *Abbey Arts* – Reuse: replacing single-use cups with reusable glasses for events at the Fremont Abbey and for staff and volunteer trainings.
- *American Baked Co.* – Litter prevention: purchasing tools for community cleanups in a neighborhood of South Seattle.
- *Be Good Project* – Food waste prevention: launching a mobile app to help food-based businesses reduce food waste.

- *By's Drive In* – Reuse: replacing single-use items with reusables including utensils, dishware, and hand dryers for dine-in customers in a neighborhood of South Seattle.
- *Eco Collective* – Reuse: creating videos about reuse and purchasing compostable bags with educational messages.
- *Platinum Plush Fashions* – Reuse: purchasing reusable bags featuring environmental and educational messages.
- *Rainier Beach Merchant Association* – Waste reduction: supporting a coordinator position dedicated to education and outreach on waste reduction.
- *West Seattle Junction Association* – Litter prevention: purchasing tools for community cleanups and gardening.
- *Duwamish River Marine Debris Clean up* – Litter prevention: covering costs of cleanup of approximately one ton of marine debris from the Duwamish River mouth by hand via a human-powered watercraft.

An example of how seed funding can grow, Restaurant 2 Garden, one of the grant recipients listed above, was able to launch a hyperlocal community-based composting project in the Chinatown International District by using the funds to purchase an in-vessel hot composter and hire local youth. Over two years of operations, Restaurant 2 Garden has collected and processed over 12,000 lbs. of food waste from just two local restaurants, harvested over 15 cubic yards of compost, and distributed all the compost for free to local community elder gardeners to grow culturally appropriate produce for themselves. The organization is in the process of adding a larger site in the same neighborhood, with a goal to process food waste from 50 restaurants. Restaurant 2 Garden's neighborhood-scale model advances Washington State's Organics Management Law (HB 1799) by decentralizing composting sites to increase and strengthen local capacity to process organic materials.

- c. **Deconstruction Incentive Program** – Deconstruction, the systematic disassembly of a building, has many benefits over demolition, but it is also more costly. Since 2022, SPU has been piloting a Deconstruction Incentive Program that offers up to \$4,000 per deconstruction project, reducing the gap in cost between deconstruction and demolition. The goal is to make deconstruction more attractive and feasible, incentivizing building owners to deconstruct rather than outright demolish a building.

Deconstruction has multiple benefits, such as reduced greenhouse gas emissions, reduced need for and cost of waste disposal, increased job creation, reduced stormwater pollution, and increased reuse of valuable building materials. The Deconstruction Incentive Program increases awareness of deconstruction as an option, builds familiarity with the process, and provides Seattle with data on the amount of wood reclaimed.

As a further incentive, Seattle City Light (the public electrical utility) has agreed to fast-track deconstruction projects for electrical disconnects. This potential reduction in permitting timeline makes taking on deconstruction more appealing.

- d. **Reuse Incentive Grant Program** – The Reuse Incentive Grant Program offers up to \$500 in food ware to support businesses transitioning away from single-use service ware to more sustainable reusable alternatives. Items include reusable cups, plates, and utensils, bus tubs and carts, and support of “borrow a cup” services. Swapping single-use for reusable cups, plates, and utensils at a business can result in significant cost savings over time and can protect a business against rising costs for single-use products and waste disposal.

Since January of 2023, the Reuse Incentive Grant Program has supported 65 food service businesses, entertainment venues, theaters, schools, and community events to transition to reusable service ware. Overtime, the program beneficiaries will eliminate over hundreds of thousands of single-use service ware annually. The grant program is critical in facilitating the shift towards reusables by subsidizing food service establishments’ start-up costs to purchase an inventory of reusable service ware or other related costs (e.g., dishwasher).

- e. **Food Rescue Innovation Grant Program (New)** – In 2024, SPU accepted grant applications to improve the distribution of edible, unsold food to feed people while reducing food going to waste. Recipients are being announced the week of June 24. This is one critical way of helping people who don’t have enough to eat while keeping valuable food out of compost or landfill.

Studies show that food is the single largest percentage of material going to landfill from Seattle businesses and is a significant contributor to greenhouse gas (GHG) emissions. This grant program will provide seed funding to test innovative approaches that could ultimately be scaled or replicated with private sector, nonprofit, or philanthropic funding. Seattle hopes this grant will foster greater collaboration, transparency, and new approaches from both food donors (such as grocery stores, large corporate cafeterias, restaurants, or other food businesses) and hunger relief organizations.

2. Seattle has been a leader when it comes to waste and recycling data collection. How has your leadership benefited the city and its residents?

Susan Fife-Ferris’ Response:

Since 1988, Seattle has collected data and developed a framework for residential municipal solid waste (MSW) that has yielded long-term successes in three categories.

Seattle has experienced:

- Steadily decreasing disposal of waste to landfill per household.
- Cost savings for ratepayers.
- Reductions in potential human illnesses and other environmental pollution impacts.

To build its successful three-prong framework of financial incentives, policies, and programs, Seattle relies on a data-driven methodology that includes:

- Developing reliable metrics for monitoring and evaluating the performance of our solid waste management policies and programs.
- Using insights from data to effectively identify points of intervention to increase waste prevention, recycling, and waste diversion.
- Forecasting future solid waste generation.
- Modeling the economic, environmental, and social costs and benefits of different waste management scenarios to identify the waste management program that minimizes costs, reduces waste sent to landfill, and decreases environmental impacts.

With the support of the public and political leadership for ambitious waste reduction goals, Seattle's data-driven approach has resulted in one of the highest recycling rates in the nation: 52.8% as of 2022. But the recycling rate does not tell the full story. Now Seattle has even more ambitious plans to support policies and programs that focus upstream to prevent waste from being created in the first place.

For more information on how Seattle uses data and the benefits derived by the gathering and analysis, please see our [2022 Solid Waste Plan Update: Moving Upstream Towards Zero Waste](#), with special attention to [Chapter 2: Maximizing and Measuring Impact: Moving Upstream, Beyond the Recycling Rate](#) and the related figures and tables.

We also recommend reading *A Triple Win, Resource Recycling*, by Jeff Morris, published online May 14, 2020, which provides an economic analysis of how Seattle's MSW management program has decreased garbage generation, reduced costs for residents, and cut down on wider environmental impacts.

The Seattle story is all about using data to drive our approach - incentives, policies, and programs!

a. How could improving recycling data and waste diversion data collection help the federal government to implement policies that support a circular economy?

Susan Fife-Ferris' Response:

As stated in my written testimony, the federal government can play a critical role by supporting consistent and accurate data collection at the national level and using this data to drive effective planning, policy, programs, and investments in the solid waste field – all of which will support a circular economy.

As noted above, Seattle has collected and used data to inform our management of solid waste for over thirty years, and we know how important and foundational it is. As an example, we use waste characterization studies to understand what is in our various

waste streams. We collect data down to the specific material type and use that information to inform our decisions on what to target, such as food waste and single-use packaging, and the strategies to use, such as developing standards, offering incentives, and/or rolling out new programs. Data tells a story and helps us see what is working and what isn't over time.

The solid waste system is large and complex and there are many links in the value chain that makes up a circular economy. Improved recycling and waste diversion data collection and analysis at a national level will help us understand which of those links is broken and where support from the federal government makes the most strategic sense.

Currently, there is an urgent need for consistent and comprehensive data on access to recycling services and recycling rates achieved for major product categories, such as plastic beverage containers, across the country.

States do not consistently measure and report this information, which makes it extremely challenging to assess data at a national level or compare performance state-by-state.

The federal government could take an active role in improving recycling and waste diversion data by establishing consistent and standardized methodologies, facilitating the collection and analysis of data where needed with financial support and technical assistance, and requiring states to report in a consistent format regularly. The federal government could also set up an exchange online where this data could be shared and easily accessed for decision-making.

This information will also help us identify inequities in access, as well as states and local jurisdictions that need additional support.

In addition, improving recycling data could help the federal government quantify the benefits of economic (e.g., cost savings, jobs created), environmental (e.g., resources conserved, GHGs saved), and social (e.g., health impacts) of recycling and identify strategies that lead to successful recycling program outcomes.

Over time, this national data will tell a story of how well we are doing in successfully closing the gaps in the circular economy, and where we need to focus our resources.

3. In your view, how could the federal government help reduce consumer confusion over labels on packaging that are designed to inform consumers on whether a good can be recycled or composted?

Susan Fife-Ferris' Response:

Consistent and truthful labeling is key to reducing consumer confusion about which products are (or are not) recyclable or compostable, and reducing contamination that can ruin the value of otherwise valuable material streams. Creating a standard certification and labeling system for product labeling, combined with policies restricting "look alike" labeling, would reduce confusion and contamination across the board.

Labeling requirements need enforcement to be effective. There is currently confusion related to the use of the Resin Identification Code (RIC) along with a universal "chasing arrows," symbol, which was adopted as a requirement in several dozen states in the

past. In recent years, several states have eliminated the requirement to mark plastic materials prior to distribution, but there is no consistency among states currently.

The federal government could solve this conflict at a higher level by prohibiting the use of the RIC along with a universal "chasing arrows" symbol on plastic products or associated labels unless nationally consistent criteria for recyclability are met.

With compost, it is critical that organics processing facilities can make a marketable product; however, poorly labeled products result in contamination from plastics and other non-accepted materials. These materials increase the cost to both the facilities and the customers. Reducing contaminants, including microplastics, is one of the biggest challenges for organic processing facilities. The U.S. Composting Council partnered with the Biodegradable Products Institute and a wide breadth of stakeholders to create the Compostable Labeling Principles, which provides state and federal legislators with guidance for developing "truth in labeling" laws for compostable products.

Washington State has also recently rolled out legislation that covers Compostable Product Labeling and Declarations, which provides guidance that could be adopted at the federal level.

4. **In 2018, China's National Sword Policy went into effect. Before the enactment of this policy, about half of the world's recyclables were shipped to China for processing. Additionally, global events such as the COVID-19 pandemic have influenced recycling markets and domestic supply chains for materials. Please describe what the impacts of China's National Sword Policy and the COVID-19 pandemic have been on Seattle's recycling industry?**

Susan Fife-Ferris' Response:

China's National Sword

For years, Seattle's recycling programs relied on Asian export markets, particularly China, to purchase and process lower quality recyclable materials, especially mixed paper and mixed plastics. Typically, goods would be shipped from China to the West Coast by cargo ship and then baled recyclable materials would be "back-hauled" to China on these same ships.

However, in 2013 China started to implement progressively more restrictive environmental and anti-corruption policies to reduce the amount of waste imported into the country. As an example of what China's concerns were, paper bales arriving might have significant amounts of plastic contamination woven into the bale, and while the paper would be pulped and processed, the contaminating plastic would be discarded, often polluting local land and waterways. China's policies included decreasing the amount of non-recyclable material or contaminants allowed in recycling, accompanied by customs inspections, import limits, and eventually, the equivalent to an import ban. Enforcement of the import ban, often referred to as "China's National Sword" or "China Blue Skies" (2017), began in January 2018, upending the global markets for mixed paper and plastics (#3-#7) as other nations in Southeast Asia adopted import and contamination policies like China's.

The implementation and enforcement of these policies significantly restricted the end markets available to both SPU and the rest of the world with established recycling programs.

Although Seattle was well-positioned to weather such a dramatic shift in markets, many other municipal programs had to pause or cancel their recycling programs. Though immensely disruptive, China's import ban was a wake-up call to Seattle, as well as all the cities on the West Coast that had become complacent with respect to the quality of the materials being shipped overseas for processing. China's National Sword has generally resulted in higher quality standards for recycling, meaning lower overall thresholds for contamination or garbage in the recycling.

A direct consequence in Washington State was the adoption of a new statewide requirement for each county or city with solid waste management authority to develop a Contamination Reduction and Outreach Plan, which reflects the recent emphasis on improving recycling quality.

While Seattle and other municipalities were adjusting to China's import ban, the potential for recyclables to become contaminated has increased due to new materials on the market that are not currently accepted in Seattle's recycling program. These confusing materials include new flexible plastic packaging and some mixed-material packaging that combines several material types, such as foam, plastic, and metal.

With packaging design constantly evolving and often complicating recycling efforts, Seattle works across the value chain to:

- Monitor contamination rates.
- Enhance product labeling for accuracy and clarity around recyclability.
- Engage upstream manufacturers about their products.
- Educate customers on proper sorting to mitigate contamination issues.
- Maintain strong product quality in the face of more challenging market conditions.

Along with spurring stricter quality standards, China's policies have increased awareness of the environmental and human toll caused by recycling exports to poorer nations with fewer environmental, health, and human rights protections. For instance, contamination from garbage or food and yard waste in recycling may end up as garbage, pollution, or litter if sent overseas for processing in countries with fewer environmental protections than the United States.

The fallout from China's policies has helped highlight challenges surrounding the ability to recycle low-value mixed plastics. The lack of markets for low-grade mixed plastics, increased instances of plastics contamination in other recyclable or compostable material, and the introduction of hard-to-recycle packaging materials has presented challenges to Seattle's recycling programs. Simultaneously, increasing concerns are emerging about plastic pollution and litter, including air and water pollution and its impact on communities. Concerns include the persistence of plastic waste in the environment,

the toxicity of plastics, plastic waste and microplastics pollution in the ocean, and ingestion of plastic waste by wildlife. SPU continues to consider how to address plastics recycling and end-of-life management – and China’s National Sword contributed to Seattle’s increased attention to these issues.

Basel Convention

What prompted China’s National Sword also contributed to growing environmental management concerns throughout Southeast Asian countries, including Malaysia, Thailand, and Vietnam, which also restricted or entirely banned the import of mixed plastics following China’s lead.

On May 10, 2019, 187 countries ratified the Basel Convention, which approves applying the treaty to mixed and low-grade plastic wastes due to the significant social and environmental impacts of global “trade” in these plastics. This level of support shows the concern for the impact of mixed plastics exports on human health and the environment in receiving countries. The Basel Convention limits global trade in hazardous wastes between developed and developing countries. While the U.S. is a signatory to the Basel Convention, it has yet to ratify it. Since 1997, the Seattle-based nonprofit organization, Basel Action Network (BAN) has promoted the Basel Convention’s toxic waste trade solutions by using interrelated policy, market solutions, and public engagement strategies.

The failure of the U.S. to ratify this treaty has direct consequences to cities like Seattle since U.S.-based companies and recycling programs cannot export plastics for recycling in many instances, and it remains challenging to find legal and economically viable options for plastics recycling within the U.S. This is an especially acute issue right now for electronics recycling operations – plastics comprise ~30% of the materials handled through electronics recycling operations, and domestic recycling capacity is currently inadequate to handle the computer and appliance plastics generated by recyclers. Seattle needs federal-level proactive engagement to solve this issue. Possible solutions include ratifying the Basel Convention and providing funding to scale up domestic recycling operations for plastics, especially for electronics plastics.

COVID-19

Covid-19 exacerbated some of the issues arising due to China’s National Sword as global markets in general began to shut down in early 2020, and supply chain disruptions have slowed and disrupted recycling commodity markets as we return to our “new normal.”

Some examples of how Covid-19 impacted Seattle:

- *Plastic Bags:* Up to early 2020, plastic bags were accepted in curbside recycling if they were bagged together. However, loose plastic bags in the curbside-collected commingled recycling stream resulted in contamination and significant disruptions at the Material Recovery Facility (MRF) as operations regularly had to be shut-down to cut the bags out of the machinery and often ended up as contamination. The decision was made in 2019 to stop collecting plastic bags in curbside recycling collection programs region-wide and move this material to drop-off collection options starting in 2020. Seattle had been working with the American Chemistry Council, The Recycling Partnership, Sustainable Packaging Coalition, and Association of Plastic Recyclers on an industry-led effort to

increase retail drop-off locations to provide an alternative and convenient option for recycling this material. The COVID-19 pandemic stopped this effort.

- *Bring Your Own (BYO) Reusable Bags*: What had become a common practice in Seattle – BYO reusable bags to the store – was banned due to fears the virus would be transmitted on the surface of the reusable bags and spread through the community. As more was learned about Covid-19 and how it spread, BYO reusable bags were shown not to be a threat. However, a long-standing practice was interrupted. Once it was established that BYO reusable bags were safe to use, Seattle had to ramp up education and communications to retrain our population and re-ingrain the habit of BYO reusable bags.

5. I believe that in order to continue to build towards the vision of a circular economy, stakeholders at all levels of government, nonprofits, and the private sector must have a seat at the table to share ideas. How are you collaborating with a wide variety of stakeholders to improve recycling and reuse efforts?

Susan Fife-Ferris' Response:

A circular economy includes waste prevention upstream, which includes actions such as reuse and repair, ensuring that products are made in a way that they are designed for recyclability or compostability, and then responsibly recycling or composting of those products so that they are made into new products, without waste. This is a particularly difficult area when it comes to understanding how a local government can best help businesses reduce over-production or over-purchasing (e.g., food is just one example across manufacturing, wholesale, retail, and more).

The following are some examples of how Seattle collaborates with a wide variety of stakeholders to build a more circular economy and improved recycling and reuse efforts:

- *Pacific Coast Food Waste Commitment* - Seattle has worked alongside state and local jurisdictions to create the Pacific Coast Food Waste Commitment. This voluntary West Coast regional effort combines nonprofit expertise (e.g., WWF, ReFED, WRAP) with private sector signatories from grocery, manufacturing, and food service providers so that privately held data can be shared, analyzed, and used to pilot solutions across these many sectors. The success of this work has led to the U.S. Food Waste Pact. This collaboration is now helping SPU explore other forms of public-private-civic engagements for consumer food waste prevention.
- *Recycle Right* – SPU is part of a regional communications consortium, that was established in response to China's National Sword in 2018, to harmonize recycling guidance and messaging across the region. The consortium has members from municipalities large and small within King County, Washington, the Washington Department of Ecology (Ecology), and the large waste hauling companies from the area. The consortium develops and collaborates on the implementation of campaigns, such as Recycle Right, to create a consistent message and reduce confusion about local recycling programs. This effort leverages larger municipalities' resources to develop messages and materials, and to provide staff resources to develop outreach information, while tapping into

smaller municipalities' ability to amplify the messaging to create consistent and region-wide distribution of the information.

- Reuse Seattle – Reuse Seattle is a Seattle-led initiative to support local businesses and our residents to switch from single-use food packaging to reusable food packaging (e.g., a reusable to-go cup for coffee, a reusable cup and food tray at a stadium, or a ceramic plate instead of a paper plate at a fast-food restaurant). Reuse Seattle's vision is that reuse becomes the new norm and reuse options are woven into the fabric of daily life in all our communities. To achieve this vision, we collaborate with a variety of stakeholders such as:
 - *National Reuse Service Providers* – r.World and Bold Reuse are two national reuse service providers that have established logistics support and "wash hub" infrastructure in Seattle, and are actively operating in our market. Service providers such as OKAPI, Encora, and Ozzi are also servicing specific sectors (e.g., cafes, corporate campuses, and universities). Seattle supports these providers by connecting them with local businesses that are interested in reuse, creating demand for their services through public procurement, and collectively building a culture of reuse in Seattle.
 - *Local Businesses* – ranging from our stadiums to neighborhood cafes, Seattle provides technical and financial assistance (e.g., the Reuse Incentive Grant Program mentioned above) to local businesses to support their transition to reusable food packaging.
 - *Non-profit Reuse Organizations* – Seattle collaborates with national standards organizations such as PR3 to share learnings and align with standardization efforts, and other organizations such as Upstream and Reloop to both learn from and contribute to national best practice efforts on reuse.
- Waste Prevention Strategic Plan – Seattle is developing a new Waste Prevention Strategic Plan that will establish:
 - Meaningful goals, metrics, and priorities.
 - Where SPU can most effectively leverage its unique role to amplify existing waste prevention efforts in the community, reduce or eliminate barriers to preventing waste, and support new waste prevention strategies.
 - Strategies and tools to measure success.

Partnering with non-profits and the private sector in the development of the Waste Prevention Strategic Plan is vital since one of Seattle's roles in waste prevention is helping to strengthen and grow efforts led by businesses and the community. As part of the planning effort, Seattle met with businesses and organizations that provide or have the potential to provide waste prevention services to Seattle customers, including several engaged in growing a circular

economy. SPU is using this information along with input from Seattle residential and commercial customers to make decisions on how we allocate future funding for waste prevention. Those future efforts will involve additional community engagement and partnerships to plan and implement new waste prevention programs and policies.

- *Deconstruction and Salvage* – For building material reuse, Seattle partners with local salvage material retailers to ensure that construction and demolition projects are connecting with deconstruction and salvage professionals and maximizing recovery for reuse. For salvage and the effort to seed a local salvaged wood processing warehouse, SPU partners with the private sector because they are the experts in this realm and understand what is in place and what is needed for a local circular economy for used building materials.
- *NextCycle Washington* – NextCycle Washington is a circular economy innovation platform and accelerator designed to support the growth of businesses and organizations working within Washington’s waste prevention, reuse, repair, recycling, and/or organics recovery industry. The project is an example of collaboration between all levels of government (i.e., state, county, local), private sector, and non-profits to support circular economy-oriented start-ups and community organizations in Washington State by:
 - Providing technical support to circular economy-oriented start-ups and getting them to investment-ready status.
 - Nurturing community organizations that incorporate waste prevention, repair, reuse, recycling, and/or composting models.
 - Providing financial support through seed grants to both start-ups and community organizations.

6. One thing we have heard before on this Committee, is that our nation’s municipal recycling facility infrastructure is outdated. Specifically, there are new technologies to assist with the mechanical recycling of goods, such as robotics or optical sorters. What kinds of upgrades to municipal recycling facilities are needed to maximize our ability to mechanically recycle a variety of goods?

Susan Fife-Ferris’ Response:

It is critical to consider the entire solid waste management system holistically for success to occur – not just the mechanical processing of recyclables. That is why Seattle works upstream to encourage packaging and products be designed for recycling and made with recycled-content to increase demand, packaging and products be clearly and truthfully labeled, recycling collection be accessible and convenient to the public, recycling processing facilities be modernized, expanded to handle more capacity, and kept updated, and domestic markets for the recycled materials be supported and expanded environmentally and socially responsively.

The Recycling Partnership estimates that more than three-quarters (76%) of recyclable material generated by U.S. households is lost to trash in homes. ([2024 State of Recycling Report - The Recycling Partnership](#)). One in four U.S. households cannot

recycle at home because they lack access to basic recycling collection services, and among households that have access, more than 40% do not use them. These startling facts highlight that the most significant impediment to increasing recycling in the U.S. is not outdated sortation infrastructure, it is lack of access and low participation, which prevent the majority of recyclable materials from being collected for recycling in the first place.

At the same time, there are opportunities to improve the ability of mechanical recycling processing facilities (also known as Materials Recovery Facilities or MRFs) to capture recyclable materials from inbound loads and sort them into marketable commodities.

According to The Recycling Partnership, the greatest opportunities for improvement in MRF efficiency using new technologies are in the processing of materials that are somewhat newer to the recycling stream. ([2024 State of Recycling Report - The Recycling Partnership](#), p. 19)

Additional ways to maximize our ability to mechanically recycle a variety of materials includes:

- Ensure products are designed for recyclability in the first place before they hit the market and are put in the blue recycling cart.
- Expand recycling education (e.g., [Recycle Right](#) described above) to ensure the public understands how to properly recycle items and reduce contamination.
- Focus on the top five types of recyclables:
 - Paper - office, newspaper, and magazines
 - Cardboard - paperboard and corrugated boxes
 - Plastic - Bottles, Containers, and Tubs
 - Glass - Bottles and Jars
 - Metal - Aluminum, Tin, and Steel Cans and Scrap
- Expand automation and intelligent sorting, such as investing in state-of-the-art optical sorting technologies that can improve the quality of the recycling sorting process.
- Rerun materials that are missed through the sorting process.
- Continuously re-examine the material acceptance list to ensure that what is processed through the facility has a viable end market.
- Adjust the sorting process to ensure capture of that material.
- Expand processing capacity through investments in new technologies and basic infrastructure so more recyclable materials can be processed.

- Explore innovative solutions for challenging materials (e.g., flexible plastics, mixed materials).

The Environmental Protection Agency's (EPA) [National Recycling Strategy](#) is aligned with and supports the implementation of the National Recycling Goal to increase the recycling rate to 50% by 2030 and includes five strategic objectives with specific actions to strengthen the U.S. recycling system:

- Improve markets (i.e., demand) for recycled commodities through market development, analysis, manufacturing, and research.
- Increase collection of recyclable materials and improve recycling infrastructure through analysis, funding, product design, and processing efficiencies.
- Reduce contamination in the recycled materials stream through outreach and education to the public on the value of proper recycling.
- Enhance policies and programs to support recyclability and recycling through strengthened federal and international coordination, analysis, research on product pricing, and sharing of best practices.
- Standardize measurement and increase data collection through coordinated recycling definitions, measures, targets, and performance indicators.

7. In order to fully realize the environmental and economic benefits of recycling, we need to ensure that when a product goes into our recycling system it replaces virgin materials that would otherwise be used. What end markets currently exist for recycled products and are there any emerging end markets in your community?

Susan Fife-Ferris' Response:

The recycling landscape requires continued development and improvement of regional recycling infrastructure and end markets, as well as additional regulatory oversight to ensure that recyclable materials are actually being recycled for environmental benefit and displacing virgin feedstock. Seattle struggles with verifying where our recyclable materials end up and believes there are opportunities for both the state and the federal government to help with tracking, reporting, and verification of end markets for recycled materials.

While domestic (U.S.) and Canadian markets for recyclable materials have become more available since 2019, particularly for cardboard and mixed paper, and for certain types of plastics (e.g., PET, HDPE, PP containers), following is what we know currently about end markets for Seattle's recyclables:

- The majority of mixed paper is believed to be shipped to paper mills located in Asia.

- Recyclable plastic containers (i.e., PET, HDPE, and PP) are thought to be predominantly shipped to plastic recyclers in the U.S. and Canada.
- Metals are reported as being sold to smelters in the U.S. and Canada.
- Glass that is of sufficient size and quality is thought to be sent to a glass beneficiation facility and wine bottle-making plant in Seattle.
- Plastic bags and film collected through store drop-off programs are thought to be sent to a composite plastic lumber company based in Nevada.

End markets are not currently verified or validated in any way. Greater transparency and accountability around end markets is desperately needed, along with more specific controls on requiring the use of domestically sourced recycled content.

Through SPU's grant programs described in response to Chairman Carper's Question 1 above, and in partnership with Seattle's Department of Economic Development, we are continually looking to support the development of end markets for recycled materials. In addition, Washington State's [Recycling Development Center \(RDC\)](#), which was created in 2019, focuses on developing domestic markets for Washington's recyclable materials. The RDC is a partnership between Ecology and the Washington Department of Commerce (Commerce). The RDC's efforts include convening discussions, supporting innovations, conducting research, and providing business assistance. Commerce provides business, marketing, and technical assistance to the public and private sectors. The RDC is tasked by the state legislation with facilitating research and development, marketing, and policy analysis to bolster recycling markets and processing in Washington State. The RDC's goal is to establish circular economies for the various recyclable materials.

- 8. Recycling a "win-win" solution because it diverts waste which is not only good for the environment but also good for the economy and recycling creates jobs. Would you please share how waste diversion can increase employment rates and contribute to economic growth?**

Susan Fife-Ferris' Response:

Washington State has recently published a *Report on Washington State Recycling*, in three parts. The goals of the three-part comprehensive report include a qualitative and quantitative baseline report of Washington State's recycling industry to identify opportunities, existing benefits, potential benefits, and conduct an environmental justice and equity analysis. The three parts of this Recycling Baseline Report include policy recommendations based on capacities, needs, gaps, barriers, and opportunities identified within the state.

The three parts are:

- [Part 1: Recycling Companies and Revenue](#), published in April 2023, provides economic data related to the management of recyclable materials in Washington State and their principal processors.

- Part 2: Economic Impact of Recycling, published in March 2023, examines economic contribution of the recycling industry, identifying direct, indirect, and induced economic impacts of potential expansion within the recycling industry.
- Part 3: Equity Analysis of Recycling, published in April 2023, examines environmental justice and equity concerns within the solid waste and recycling system, mapping health and environmental hazard variables to facility locations.

The Report, especially in Part 2, highlights several benefits around job creation and economic growth. The positive ripple effect of employment gains in the mechanical recycling processing industry extends across the state's economy. Recycling not only reduces CO2 emissions and consumption of virgin materials but also provides opportunities for skills development.

For a broader perspective, climate-related job creation is estimated to top 800,000 in various sectors across Washington State.

The circular economy can be a powerful driver for economic development, innovation, private enterprise, and equitable green jobs in Seattle. A robust circular economy can generate billions of dollars in cost savings and economic benefits, where valuable materials that would have ended up in landfill are instead captured and redirected into the manufacturing supply chain. Those benefits represent an opportunity that Seattle is uniquely positioned to benefit from.

a. What are some of the specific and ancillary jobs associated with waste diversion in your community?

Susan Fife-Ferris' Response:

When looking at job opportunities, Seattle considers the entire solid waste management system and our vision of moving towards a circular economy. This approach provides a holistic view of where economic development, combined with new job creation, can be targeted with Seattle's support.

Jobs associated with the circular economy in Seattle span a wide variety of industries, including:

- *Materials Innovation and Technology* – There is a rich circular economy startup ecosystem in Seattle in material innovation and technology, for example:
 - *Ravel*: Focuses on the efficient recovery and reuse of blended fiber end-of-life textiles to create sustainable and local materials economies for the apparel industry.
 - *ShelfEngine*: Software system that helps customers significantly increase profits and drastically reduce food waste in thousands of retail locations across the country.
- *Reuse, Repair, and Share* – There is a thriving ecosystem of reuse, repair, and share businesses throughout Washington State, including more than 15,000

licensed reuse businesses, along with over 2,500 repair, 2,200 rental, and 1,600 secondhand shops. This reuse, repair, and share culture has a strong foundation in Seattle, and several businesses are being created to help match the supply and demand of reused, underutilized, or secondhand products and materials.

For example:

- GeerGarage: A peer-to-peer outdoor gear rental platform that quickly matches renters with lenders who have the right gear, available in the right place, at the right time.
 - Armoire: National clothing rental company operating out of a neighborhood in South Seattle with circularity at the core of their business.
 - Second Use: Store that offers reclaimed building materials for sale to the public.
 - Furniture Repair Bank: Salvages furniture that would otherwise be landfill-bound, engages community members in repairing it, and then provides it to families in need.
- *Waste Diversion* – Traditional waste diversion systems in Seattle are robust and long-standing. These jobs involve a diverse set of skills and expertise. Following is an example of some of the job opportunities:
 - *Heavy Truck Drivers*, including garbage, recycling, and organics collection vehicles, to container trucks moving materials from processing to their next destination.
 - *Communication Specialists*, including outreach, education, and technical assistance to ensure customers understand how to properly sort and manage their materials.
 - *Inspector and Compliance Agents*, ensuring that customers have the services they have requested, and their materials are sorted properly.
 - *Transfer Station Operators*, making sure that materials brought to the transfer station are efficiently and safely moved to their next destination.
 - *Contract Managers*, overseeing the service contracts with the various private companies providing services to solid waste customers.
 - *Recycling Commodity Sales Specialists*, navigating the various markets for recyclable materials to negotiate sales agreements.
 - *Heavy Machinery Operators*, making sure the materials sorting machinery is running efficiently and safely.

- *Data Analyses and Economists*, gathering and analyzing the data to measure performance and guide decision-making.
- *Engineers*, designing recycling and composting facilities.

All positions require training, including safety, skills, and technical. The Washington Organics Recycling Council provides an example of this type of training, having offered Compost Facility Operator Training annually since 1995 to raise compost facility operators' technical knowledge and sound operating techniques to train newer generations of compost facility operators to meet the growing demand of Washington State's organics processing expanding capacity.

9. **Seattle was awarded a Solid Waste Infrastructure for Recycling (SWIFR) grant from the Environmental Protection Agency (EPA) to assist in the creation of a circular economy for lumber. In addition to this SWIFR grant, the city of Seattle has established a pilot program to incentivize the reuse of building materials. Will you please share what you have learned so far from the building and deconstruction pilot program in Seattle?**

Susan Fife-Ferris' Response:

Starting in October 2022, SPU started a Deconstructive Incentive Pilot Program (DIP Program) to increase deconstruction projects and build familiarity with the process, gather data, and identify innovations. Deconstruction has multiple benefits such as reduced GHG emissions, reduced waste disposal, job creation, reduced stormwater pollution, and reuse of valuable building materials.

The DIP Program provides \$4,000 per deconstruction project. Eligible projects include residential wood-framed buildings where an approved deconstruction contractor is completely removing a house or duplex. As a further incentive, deconstruction projects receive fast-tracked electrical disconnects. Additionally, worker training funds are available.

While SPU only has a couple of years of data to evaluate the DIP Program, we have learned that:

- The grant incentive, combined with the early electrical disconnects, make deconstruction more appealing to developers and owners.
- It is possible to recover an average of five tons of wood for reuse when removing a single house.
- While the incentives are helping to increase the number of deconstruction projects, incentives alone are not enough to result in a big shift from demolition to deconstruction for residential building removals.

a. How will this information help the city maximize funding from the EPA's grant?

Susan Fife-Ferris' Response:

To increase the amount of wood salvaged for reuse during building removals, Seattle will need to increase requirements to separate recoverable wood from old buildings when they are removed, likely through a requirement to deconstruct. But the salvaged wood needs a place to go before a market shift can be supported. This is where the SWIFR grant plays an important role and is helping to provide the foundation for that market shift. The SWIFR grant will enable Seattle to provide seed funding for a business to establish a warehouse to process, sort, and redistribute reclaimed lumber. Seattle realizes that other market improvements, such as contractor trainings, will also be needed so we plan to address those while establishing the salvage lumber warehouse.

10. In your opinion, what actions should the EPA should take to make it easier for rural and disadvantaged communities to access and apply for the SWIFR grants?

Susan Fife-Ferris' Response:

In general, it is critical that EPA, along with all federal agencies that are managing funds that local governments are attempting to access to support or expand their solid waste programs and infrastructure (e.g., U.S. Department of Agriculture), streamline the grant application process, accelerate the award selection, and then once funds are awarded, get the funds in the hands of the successful jurisdictions faster and make the reporting straight-forward and not complicated.

This is even more critical for rural and disadvantaged communities that need the support these grants represent, but don't have the resources necessary or the experience to pull all the materials together to put forth a competitive application. And even if they do somehow submit an application that is successful, they may not have the resources to successfully manage all the elements of entering into the needed agreement and manage the project, with the potentially onerous federal reporting requirements.

Some ideas for both supporting rural and disadvantaged communities to both submit a competitive application and successfully manage the grant funds and project if selected include:

- *Increase Knowledge about the Grant Programs through Direct Contact* – often rural and disadvantaged communities are not even aware that the grants exist. There have been increased efforts to get the word out regarding the funding available through the Bipartisan Infrastructure Act, but identifying the venues through which these types of communities are most likely to get their information is key to informing them that the grants are options to apply for. Possibilities include the Conference of Mayors, but there may be better and more direct ways to make contact. Increased knowledge of the funding opportunities should help move more of these communities to seek assistance in submitting an application.

- *Increase Technical Assistance and Support* – Technical assistance and support should be easily accessible by rural and disadvantaged communities. This technical assistance and support can be provided in several ways:
 - *Create an EPA Mentoring System* where EPA staff are directly assigned to support communities in a particular region or area, providing technical assistance not only for application development, but management and reporting once successfully selected.
 - *Facilitate Public/Private Partnerships* with groups that can help communities develop their application and then help with the management and reporting. This approach was highlighted by Cody Marshall of The Recycling Partnership (TRP) during his May 22, 2024, testimony in front of the Committee. TRP provides an example of a non-profit organization that is privately funded that supports communities write and manage their grants.
 - Similarly, *Facilitate an Executive Loan Program*, where for-profit companies lend staff with needed talents to rural or disadvantaged communities to help them develop and later manage their grants. This could be structured like how law firms do pro bono work, but with a focus on application writing, negotiating agreements, and funds management.
 - *Convene and Encourage Communities with Similar Challenges* within a particular region to *submit a Joint Application* that helps them together address that challenge, and together they can pool their resources to decrease the lift needed to apply and better manage the grant funds.

The key is to find what will work for these communities to help them be competitive and then to successfully manage the awarded grant funds. This may vary greatly from region to region.

11. What are the top one or two legislative actions that Congress should consider to help our nation move towards a truly circular economy?

Susan Fife-Ferris' Response:

For Congress to help all parts of our nation (i.e., urban, sub-urban, and rural, advantaged or disadvantaged) move towards a truly circular economy, Seattle recommends that the following two legislative actions be prioritized:

- *Support a National Framework for Extended Producer Responsibility (EPR) for Packaging and Paper Products* that holds producers responsible for their packaging and products and ensures they provide adequate, ongoing, and stable financial support for the recycling industry and local communities.
- *Financially Incentivize Waste Prevention, Reuse, Refill, Repair, and Use of Post-consumer Recycled Content*, through grants, subsidies, and tax credits, and *Reduce Subsidies to Virgin Materials*, such as petrochemical feedstocks that directly compete with post-consumer recycled plastics.

Senator Whitehouse:

1. **You have advocated for an ambitious Global Plastics treaty focusing on the entire life cycle of plastics. You also have advocated for including caps on plastic production, phasing out single-use plastics, and holding plastic producers financially responsible for their products. How can an ambitious global plastics treaty help state and local municipalities achieve their recycling and reuse goals?**

Susan Fife-Ferris' Response:

What happens at the international level eventually trickles down to the state and local municipal level, and regardless of whether it is good or bad policy, state and local municipalities must deal with the real-time and long-term consequences. While the recycling system covers more materials than plastics, plastics are a problematic material that has grown close to exponentially in our waste streams and if not used in packaging or products only when appropriate and managed responsibly through the packaging or product's life cycle, can cause significant harm to human health and the environment.

Seattle and the rest of the West Coast had an epiphany moment when the realities of China's National Sword hit our recycling industries. This serves as an example where an international decision has real-time impacts on our local recycling systems. Plastics, unintentionally, were being exported – often in paper bales – and causing harm as waste and pollution overseas. Many states and municipalities have been working hard to "turn-off the faucet" of plastics being released into the environment and instead ensure the creation of a circular economy, where plastics are used only where necessary and plastics in the system are captured for reuse or recycling into new products, displacing virgin materials and preventing waste and pollution that harm the environment. This type of closed-loop system can only be created if there is an international framework developed and agreed to – thus, the need for the Global Plastics Treaty.

An ambitious Global Plastics Treaty that priorities the entire life cycle of plastics will result in more recognition and support for Seattle's emerging upstream work, such as Reuse Seattle, as opposed to our traditional downstream work, such as diversion to recycling or compost and landfilling. Seattle believes it is critical to not just focus on downstream waste management of plastics but focus on the entire life cycle of plastics. The most important metrics in a circular economy are those showing reduced extraction and demand for virgin materials and reduced manufacturing of single-use goods and packaging, coupled with reduced overall climate emissions and pollution. Phasing out single-use, unrecyclable, and frequently littered plastic products should be established as goals globally, including specific phase-out dates and potential temporary exemptions where necessary.

The [U.S. Plastics Pact's](#) (Pact) work and recently published [Roadmap 2.0](#) shows the efforts being pursued on a national level by a consortium of stakeholders to create a circular economy for plastics. But the challenge needs to be tackled at a global level to make a meaningful impact. The U.S. Plastics Pact developed this update to its original strategic plan to help companies change how they design, use, and reuse plastics in their packaging. The Pact's Roadmap 2.0 is an actionable plan designed to transform the use of plastics, focusing on practical steps to create a circular economy where plastic packaging is reused, recycled, composted, and kept within the economy instead of becoming waste.

Building stable funding into the Global Plastics Treaty, through financial incentives and subsidies, along with producer responsibility, will ensure dedicated funding for states and local municipalities, who in-turn can use that funding to help implement reuse and recycling programs, with targets (i.e., rates and dates) identified.

Municipalities have long had to financially support the end-of-life management of the plastic products that show up in the waste stream. Producers have not been held responsible for the plastic products they put into the market and the resulting costs associated with the management of those products when they are no longer used for their initial purpose. Unfortunately, these costs, both direct and external, fall on states and local municipalities. Creating a global framework that holds producers responsible is one way to start internalizing these costs to the producers.

Establishing reporting requirements is also important at a global level and supports achieving mandatory goals and actions tied to metrics and dates. These will help accelerate Seattle's own local efforts to achieve our targets. Including standards related to plastics pollution prevention in the Global Plastics Treaty will help ensure that the systems Seattle and other municipalities are setting up (e.g. reuse, recycling, composting) have the desired outcomes as opposed to unintended consequences. States and local municipalities want to ensure that end markets are reliable and vetted – e.g., there is no point in promoting compostable packaging if there is no organics collection or processing facility nearby.

Overall, the Global Plastics Treaty will establish a coordinated effort on plastics pollution prevention that will help set the vision and direction for state and local municipalities and help ensure we are all moving in the same direction.

2. As you know, the SWIFR Grant Program was created as part of my and Senator Sullivan's Save Our Seas 2.0 Act. What types of programs do you think would be most beneficial in a Save Our Seas 3.0 bill?

Susan Fife-Ferris' Response:

Seattle is appreciative of the funding for the solid waste industry that was created as part of the Save Our Seas 2.0 Act. Like the States of Rhode Island and Alaska, Washington State is ocean-fronting and Seattle has a long history of dependence on our various waterways, with a robust marine economy. Seattle boasts the nation's fourth largest container gateway and maritime is vital for global trade and economic growth.

The Save Our Seas 3.0 bill provides an excellent opportunity to expand on the support provided in Save Our Seas 2.0 to combat plastics debris and pollution that threatens both our marine economies and our marine life.

Following are some broad ideas that would be beneficial to include in Save Our Seas 3.0:

- A. *Provide More Upstream Funding for Programs and Infrastructure* – Seattle was very encouraged to see the SWIFR grant program inclusive of reuse and would like to see more dedicated funding to zero waste-focused efforts that will reduce the

dependency on single-use plastic service and food ware, as well as other needs that support a circular economy, such as:

- Funding for the infrastructure that supports and prioritizes reuse systems, upcycling, and food rescue.
 - Providing incentives for dine-in restaurants to switch to reusable service and food ware for dine-in customers.
 - Providing financial support for space and transportation needs of waste prevention service providers, who have consistently identified the lack of access to affordable space and reliable transportation as two barriers preventing growth. For example, storage space for materials that are collected for reuse, retail space for sharing/reuse/repair services, and transportation of large household items for reuse.
- B. *Invest in Research and Innovation to Prevent Plastics Pollution* – Seattle is focused on developing and implementing ways to turn off the plastics faucet to prevent plastics from polluting our oceans and we welcome more investment in research and innovative ways to do that.
- C. *Improve Federal Green Procurement and Purchasing Policies* – The federal government should be leading the way when it comes to green procurement and purchasing policies, setting an example for states and municipalities to follow. An example of where this occurred is with the construction of the Federal Center South Building 1202, the construction included nearly 200,000 board feet of structural timber and 100,00 board feet of wood decking that was salvaged from the adjacent decommissioned warehouse.
- D. *Support Standards Development related to Plastics Pollution Prevention* – More transparency is needed to ensure that materials are going to end markets that result in the recycled materials displacing virgin materials and reducing the need to harvest or extract resources. The development of standards for vetting and verification of responsible end markets for recycled plastics, definitive and harmonized standards around what can be considered “recyclable” and “compostable,” and standards for reuse systems would all help prevent plastics pollution.
- E. *Resource Actions at a National Level* – Seattle is encouraged by the announcement of the Interagency Policy Committee (IPC) on Plastic Pollution and a Circular Economy, which “will coordinate federal efforts on plastic pollution, prioritizing public health, economic development, and equity to ensure that the benefits of acting on plastic pollution – including jobs, minimized exposure to harmful chemicals, and clean communities – are available to all.” Resources need to be put behind these words so action can occur that has a positive impact on preventing plastics pollution at the local level.
- F. *Coordinate the Improvement of Tools and Methodologies to Measure Waste Prevention and Reuse Impacts* – EPA should coordinate with other federal agencies on improved tools and methodologies for measuring the impacts of waste prevention and reuse. In particular, collaborate to develop new, improved tools such as expanded life cycle analysis parameters so that all stakeholders can confidently

assess the benefits of the emerging circular economy, reinforcing why waste prevention and reuse have always been at the top of the waste hierarchy.

- G. *Invest in Innovations and Infrastructure Needed to Receive and Properly Dispose of Collected Marine Debris* – Marine debris, especially plastics debris, is problematic for coastal communities to manage, and they could use more innovation around how to manage that debris and increased capacity and capability for retrieving, receiving, sorting, and storage.
- H. *Fund Ways to Better Manage Plastics Debris from Remote Locations* – Remote locations, like the San Juan Islands, need innovative and reliable ways to manage their solid waste and marine debris. Funding research and studies on backhaul of waste and marine debris from remote waterways to recycling, composting, and disposal facilities and on the development of the necessary infrastructure for these remote communities to handle the waste and debris, should be included in the bill.
- I. *Continue Funding for the National Oceanic and Atmospheric Administration's (NOAA) Marine Debris Program* – Seattle understands that the projects currently funded by the Bipartisan Infrastructure Law and distributed by the NOAA Marine Debris Program are working well in several states, including Washington, to remove debris from national marine sanctuaries and Tribal ancestral waters in Washington State; however, more availability and access to funding is needed to provide access for debris removal in underserved communities. Increased access to the grant funding by Tribes and underserved communities could be created by:
- Eliminating all match requirements.
 - Simplifying and providing support through the grant application process.
 - Studying what can be done for communities to help them access grant funding.
- J. *Support Programs that Reduce the Negative Impacts of Fishing Gear* – Fishing vessels based at Port of Seattle moorage facilities supply 13% of the total U.S. commercial fishing harvest by tonnage. It falls on the Port of Seattle to help facilitate the disposal of the nets and other gear from the industry and gear losses off the coast of Washington State endanger the environment, tourism, and the fishing industry itself. Washington is not unique in this challenge and a federal management and reporting system would ensure a level playing field across the industry.

Examples of programs include:

- A federal standardized fishing gear loss reporting system.
- Buy-back programs for end-of-life fishing gear, which would prevent abandonment of fishing gear and allow an opportunity for monetary compensation to residents.

- Cleanup incentive programs, which have been successful in Hawaii, Europe, and with programs like BoatU.S. Foundation's Reel In & Recycle program and Recast & Recycle contest.

Examples of programs that already exist include those in Washington State, the Great Lakes region, and Canada.

K. Target Microplastics for Prevent and Clean-up – Because microplastics are so small, wildlife often mistake microplastics for food. Fish, mussels, and even whales consume microplastics. Microplastics attract and carry pollutants in the water, as well as release chemicals into the water around them that were added to make the original plastic products they came from colorful or flexible. (NOAA) Microplastics can be targeted in several ways, including (appreciation for input provided by the Ocean Conservancy):

- Researching design changes and implementation of regulations to mandate collection of paint microplastics generated from sandblasting of steel infrastructure, including but not limited to marine vessels, buoys, and bridges.
 - Like other major coastal or port cities, Seattle has significant steel infrastructure and maritime vessels that require cleaning for maintenance. Over the last few years, we've learned that paint chips from these types of infrastructure are a major contributor to the microplastic pollution problem and tackling that problem will require further research to identify solutions and interventions.
- Funding technological advances that collect or significantly reduce vehicle tire wear particle generation and could be broadly applied/adopted.
 - University of Washington researchers led the pioneering research that identified the chemical from tire wear pollution that was directly killing salmon in Washington rivers and streams. Salmon are important economically and culturally to the Pacific Northwest and protecting them from this pervasive threat will require increased research in green chemistry alternatives and remediation technologies to reduce tire wear pollution.
- Funding research to calculate and determine risk and impact thresholds of microplastics in different ecosystems (i.e., terrestrial, freshwater, marine) and for human health. These risk and impact thresholds could potentially be used to define impaired waters or critical habitat zones, inform and lead to Endangered Species Act or Marine Mammal Protection Act listings, and set human exposure thresholds (i.e., blood load level).
 - This data could be useful to Seattle and other public utilities and municipalities across the country as they consider potential water quality impacts of microplastics and increasing concerns relating to human exposures to microplastics.

3. **One mechanism for achieving a circular economy for plastics and packaging is through extended producer responsibility. As you know, EPR is widely supported by plastics manufacturers, product companies, and environmental groups. How could a federal EPR system support state and local waste management and zero-waste strategies?**

Susan Fife-Ferris' Response:

The financial burden to manage the solid waste that flows into and through the solid waste system currently falls on local municipalities and states, and the broader impacts of this solid waste are borne by the environment and human health.

Packaging and paper products represent a significant portion of the solid waste Seattle must manage. Seattle strongly supports a national framework for Extended Producer Responsibility (EPR) for packaging and paper products since it would help to hold producers responsible for their packaging and products and the waste they create. EPR would also help ensure producers provide adequate, ongoing, and stable financial support for the recycling industry, states, and local communities. Seattle believes that a federal EPR framework can serve as a policy solution to help states and local municipalities address waste and plastic pollution and help move the entire nation towards zero waste strategies.

Seattle has participated in both of WWF's Plastic Policy Summits held in 2023 and 2024, and agrees with the conclusions put forth in the *WWF Plastic Policy Summit – Domestic Solutions for a Global Problem Key Takeaways* published in May 2024. Under *Building Consensus for National Policy, Key Takeaways* include (page 20):

- *“A national Extended Producer Responsibility (EPR) policy or framework must be sensitive to regional differences. To be effectively implemented, national EPR will need to consider and account for regional differences and existing infrastructure in different states. Existing state-level EPR policies should not be dismantled, but a national EPR policy can provide harmonization. A regional approach to national EPR implementation will bring together states with similar waste management systems and create regional markets for recycled materials.*
- *Businesses will benefit from advocating for a national EPR policy or framework. Currently, industry has to comply with standards that are different in every state. A national EPR policy can provide standardization, where applicable and helpful, across the country. The supply of post-consumer recycled content will increase as the cost of these materials decreases. This will help businesses meet their sustainability goals, and it is critical for the private sector to show up and support efforts for a national EPR framework or policy.*
- *A national EPR policy or framework will allow for greater data collection and accountability measures. Funding collected from a national EPR system can be used to invest in new technologies to better gather waste management data. Products would be assigned a monetary value based on their recyclability, which would encourage innovative product design and increase corporate responsibility. These improvements will help fill existing data gaps and increase overall recycling rates.”*

4. Many state and local waste management systems across the country are struggling to cope with the deluge of plastic waste choking our households and environment. My bill, the REDUCE Act, would place a \$0.20 per pound fee on virgin plastic used for single-use plastic products. How can phasing out single-use plastics and reducing virgin plastic production benefit local waste management systems?

Susan Fife-Ferris' Response:

The plastic waste deluge is real and the pollution that can result is real. As noted by the EPA on its webpage [Impacts of Plastics Pollution](#):

“Plastic pollution has become ubiquitous in natural and built environments, raising concerns about potential harm to humans and nature alike. Once in the environment, [research shows that](#) plastic pollution is persistent and may take between 100 to 1,000 years or more to decompose, depending on environmental conditions.

Once in the environment, plastic pollution can fragment into smaller pieces of plastic. Microplastics are plastic particles ranging in size from five millimeters to one nanometer; nanoplastics are plastic particles smaller than one micrometer. Both are found in every ecosystem on the planet from the Antarctic tundra to tropical coral reefs.”

This plastics pollution results in harm to [humans](#) and the [environmental](#).

But where does all this plastics pollution come from?

In Seattle, plastics pollution comes primarily from single-use plastics and plastics packaging. The amount of plastic managed in Seattle's waste stream has increased exponentially in recent years. Seattle's city-controlled residential curbside recycling program now collects nearly four times as much plastic for recycling as it did when the program became a universal service for residents city-wide in 2000. Additionally, the amount of plastic being disposed of in the garbage has also increased substantially.

Figure 1

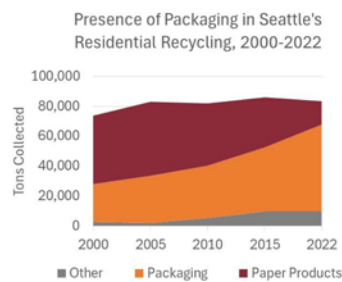
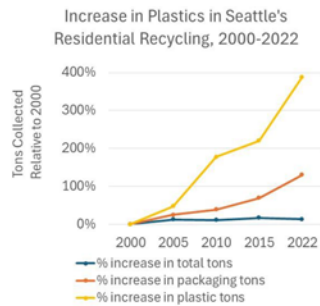


Figure 2



In 1989, when our curbside recycling program started, the vast majority of what was collected were paper products (e.g., newspapers, magazines, office paper, bills, phone books). *Figure 1 above.*

Even when Seattle launched commingled recycling curbside collection city-wide in 2000 and started accepting a wide range of packaging in our program, including plastics, paper products still made up nearly two-thirds of the tons we collected, and packaging only represented about 1/3 of tons.

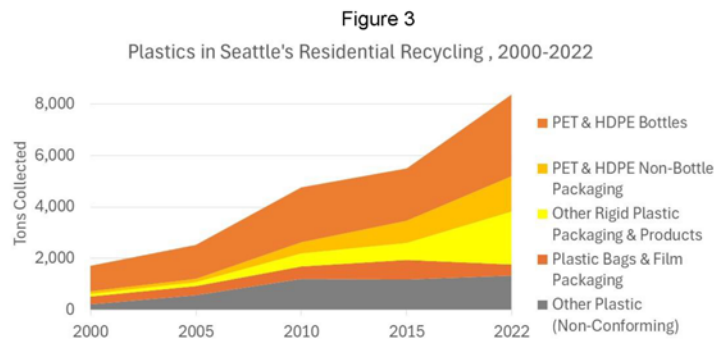
Today, 70% of what Seattle collects is packaging. And plastic packaging, which has been part of Seattle's program since the beginning of our recycling program, has changed so much and become so problematic and challenging, especially in the past 10-15 years, that Seattle is looking for levers to encourage successful diversion and capture to ensure these post-consumer plastic materials replace virgin plastics as feedstock and make it into new packaging or products.

Looking at *Figure 2 above*, note that while overall tons collected for recycling hasn't changed much in the past 22 years (blue line at bottom of chart), the amount of plastic Seattle is collecting has increased 388% since 2000.

We need to ensure there is demand for this post-consumer recycled plastic material. Reducing subsidies to or placing a fee on virgin materials, such as petrochemical feedstocks, would help these post-consumer recycled plastics compete with their virgin counterparts.

In addition, supporting plastic recyclers through incentives and tax credits in the same way the government has supported renewable energy providers would be beneficial. Decades ago, renewable energy was a small fraction of our country's electricity portfolio. Now more money is invested in renewables than in fossil fuel electricity. That same approach will support the plastics recycling industry.

On top of the massive growth in the amount of plastic in Seattle's recycling system, there has also been a huge increase in the types of plastic on the market and, as a result, in the recycling stream. See *Figure 3 below.*



However, Seattle has not changed our acceptance criteria around rigid plastics substantially during this time. Seattle's program has been, since 2000, broadly accepting of rigid plastic containers. What has changed is how much and what types of plastics are being sold to our customers.

And while the supply of plastics has exploded and flooded Seattle's solid waste system, our program has not been able to keep up in terms of ensuring that the plastics materials being collected and sent into the recycling system are being diverted in ways that both deliver cost savings for our rate payers and deliver on the promise of human health and environmental benefits.

Seattle understands that we cannot recycle our way out of the overproduction of single-use plastics. We have been trying to reduce the on-slot of single-use plastics by banning some, encouraging reusables, and moving upstream to find opportunities to prevent the need. But we also know from our long-running experience reducing water consumption that economic incentives can be highly effective for driving significant market changes and lowering consumption in response to pricing.

Senator Boozman:

1. Several states – including your home state of Washington – have adopted recycled content mandates, establishing timelines in which producer companies must achieve set percentages of recycled content use within their product packaging. The use of post-consumer recycled content in food contact applications often involves acquiring a letter of no objection (LNOs) from the Food & Drug Administration, a process relied upon to ensure the protection of consumer safety. The increased demand for recycled content in product packaging has led to a drastic uptick in requests to the FDA for LNOs. This has resulted in bottlenecks and clear resource deficiencies within the FDA preventing timely review of LNOs – ultimately delaying industry’s ability to implement these sustainable packaging solutions. With the increased demand for recycled content spurred by state mandates, how can congressional review of the FDA’s capabilities and resources for ensuring timely review of LNO submissions support the adoption of sustainable packaging while protecting consumer safety?

Susan Fife-Ferris' Response:

Seattle is not directly involved in overseeing implementation of the recycled content requirements adopted in Washington State. However, we have heard from industry contacts that lack of sufficient resources at the FDA has created a bottleneck that is impeding expansion of production of post-consumer recycled content approved for use in food contact applications, which makes meeting state-mandated recycled content requirements for certain product categories challenging.

Seattle believes this is an ideal area for Congress to provide explicit direction and resources to the FDA to prioritize and complete timely reviews of LNO submissions for recycled content.

In addition, Seattle understands that the guidance provided by the FDA for industry on how to prepare LNO submissions has not been substantively updated since 2006, though the online document has a July 2021 date. Congress should provide explicit direction and funding to update this guidance to reflect current recycling technologies and practices.

An important consideration related to food packaging that is necessary to protect human health and recycling and composting infrastructure, is to prohibit the use of Per- and Polyfluoroalkyl Substances (PFAS) in food contact materials. The FDA continues to research and provide updates on PFAS as we learn more about its presence in our food supply.

Senator CARPER. Thank you very, very much for that.

Now, we are going to hear from Mr. Marshall. Mr. Marshall, we are looking forward to your testimony. Thanks for joining us. Welcome. You are recognized; please proceed.

**STATEMENT OF CODY MARSHALL, CHIEF SYSTEM
OPTIMIZATION OFFICER, THE RECYCLING PARTNERSHIP**

Mr. MARSHALL. Thank you, Chairman Carper, Ranking Member Capito, and members of the committee, thank you for the opportunity to testify on the importance of community grants to advance circularity, especially the Solid Waste Infrastructure Grant Program, or SWIFR.

My name is Cody Marshall, and I serve as the Chief System Optimization Officer for the Recycling Partnership, a purpose-driven organization that has a singular mission: to build a better recycling system. I have the distinct honor to lead a team that makes grants to communities across the United States to optimize and modernize recycling infrastructure and increase participation in recycling programs.

My introduction to the recycling industry was as a college student in rural Ohio, driving a truck collecting recyclables from campus.

I made recycling my career 16 years ago in Orange County, North Carolina by taking on the challenge of managing their curbside and rural recycling programs. It was there that I witnessed the profound impact recycling can have on communities. Drawing from my experience in Orange County and consulting for various public sector entities, I recognized the pressing need for a coordinated improvement within the recycling system.

With that ambition in mind, I helped launch the Recycling Partnership. Over the past 10 years, we have worked closely with communities, public sector leaders, nonprofits, and the private sector to deliver real impact across more than 3,500 recycling programs, from major cities to small towns.

Public sector-private sector partnerships have been critical to reduce waste, build local economies, and strengthen our domestic supply chains. It is from this experience that I address this committee.

Last year, we had the privilege of working with the city of New Orleans to assist in developing their proposal for SWIFR funding. I am happy to report that because of this funding, the city will offer curbside recycling service to all 150,000 single family homes. Not only will this deliver real results, the SWIFR funding unlocked additional funding from the partnership, which was made possible from private sector dollars. The public-private partnership will ensure the SWIFR funding is an enduring investment providing new materials for years to come.

SWIFR funding is making possible an enormous impact in New Orleans and across the Country, but many more communities need assistance. I cannot express enough how important it is that we fund the SWIFR program in 2025. When communities receive grants like SWIFR, they can provide access to more residents, modernize recycling systems, and develop cleaner streams of materials. Grants have impacts long beyond their initial phase.

Equally as important are the resources needed to build an equitable, efficient, and transparent recycling system across the United States. Thank you, Chairman Carper and Ranking Member Capito, for introducing two critical pieces of legislation, the Recycling and Composting Accountability Act and the Recycling Infrastructure and Accessibility Act. Both bills, when passed, will provide important data and resources needed to ensure our domestic recycling systems deliver on the promise of a circular economy.

There is a lot of work to be done to make recycling systems as effective and efficient as possible. This involves rethinking how materials are produced, how packages are designed, and what happens after products are consumed. It is for this reason the Recycling Partnership both insists on meaningful change across the recycling system and assists communities and companies in enacting such change. We know that good policy has an important role to play.

We are working with States across the Nation to advocate for and implement extended producer responsibility. By establishing a national framework for EPR, we will be able to provide the funding and resources needed to transform the way we use and rely on materials. In doing so, we will establish the supply infrastructure and the demand for recycled content necessary for a circular economy.

On behalf of the leadership at the Recycling Partnership, I can attest that we remain fully committed as a partner and a resource to Congress, our private sector partners, and our communities to deliver a better recycling system.

Thank you for your time and your lasting commitment to the change Americans deserve.

[The prepared statement of Mr. Marshall follows:]

**Written Testimony of Cody Marshall,
Chief System Optimization Officer of The Recycling Partnership**

On

“Federal Programs for the Circular Economy”

**Before the
Senate Committee on Environment and Public Works**

May 22, 2024

Chairman Carper, Ranking Member Capito and Members of the Committee, thank you for your continued leadership advocating for and investing in the development of the circular economy across the United States. On behalf of The Recycling Partnership and our more than 100 partners, we appreciate your holding this hearing to evaluate how investments made by the federal government and private entities have catalyzed the circular economy.

At The Recycling Partnership (The Partnership), protecting our natural resources, building stronger communities, and honoring the commitment of everyone who wants to recycle is at the heart of everything we do. Our vision is a future where the burden of waste has been transformed into a beneficial resource. This vision can only be achieved when reduction, reuse, and recycling work together. Whether we are rolling out new recycling carts in Broken Arrow, Oklahoma, improving the quality of recyclables in Smyrna, Delaware, or investing in state-of-the-art processing technologies across the state of Michigan, The Partnership brings together people and resources toward a singular mission to build a better recycling system.

The Solid Waste Infrastructure for Recycling (SWIFR) Grant Program has and continues to support communities of all sizes across the nation. The Recycling and Composting Accountability Act and Recycling Infrastructure and Accessibility Act, passed by this Committee, will greatly increase access and transparency to recycling. Investments such as these enable The Partnership to deliver tangible impact for our communities by reducing litter and creating jobs. These investments also advance the circular economy by ensuring end markets are ready to accept quality recyclables, reducing the need for virgin materials.

My introduction to the recycling industry was as a college student in rural Ohio, driving a truck and collecting recyclables from campus. I made recycling my career 16 years ago in Orange County, North Carolina by taking on the challenge of managing their curbside and rural recycling drop off programs. It was there that I witnessed the profound impact recycling can have on communities. Drawing from my experiences in Orange County and consulting for various public sector entities, I recognized a pressing need for coordinated improvement within our recycling system. With that ambition in mind, I was part of the team that launched The Recycling Partnership with the dream of a system that builds positive results for people, the environment, and businesses.

Presently I serve as Chief System Optimization Officer where I oversee a portfolio of grantmaking to communities across the United States. Grants are more than just financial allocations; they are catalysts for change at the grassroots level. Through our experience, we've witnessed how funding for city and county programs can spark significant transformation within communities, boosting the circular economy. By placing emphasis on these grants, we give localities the means to deploy tested solutions and realize the positive potential of their programs.

Now in our 10th year, our collective efforts, many of which have been made possible through investments like those made by this Committee, have resulted in the capture of more than 1 billion pounds of new recyclables, avoiding over 1 million metric tons of greenhouse gas emissions. Our community cart grant program has provided 1.74 million recycling carts, making it possible for more Americans to have access to recycling in their home. Our free resident education and engagement resources have supported more than 3,500 recycling programs nationwide. Just last week we awarded our 100th recycling facility grant to RecyclingWorks in Elkhart, Indiana. With this grant they will advance their infrastructure so they can effectively sort and sell the material from packages like yogurt containers and butter tubs that their residents are now be able to recycle. This fall we are set to announce delivery of the 2 millionth recycling cart made possible by our grantmaking.

While we are inspired by this meaningful impact, we must commit to significant year-over-year investments in both infrastructure improvements and ongoing maintenance and operations. For decades, the burden of improving recycling infrastructure has landed squarely upon the shoulders of local governments and local taxpayers. According to our estimates, at least \$17 billion of capital investment is needed to strengthen and innovate the recycling system and more than \$17 billion a year is needed to fund the operating costs of the domestic recycling system. This can only be achieved through sensible public policies that will galvanize investment from the private sector, provide grants to communities, tribes, and local governments, incentivize use of domestic recycled content in domestic manufacturing, and kickstart the transition to a circular economy that is transparent and accountable in terms of environmental benefit and human health.

SWIFR Grants: A New Orleans Story

Local governments face tight budgets and are often forced to prioritize competing public services such as firefighters, water, and education over recycling systems. It is imperative that cities and counties possess the capacity and resources to pursue such federal support, and The Recycling Partnership is committed to aiding municipalities nationwide in this effort.

Today, our national recycling system continues to operate with insufficient funding, resulting in just 21% of recyclable material being captured and a staggering under-recycling of all materials. Our data shows that 76% of recyclables are lost at the household level, emphasizing the critical need to ensure all households have access to recycling services and are effectively educated and engaged on how to recycle locally.

Louisiana's experience mirrors that of the broader U.S. – a recycling landscape that holds vast potential, yet significant recyclable material remains uncollected and untapped due to underfunded community recycling initiatives.¹ Federal funding, notably the SWIFR program, plays a pivotal role in delivering critical resources to states like Louisiana to bridge this resource gap and demonstrate the potential of a more fully funded recycling system.

In late 2022, The Recycling Partnership provided the City of New Orleans a \$404,000 grant, aimed at revitalizing recycling services disrupted by the aftermath of Hurricane Ida in 2021. However, our initial grant was insufficient to meet the opportunity that exists in New Orleans. SWIFR funding is an instrumental funding apparatus that will continue to advance the city's waste diversion strategies. Together with city officials, we developed a SWIFR grant application for New Orleans, facilitating their preliminary award approval in September 2023.

The SWIFR grant is a public-private partnership exemplar. The City of New Orleans is finalizing a \$3.9 million contract for SWIFR funds and will receive complementary \$1.57 million funding provided by The Partnership. Together these funds will enable execution of a comprehensive 10-year waste diversion strategy, which will include phasing out the current opt-in program in favor of implementing a city-wide, equitable recycling initiative. Every single-family household will receive a recycling cart and comprehensive education, made possible through EPA support.

As a result of the SWIFR program, the City of New Orleans will serve as a model of how federal and private funding can drive transformative change at the community level by eliminating barriers to participation, serving as a replicable and scalable model for other communities across the United States.

While SWIFR funding is a critical first step to begin to address the challenges the system faces, more needs to be done to develop and sustain the local recycling economy. In the first round of SWIFR funding, 318 communities applied. EPA was able to fund 25 of those projects.

Why is Recycling Important?

Every year, over 46 million tons of recyclable packaging and paper materials pass through American households; yet, 79% of these valuable resources end up in landfills or incinerators. Those 46 million tons could be going into a strengthened recycling system and becoming the feedstock for domestic manufacturing, resulting in less energy use and an increase in natural resource protection.

¹ Louisiana residents generate roughly 681,000 tons of recyclables annually, representing a market value of roughly \$64.6 million. However, we estimate that a total of 626,000 tons of residential recyclables are currently being landfilled instead of recycled. Learn more in our [State of Louisiana Residential Recycling Access and Infrastructure Report](#).



Figure 1. State-by-State Residential Recyclable Material Lost from the [State of Residential Recycling Report](#).

Still, the will of and commitment to recycling by the American people has never been stronger. Eight out of ten people in the United States believe in recycling's positive impact and want to be able to recycle more. That's why The Recycling Partnership is on a mission to build a better recycling system so that everyone who wants to recycle can recycle.

Recycling is an important part of the American economy, and integral to national efforts to keep waste and pollution out of natural environments. Recycling programs reduce the amount of material sent to landfills and incinerators, reducing the direct environmental burden of these practices. Use of recycled content in manufacturing products requires less energy overall thus having a myriad of benefits to the environment and towards domestic resiliency. Waste disposal sites are often sited in overburdened communities who face detrimental health impacts from pollution and emissions. Effective recycling systems offer a lifeline, diminishing the impact on these overburdened neighborhoods and safeguarding both human health and environmental well-being.

The growing American recycling economy is a smart investment in American jobs. In 2020, the EPA estimated that the recycling economy generated \$37.8 billion in wages. As investment into recycling infrastructure increases through existing Extended Producer Responsibility (EPR) policies and the Infrastructure Investment and Jobs Act, the recycling economy is expected to continue to grow. As recycling systems scale with SWIFR grants and other resources, there will be an increased supply of domestic recycled content for new goods and products, reducing our reliance on virgin materials.

It's time to recognize the vital role recycling plays in our communities' well-being and sustainably allocate necessary resources.

What Makes a Productive Recycling System?

When Americans think of recycling, they often think of it as a simple act they do when they've finished drinking a bottle of water or opened a can of soup. But recycling goes beyond the bin – involving many different stages and decision makers.

The fate of a material can be first determined before it ever leaves a manufacturer's doors – at the design stage. In addition to material producers, brands and retailers play a key role in designing packaging to be reused and recycled. These goods end up in the hands of everyday Americans, who may or may not put the items into a recycling bin. Materials are then typically collected by local government recycling programs and brought to a sortation facility where they are baled and shipped to paper mills, plastic re-processors, metal smelters, and glass furnaces to be converted into feedstock for manufacturing new products such as boxes, bottles, cans, and durable goods. This journey is part of the critical feedstock that feeds the American manufacturing industry. Each one of these stages is critical to ensure an uninterrupted, circular flow of materials in our economy and in the environment. For the United States residential recycling system to function effectively, five requirements must be met:

- **100% of packaging needs to be recyclable.** The packaging that enters the system must be recyclable; and we need clear, harmonized, and transparent standards as to what makes a package recyclable.
- **100% of households need access to recycling from their home.** Everyone can dispose of trash, but not every household has access to recycling. For those with access, some locations do not collect all packaging types thus limiting the amount of recyclable material collected.
- **Residents need to fully engage in recycling.** Recyclable material is lost because some households with access do not receive sufficient communication to help them use their recycling service and recycle all their recyclables. In an effective system at least 90% of households should participate.
- **Recycling facilities need to effectively process the material.** Once collected from households, recycling facilities need adequate technology and infrastructure to sort and process different material types.
- **Recycling facilities need sufficient and commercially viable regional markets.** After recycling facilities sort the various material types, they must be able to sell these recycled commodities. Sufficient end markets for these materials are key to an efficient recycling system.

This broader ambition for recycling illustrates the importance of each requirement to ensure our recycling system functions effectively for our communities. Federal funding, such as SWIFR and Recycling Education and Outreach (REO) grants, is a critical lifeline to local governments. SWIFR

has served as an important catalyst for additional private sector funding and provided immediate support to help communities realize the benefits of a productive system.

Community level investments solve a major gap for local governments, allowing them to upgrade local recycling programs. Grantmaking is a key interim strategy as we shift towards funding the system through private investment brought on by passage of EPR.

However, the SWIFR program and complementary funding provided by The Partnership cannot serve as the only source of revenue to address gaps. Smart policies such as EPR and other producer responsibility policies are required to stabilize and grow the domestic recycling economy, providing more robust funding through private sector investment and delivery of a commercially viable end market for recycled paper and packaging.

Recycling and Composting Accountability Act & Recycling Infrastructure and Accessibility Act

The Recycling and Composting Accountability Act (S.1194/HR 4040) and Recycling Infrastructure and Accessibility Act (S.1189/HR 6159) are two important pieces of legislation that would ensure that federal and private funding are used responsibly and effectively. The Recycling Partnership appreciates the dedication of this Committee to advancing both bills in a bipartisan manner and supports passage of both bills into law.

The Recycling and Composting Accountability Act (RCAA) would audit the nation's access to recycling and composting systems. By better understanding how and if communities can access these vital services, funding can be better targeted to communities in need. In our 2024 State of Recycling Report, while we find that 73% of households have access to recycling collection on par with their trash service, access varies greatly state by state and we continue to lose over 35 million tons of recyclables at the household level. The database and collection of best practices called for in the legislation could be used to help target resources where they're most needed.

The Recycling Infrastructure and Accessibility Act (RIAA) builds on the SWIFR grants and the work of The Partnership to bring needed infrastructure funding to rural and underserved communities. Access to recycling varies greatly across the United States and small and rural communities are often left behind. RIAA would help to fix this problem by offering funding for transfer stations, curbside collection and expanding the opportunity to establish public-private partnerships in communities. The RIAA would de-risk the investment needed in these communities and open new pathways for communities to participate in recycling.

Beyond the MRF

Funding that increases access to recycling and helps improve and modernize underperforming recycling infrastructure is critical to being able to deliver on the promise of the circular economy. However, we cannot overlook the importance of continuing to insist that producers design packaging for recyclability, and democratizing access to data on local recycling capabilities.

It is for these reasons that The Partnership has gone beyond the Materials Recovery Facility (MRF) by developing tools including the Circular Packaging Assessment Tool, a national database on the more than 9,000 recycling programs across the US, and Recycle Check that provides everyday people easy to access information on what can be recycled locally.

State and national policies will extend the work that programs such as SWIFR have begun. It is for this reason that The Partnership supports the implementation of state-level EPR policies and are public supporters of a national EPR policy framework. Together with voluntary investments such as those provided by The Partnership and through the SWIFR program, EPR policy will harness new investment from producer fees, catalyzing the change we need to deliver the recycling system Americans want and deserve.

Let's Get to Work

We appreciate Congress for funding the SWIFR grants and this Committee for working to ensure these grants are productive, funded and deployed. We encourage Congress to fully fund the program again in FY25 Appropriations and we look forward to working with the Environmental Protection Agency to implement these programs.

Senate Committee on Environment and Public Works
Hearing Entitled “Federal Programs for the Circular Economy: State and Local Perspectives
on Efforts to Improve Reuse and Recycling”
May 22, 2024
Questions for the Record for Cody Marshall

Chairman Carper:

- 1. In your view, how could the federal government help reduce consumer confusion over labels on packaging that are designed to inform consumers on whether a good can be recycled or composted?**

Solving consumer confusion over labels on packaging is crucial to building a better recycling system. The Recycling Partnership’s research shows that 60% of consumers are confused about what and how to recycle, leading to many household recyclables, from cereal boxes to yogurt tubs, ending up in landfills or being incinerated. Additionally, this confusion causes many non-recyclables to contaminate the recycling stream, driving up costs and driving down efficiency. Through The Partnership’s work in more than 3,500 communities and at the national level, the importance of clear, trustworthy, and straightforward communication about recycling is apparent. To address this problem, state governments are establishing more transparent requirements for packaging labels and recyclability claims.

To address consumer confusion, Congress could pass legislation that promotes clear, data-driven, and harmonized recyclability labels across the country. Any federal labeling legislation must consider the balanced need to promote clear and consistent standards across the country while recognizing existing state requirements and the dynamic, localized nature of city and county recycling systems.

For the U.S. residential recycling system to function effectively, five requirements must be met: 1) recycling collection must be accessible, 2) products and packages must be properly designed for recyclability, 3) residents must be fully engaged through clear communication, 4) items must be effectively sorted, and 5) sufficient end markets must exist. Overlooking any of these elements can result in misleading claims and a loss of consumer trust. Currently the FTC advises recyclability claims, and the FTC’s definition of recyclable should address all five requirements. The Partnership is proud to have submitted to the FTC’s latest round of public comments and we hope the FTC uses the 10-year review to update the definition of recyclable.

Development of innovative tools and data-driven solutions to support meeting current recyclability labeling policy requirements is already underway. Two examples include The Recycling Partnership’s Circular Packaging Assessment Tool, a national database on the more than 9,000 recycling programs across the US, and Recycle Check, a platform that provides everyday people easy to access information on what can be recycled locally.

- 2. Many states and communities offer local grant programs to improve solid waste management. For example, North Carolina has a grant program to support local**

businesses, and Seattle has recently awarded a grant to establish a marketplace to rent gear for outdoor activities, like tents for camping. Are there any state or local grant programs that The Recycling Partnership has worked with?

a. Please describe any successes that you have observed from these programs.

The Recycling Partnership has had the privilege of collaborating with numerous state agencies and departments over the past decade. As a trusted partner across the recycling system, we are often engaged with state agencies and departments because of our ability to be both expedient and agile with funding as well as our knowledge of best management practices from around the country. Please find a few noteworthy highlights from our work:

1. Michigan:

Since 2019, The Recycling Partnership has partnered with the Michigan Department of Environment, Great Lakes and Energy (EGLE) to implement recycling quality improvement grant programs aimed at reducing recycling contamination in Michigan communities. With \$4.3 million in funding, over 200 Michigan communities have been involved in this initiative. Key outcomes include an average contamination reduction of 35% for curbside collection and 26% for participating drop-off programs during the first phase. The second phase saw a 27% increase in participation with the third phase currently being rolled out based on these successes.

2. Delaware:

In 2023, The Recycling Partnership worked with the Delaware Solid Waste Authority to improve recycling participation and capture of quality recycling materials in Smyrna and Open Market Routes (OMR), which serve areas outside of local recycling programs. With \$79,000 in funding, this project achieved a 78% reduction in contamination in Smyrna, and the implementation of "No Trash" tags significantly minimized waste in recycling carts. These successful outcomes are instrumental for ongoing educational and outreach initiatives in other communities.

3. Ohio:

Since 2017, The Recycling Partnership has collaborated with the Ohio Environmental Protective Agency (EPA) on four initiatives aimed at improving the state's recycling system. A 2021 project focused on curbside recycling outreach across six cities, impacted 155,000 households and achieved a significant reduction in contamination – nearly 50% in some cities during the project period. In 2023, an Ohio EPA grant program provided \$300,000, which was matched to extend the project's funding to \$410,000. This enabled The Partnership to deliver grants to three localities, resulting in an average contamination reduction of 24%.

In addition to these state-specific successes, as of May 2024, The Recycling Partnership has awarded 336 grants to support local recycling programs, totaling nearly \$41 million

and impacting nearly 690 communities. Over 110 grants have been awarded to recycling processors, contributing over \$25 million to infrastructure improvements.

We continue to see the critical need for grants to support the development of recycling markets, which are essential for strengthening the recycling system. Several state agencies have supported domestic recycling market development, and federal funding to states for these activities can play a crucial role.

Furthermore, post-consumer recycled content mandates and incentives are important tools to ensure that materials entering the recycling system are turned into new products, reducing the need for natural resources and realizing the environmental and economic benefits of domestic recycling supply chains. Eighty-two percent of U.S. consumers feel misled if recycling is implied in a claim but is inaccurate because an item is not recycled into something new. Connecting processing to end markets and demand for recycled material is necessary to increase the current 21% recycling rate.

3. I believe that in order to continue to build towards the vision of a circular economy, stakeholders at all levels of government, nonprofits, and the private sector must have a seat at the table to share ideas. How are you collaborating with a wide variety of stakeholders to improve recycling and reuse efforts?

The Recycling Partnership's mission is to build a better recycling system, one that delivers the economic and environmental benefits our communities and the hundreds of thousands of people who work throughout the recycling industry deserve. To carry out this mission, we partner with communities, companies at different points along the supply chain, and policymakers to enact meaningful change across the recycling system.

Communities: The Recycling Partnership mobilizes investment to support local communities in modernizing facilities and expanding access to recycling. We offer grant opportunities, technical assistance, and educational support to communities to improve recycling access, collections, operations, and processing. To date, The Recycling Partnership has made possible through grants the delivery of 1.74 million recycling carts that are critical to resident participation in recycling. We have also supported more than 3,500 local recycling programs nationwide with free resident education and engagement resources. In addition, The Recycling Partnership provides grants to local recycling professionals to attend national conferences, which can be cost-prohibitive due to local government funding constraints but also extremely informative to share and learn best management practices. We also serve as a convener – hosting events like the 50 Cities Leadership Summit and State Recycling Leaders Quarterly Webinars. This fall we are hosting our inaugural summit: The Pivot: Scale to Impact that will see hundreds of local community leaders come together for three days of learning. These gatherings bring together key practitioners and decision-makers from across the recycling supply chain and the country to build strong connections and share solutions.

Companies: The Recycling Partnership both insists on meaningful change across the recycling system and assists communities, companies, and policymakers in enacting such change. Recognizing that the same companies who contribute to the challenges of the

global waste crisis need to contribute to the solution, The Recycling Partnership leans in with its corporate funding partners to incubate and deploy solutions that address critical gaps in recycling. This includes but is not limited to deployment of voluntary investment in the form of grants to local recycling facilities. One example is The Recycling Partnership’s material-specific Coalitions, which harness the power of collective action by bringing together brands that are committed to increasing the recycling of key materials. The Polypropylene Recycling Coalition has granted \$14.5 million to recycling facilities to support new and improved sortation, rolled out recycling education to 58 million Americans, and captured 57 million new pounds of polypropylene for processing in growing domestic markets. In just two years, key polypropylene formats transitioned from a “Check Locally” label designation to “Widely Recyclable” due to the Coalition’s efforts.

Policymakers: The Recycling Partnership works across all levels of government to advocate for the accelerated adoption and implementation of effective state and national policies that ensure sustainable funding for paper and packaging recycling. We advance smart, well-designed recycling policy solutions that address the systemic needs of our residential recycling system and advance a circular economy. The Recycling Partnership’s Policy Accelerator brings forward-thinking public and private partners together to support policy through advocacy work, consensus-building, and open dialogue backed by expert guidance and real-world experience. Where policies have passed, The Recycling Partnership supports their successful implementation, specifically Extended Producer Responsibility (EPR), through collaboration with companies and government agencies.

NGOs: The Recycling Partnership collaborates with a diverse range of NGOs and community-based organizations to advocate for and support a strengthened recycling system. These groups are crucial for understanding the perspectives of different voices on how recycling can benefit local communities.

In the fall of 2023, The Recycling Partnership hosted a series of behavior change webinars, reaching over 1,000 recycling leaders, which solidified a need for an in-person workshop to dig deeper into behavior change. This innovative workshop, *Unlocking Recycling’s Potential: A Workshop on Behavior Change, Habits, and Equity*, took place in February 2024 in Palo Alto, California, with over 120 participants joining The Partnership as we disseminated behavior change learnings and best management practices, equipping leaders with implementation support to elevate their local programs.

Further, we have funded local community NGOs like Live Thrive to establish a new drop-off location in the Atlanta Metro area and expand multifamily recycling access throughout the city. Funding, as well as partnering with non-profit recycling facilities, is an important part of our approach to improve the capture of material.

4. **In your opinion, what actions should the Environmental Protection Agency take to make it easier for rural and disadvantaged communities to access and apply for the Solid Waste Infrastructure for Recycling grants?**

The American commitment to recycling has never been stronger, with eight of ten people in the United States believing in its positive impact. Regardless of where they live, people want to be able to recycle more. We have an obligation to honor the everyday person who remains committed to recycling and the hundreds of thousands of individuals who work across the US in the domestic recycling system. The rural and disadvantaged communities that stand to benefit the most from the Solid Waste Infrastructure for Recycling (SWIFR) grants are often the least equipped to apply for such grants. Therefore, it is important to dedicate time and resources to encourage these communities to apply for funding and to support them throughout the application and deployment process. The Environmental Protection Agency (EPA) could take several supportive actions, including:

- a. Establishing a list of organizations qualified to assist communities in applying for EPA funding.
- b. Compiling resources to help with the application process for SWIFR funding.
- c. Continuing to allow SWIFR to include funding for staff time for compliance, tracking, and execution of projects.

The Recycling Partnership is honored to have played a supportive role in encouraging states and communities to take advantage of SWIFR grant opportunities and in assisting several communities in applying for grants. Our work gave us a front row seat to the very real resource challenges communities face when trying to complete the application process. We also experienced first-hand the power of this funding to ignite creative solution building. We welcome the conversation on how to better support rural and disadvantaged communities in accessing such funding and stand ready to contribute organizational expertise and resources as appropriate.

5. What are the top one or two legislative actions that Congress should consider to help our nation move towards a truly circular economy?

The Recycling Partnership advocates for comprehensive state and national Extended Producer Responsibility policies for all paper and product packaging materials.

Extended Producer Responsibility (EPR) policies are among the most effective tools to improve the U.S. recycling system. The world is facing a triple planetary crisis of climate change, biodiversity loss, and pollution, all of which are affected by natural resource extraction and unnecessarily discarded paper and packaging. Smart, well-designed EPR policies address the gaps in the nation's residential recycling, working to ensure everyone can and does recycle. These policies create a system where companies producing the products we buy take financial and environmental responsibility for making sure those products and packaging are recyclable and recycled. The Recycling Partnership's work on the ground demonstrates the available solutions and measurable progress that can be scaled with a well-designed EPR policy.

Successful EPR models are already being implemented at the state level. In the last three years, Maine, Colorado, Oregon, California, and Minnesota have all passed EPR

legislation for product packaging. The projected impact for these states is noteworthy – Maine, Colorado, Oregon, California, and Minnesota alone are projected to recycle a combined additional 2.8 million tons of material annually because of EPR. States are leading the way to understand how to implement effective EPR, and these lessons can inform a national model that creates positive results for businesses, communities and our environment. As more states pass and implement EPR laws, national guidance will be necessary to create consistent outcomes across the nation. States are leading the way to understand how to implement effective EPR, and these lessons can inform a national model that creates positive results for businesses, communities and our environment.

The Recycling Partnership advocates for Post-Consumer Recycled Content Mandates as a key aspect of ensuring that collected and sorted recyclable materials are turned back into new products, thus reducing natural resource extraction and building the resilience of domestic supply chains. PCR Content Mandates are at times embedded into EPR legislation or sometimes as standalones. Nine states and the District of Columbia have passed PCR mandates and there is momentum in more.

Senator Whitehouse:

- 1. As you know, the SWIFR Grant Program was created as part of my and Senator Sullivan’s Save Our Seas 2.0 Act. What types of programs do you think would be most beneficial in a Save Our Seas 3.0 bill?**

Thank you to Senator Whitehouse and Senator Sullivan for leading the way on Save Our Seas 1.0 and 2.0. The Recycling Partnership is eager to work with both offices to advance Save Our Seas 3.0. Including the Solid Waste Infrastructure for Recycling (SWIFR) in Save Our Seas 2.0 showcased how government funding can help kickstart local action, as highlighted in our opening statement and throughout our testimony. Seed funding for innovative projects delivers measurable and meaningful economic returns for local communities and demonstrates tangible action toward reducing materials pollution, including marine debris. Due to the direction provided in Save Our Seas 1.0 and 2.0, the United States is also working with international partners to address marine debris. Save Our Seas 3.0 can build on and accelerate international progress while furthering national progress by continuing to fund the SWIFR program and providing resources to communities to apply for grants. Communities often don’t have the resources to apply for and comply with grants from the federal government. SOS 3.0 could establish an EPA-administered list of approved organizations that can help communities apply for and comply with reporting requirements for SWIFR grants. This would ease the burden on communities and centralize existing knowledge. In partnership, EPA and the accredited organizations could track and report on granting progress and impact.

There is also an opportunity to provide direction for a national Extended Producer Responsibility (EPR) framework for paper and product packaging by conducting a national needs assessment. In state-level EPR systems, need assessments are conducted to establish a baseline level of access, recycling, reuse, and reduction practices. A national needs assessment could inform a national EPR framework by understanding these practices, access, capabilities, and gaps at a national level. A national needs assessment

could also inform national investments needed to bring under-invested or under-developed recycling programs to scale.

Save Our Seas 3.0 could also explore the potential for a national post-consumer recycled content standard for materials. These standards would create domestic demand for recycled materials, further developing U.S. markets for recyclables and stimulating private investment in recycling systems.

- 2. One mechanism for achieving a circular economy for plastics and packaging is through extended producer responsibility. As you know, EPR is widely supported by plastics manufacturers, product companies, and environmental groups. How could a federal EPR system support state and local waste management and zero-waste strategies?**

Extended Producer Responsibility (EPR) policies are among the country's most effective tools to improve the U.S. recycling system, and well-designed EPR policies create positive results for our environment, communities, and domestic businesses. Cities and states are chronically underfunded and the demand for using recycled content is not where it should be. This holds communities back from reaching their zero waste goals. A national EPR framework would incentivize the use of recycled content, invest in recycling systems, and ensure that all Americans have access to recycling services. The assessment of producer fees in an EPR system incentivizes use of recyclable, reusable, or compostable packaging. By creating national consistency in formats and materials—and providing central funding mechanisms—communities could deploy their resources more efficiently. Importantly, no community would be left behind in our transition to a circular economy. Furthermore, EPR would help develop end markets for materials to be used again, ensuring that local and statewide recycling programs have commercially viable collection and recycling systems that do not rely on taxpayer funding. In the long run, a well-designed national EPR system could save communities and states money, fully utilize existing resources, and accelerate the transition of the paper and product packaging market to be fully recyclable, reusable, or compostable.

- 3. Many state and local waste management systems across the country are struggling to cope with the deluge of plastic waste choking our households and environment. My bill, the REDUCE Act, would place a \$0.20 per pound fee on virgin plastic used for single-use plastic products. How can phasing out single-use plastics and reducing virgin plastic production benefit local waste management systems?**

Due to current subsidies, the costs of producing and disposing of virgin materials, especially virgin plastic, are artificially low in comparison to the cost of recycled resin. Production and disposal practices do not fully account for the environmental and social damage associated with resource extraction or waste. In most of the United States today, the financial burden of responsibly managing materials at the end of their life falls to taxpayers and local governments. Environmentally preferable paper and product packaging materials containing postconsumer recycled content face market challenges when competing with disparately low-priced virgin alternatives and the low cost of

disposal in many areas of the United States and globally—a challenge often cited by various actors across the U.S. recycling system. This results in the market prioritizing lower cost over higher, and therefore virgin content over recycled content, even when it's proven that using recycled content promotes jobs, conserves natural resources, uses significantly less energy and reduces greenhouse gas emissions. As we deal with the triple planetary crisis associated with overconsumption—climate change, biodiversity loss, and pollution—we must reevaluate our reliance on artificially low-cost virgin materials and reimagine the incentives for production.

Legislation that promotes better accounting for the true costs of virgin materials production and disposal compared to recycled materials is one powerful tool in supporting and advancing a high-functioning circular economy for materials and packaging. The issue of plastic pollution carries unique challenges and impacts that demand dedicated policy solutions, many of which are currently being discussed in the ongoing negotiations for an international legally binding instrument on plastic pollution. While significant attention has and is placed on plastic pollution, America's waste problem extends to all paper and product packaging materials. In fact, every material is currently under-recycled and could benefit from safer and more sustainable production, better design, investments in collection and processing infrastructure, and responsible, commercially viable end markets. With ever-evolving product packaging, policy solutions must address systemic issues holistically for all materials while acknowledging the unique challenges and previous investments made by different material types. Such policy solutions could include extended producer responsibility, mandates for recycled content minimums, and harmonized design standards for recyclable and reusable packaging.

As we strive to create a level playing field for recycled content, we must also evaluate our ability to manage these materials. The recycling system is both underperforming and underfunded. To create a truly productive system that yields positive returns, we need to enable the system for success by ensuring that every package produced is recyclable and that our recycled products have an end market here in the United States. Recycling alone will not create a circular economy; we must reduce and reuse materials as well. Incentives and disincentives, like changes to the tax code, could be explored to change market dynamics and promote a circular economy.

Senator CARPER. Well, thank you for your time and for your commitment, from all of us to all of you. I mentioned earlier, Marshall University is in Huntington, West Virginia, as you know. They have had some great football teams, some of the best football teams in the Country, actually, over the years.

I am thinking about how we take the legislation that Senator Capito, Senator Boozman, and I and others have crafted and move through this committee and move it through the Senate, how we get it through the House and onto the President's desk. We have made great progress, but I will use a football analogy. We are inside the red zone, but the ball is not inside the end zone.

So, as we leave here today, we have to figure out how to get this ball into the end zone. I think we can. All politics is personal. As a friend of mine likes to say, we have to push every button to get this done. There is so much that is depending on it, so many jobs, so much good for our economy, just good in terms of climate change. It works in so many different ways that we got to get the job done.

My first question, really, would be to the entire panel. I want to focus on SWIFR grants. As I think you all have mentioned in your testimonies, EPA's SWIFR Grant Program has unlocked funding for unique waste management projects across our entire country. States, communities, and nongovernmental organizations have also awarded grants on their own for projects that bolster our Nation's recycling systems.

My question for each of you, would you each please share with us how these Federal investments will protect the environment, as well as contribute to the economy and job creation in communities across our Nation?

Mr. Marshall, I am going to ask you to respond first, and we will go to your right.

Mr. MARSHALL. Absolutely, thank you. As a granting organization, I can tell you that over the past 10 years of our existence, the money that we have invested in the system has resulted in the capture of more than a billion pounds of new recyclables, avoiding one million metric tons of greenhouse gas emissions, so SWIFR is going to be doing the same thing.

The recycling system, if resourced in the appropriate way that we believe needs to be resourced, it can result in a \$30 billion positive economic impact through job creation and private sector investment.

Senator CARPER. All right.

Ms. Fife-Ferris, did you agree with anything he has just said?

Ms. FIFE-FERRIS. Do I agree with it? Yes, I agree with it.

Senator CARPER. All right, go ahead, proceed please.

Ms. FIFE-FERRIS. Yes, thank you. We are very excited about the possibility of bringing a private company to actually fill a hole in what we determined was the gap in the circular economy for the salvage lumber in our area.

This will displace the need to actually take virgin lumber out of our forests. It will also create carbon sinks. This old lumber is actually old-growth forest, when you think about it. Anything before 1940 probably was harvested out of our old-growth forests, so these are carbon sinks, and it is so much better.

From an economic point of view, these are jobs. You have jobs for the people who are deconstructing the houses, and we are actually complementing the funds that we are getting from SWIFR to train more people to do that. There are jobs to transport the lumber. There are jobs to actually de-nail and process the lumber.

There are jobs to market it, and then there are jobs to sell it. Then there are the jobs for the actual rebuilding of new houses, so these all create opportunities for new jobs in this sector.

Then, beyond that, the money is being used in other areas and other arenas, like in Hawaii, they are going to be using it in the reuse arena, and I can talk about that at a later time.

Senator CARPER. Okay. Same question, Secretary Biser, please.

Ms. BISER. In addition to that, we have a local government, Durham County, who received a grant through SWIFR to update and reconstruct their convenience center in a disadvantaged community, so we are seeing some real impacts along those lines.

Just to talk about the State data aspect of it for a moment, I mentioned earlier recycling being an inherently local activity, and it is important that States have the capacity they need to support those programs to help them understand how they can optimize and make sure that they are reaching their residents and providing access.

Having the ability to invest in data, which is not something we often have, is going to be really critical, not just for my State, but for other States, understand what is in the waste stream, understand where material is being generated, where the infrastructure to collect that material is lacking.

We have some MRF deserts that we are trying to address, especially in the northeastern part of our State. The more we can learn about what is being generated there, which residents have access, which do not, we can help support our local governments to make sure that not only can they provide additional resources, but also, as we have a limited amount of grant funding as a State that we can give out, we want to make sure we are maximizing our rate of return on that and leveraging any kind of private investment we can, and data is going to enable us to do all of those things.

Senator CARPER. All right, thank you. Thank you each for your responses.

Senator Capito?

Senator CAPITO. Thank you, Mr. Chairman. As I mentioned in my opening statement, the absolutely critical role that the private sector can play in this as part of partnerships with governments, local, State, and Federal. In my legislation, we do prioritize trying to find funding for financially viable public-private partnerships.

You mentioned leveraging the private sector. Do you have a good example of where this is being done very well already in North Carolina and what kind of impacts that is having?

Ms. BISER. Sure. I can give you an example of Clear Path Recycling in North Carolina. They received a total of \$140,000 over three cycles from us in grants.

This is from State dollars, I will just reference, but this is a good example of, if we have more to invest, the type of experience we can have. It led to \$1.7 million private investment, so the \$140,000

leveraged \$1.7 million in that private investment and added 90 jobs to that facility.

Senator CAPITO. Is that one location?

Ms. BISER. One location, and it added 6,500 tons of added capacity to their operation. I will just say, in general, we have different grant programs, but one of the grant programs that is giving money directly to recycling businesses requires a match. What we end up seeing is a three-to-one match is what ends up happening in each of these situations, so we are leveraging a lot of private dollars by investing a little bit of State dollars.

Senator CAPITO. Mr. Marshall, do you have a good example for me on where those, I know you have members that are private and public, so the partnerships that are going on that you could recognize?

Mr. MARSHALL. Yes, absolutely. I think we are a great example of how the private sector is stepping up. Over the years, we have leveraged over \$200 million in private funding in these grant projects, but I would also like to note that what ends up happening is, the collection part of the recycling programs is the most expensive part of recycling.

That is often managed, always managed, by city and county governments, so when we fund and grant those programs, we are able to see that that supply is unlocked, and when that supply is unlocked through the granting programs, we almost always see the private sector coming in to invest in the local economy to use that material throughout the supply chain.

Senator CAPITO. I want to ask about rural America too, because, obviously, I live in a rural State. Every State has rural areas, and there are real problems with trying to have the sustainability of a recycling program. The local governments can not really afford them; there are education issues as to what can be recycled, how, when, and where.

There have been a lot of stops and starts in rural areas. I mean, I can speak for my own city. We have had programs, and then we have not had a program, and then we have a program, and then it is a limited program. It causes citizens to just sort of throw up their hands and kind of give up a little bit, where we do not want that.

What could you recommend, and I will go to you, Secretary Biser, because you have, obviously, a lot of rural in North Carolina. How can we do better with our role? We were introducing a spoke-and-hub kind of system that can help these rural communities have viable recycling programs.

Ms. BISER. Senator Capito, first of all, I appreciate your leadership in trying to get resources for hub-and-spoke systems. I think that is one of the primary methods that we look to. As Mr. Marshall noted, there is a lot of cost in the collection aspect of recycling, and this is an area where we can help local governments reduce some of their costs.

It can be very expensive to have somebody come pick up a load from a very small town that can not fill up the back of a tractor trailer load, but if you are able to have centralized locations to collect materials among a lot of smaller towns, they can pool their resources and better afford to have programs in place.

We know that recycling is hard to turn on and off like a faucet because then you create a lot of confusion and it reduces participation rates, so the more that we can find solutions like that that are infrastructure-based and other ways to help assist with the cost, I think the better we will be at recycling.

Senator CAPITO. Ms. Fife-Ferris, Seattle is obviously not a rural area, but you have probably seen areas in your State or that feed into your system, maybe, how does that, what improvements could we make there?

Ms. FIFE-FERRIS. We have actually been working at a State level on our, hopefully, getting extended producer responsibility that would then create funding for the rural areas. It is a big problem, and it is not an easy fix.

The hope would be that then we could have resources that could be invested in the rural areas in a stable manner to ensure that they have accessibility with the hub-and-spoke type of program, which drop-off, and other things. Those are approaches that were working at a State level, because we want to bring equity statewide with respect to recycling.

We are also working upstream trying to get products to be more consistent and recyclable, because regardless of whether you have access to recycling, if you do not have good products that are recyclable to put into the bin or drop-off and then you have markets that they are going to be sold into downstream, that also causes a hitch in making the recycling not possible, and that impacts rural communities even more than communities.

Senator CAPITO. Right, we are going to need more materials as we move toward, hopefully, this circular economy. That means rural America, every part of the Country, has to really play here effectively, because we know we have enough waste to do that. It is just getting it to the right place.

Let me just ask for a clarification here on extended producer responsibility. Let us take an example of a piece of clothing, maybe, or maybe food. You mentioned food. That would be that the producer of whatever that product is, and maybe food is not a good example, something that is more sustained, like a glass bottle. We will just use that. That means whoever produces the glass bottle would pay into a system.

Is that what it means to you, and then that money would then go to the localities to help with the recycling?

Ms. FIFE-FERRIS. In a typical producer responsibility, we are talking about packaging and paper products, usually, not clothing. Though, we have producer responsibilities for paint and medicine and all kinds of things.

Right now, we are working on what is the bulk in our recycling cart or in our garbage. Yes, it would depend on how you define producer, but it would be the person who puts it into your marketplace. The brand or the producer, it depends on who is putting it into your marketplace, and then they would pay a fee based on the volume of the numbers and then what that material is that they are using, how recyclable is it.

They use a term called eco-modulation where the cost of putting that product into the market will be determined by how easily recyclable that is, and captured for end markets.

Senator CAPITO. Are you doing this now? No? You are looking to do it?

Ms. FIFE-FERRIS. No, we are actually, but California and Oregon are setting up systems for it, as are Colorado and Maine. They are the four States that have passed producer responsibility programs. All different, but somewhat similar.

So, the money would go into a pot, and that money would be managed by a PRO, which is a producer responsibility organization that is actually made up of the private sector producers, and then they report to the State as a regulatory body.

There would be what we call rates and dates. In other words, they would try to have capture rates based on the different types of materials by a certain date, and they would use the funding to help set up programs to ensure that that happens statewide.

Senator CAPITO. Sounds like there is a lot to iron out there to figure that out, but I am not saying it is not worth it. I am sure it is, but there are a lot of details to figure out. Anyway, I appreciate that. Thank you, Mr. Chair.

Senator CARPER. Yes. Great questions.

Senator Sullivan, thanks for rejoining us. You are recognized. Thank you.

Senator SULLIVAN. Thank you, Mr. Chairman. I appreciate the witnesses testifying today.

As I mentioned in my remarks just a couple minutes ago here, Alaska, we are a resource-rich but infrastructure-poor State in terms of just everything. Roads, bridges, ports, harbors, telecommunications. Infrastructure poverty also extends to recycling infrastructure, particularly in our rural communities.

These SWIFR grants are good news. They are part of my and Senator Whitehouse's Save Our Seas 2.0 legislation and the Bipartisan Infrastructure Bill, as already mentioned. One thing that I have heard about, and I would like Ms. Biser and Mr. Marshall, maybe you can take a crack at this, that the process, in terms of funding, has been very slow.

Are there ways to streamline the EPA funding process to get these grants out faster and then maybe even simplify it, right? One thing that you do not want to have happen, and you guys are very familiar with how to write grants and everything, but for a lot of communities that is a big undertaking, just in and of itself.

You do not want the groups that are kind of the professionals at grant-writing to always get the grants. Streamlining getting the resources out more quickly, and then helping communities that maybe are not so experienced in this. Those are broad questions, but I would love your views on them.

Ms. BISER. Thank you, Senator Sullivan. I know Alaska has some particular challenges.

I do not believe there is a material recovery facility in your State. That can add to some of the challenges, so I am excited to see you all receiving funding. I believe that Alaska in undertaking a solid waste management plan with this funding, which is also a great step.

In terms of the EPA process, I know that this was a situation where they had to create a new grant program completely from scratch, so in working—

Senator SULLIVAN. Which is a good thing, but also a scary thing, right, depending on which way they go with it.

Ms. BISER. It can be challenging. I will tell you, we have worked closely with the office that has been building this program and understand that they have been working, I think, as quickly as they can, but still hear frustrations from folks who want to get funding out more quickly.

I will say, for the next round of funding, we are hearing that that could be potentially sometime in October, so we are anticipating having those opportunities again. I know that North Carolina looks to provide technical assistance to our communities to help as they are applying in this grant program, and then other programs under the IIJA. We will continue to do that.

The other area that we are receiving technical assistance and that EPA is providing across the Country is for the CPRG grants. That will be another potential area that we could take advantage of. That is a bigger pot of funding, especially aiming toward any kind of climate emission reductions, including food waste, so I know that our State is planning to take advantage of that as well.

We do appreciate the technical assistance. I will say that we tried to have patience with EPA since they were creating something brand new. That is always a challenge, and we will continue to work with them if we see opportunities to streamline.

Senator SULLIVAN. Good.

Mr. Marshall?

Mr. MARSHALL. Yes, it is a challenge to manage these types of granting programs. We have about 150 active grants at the Recycling Partnership, and I myself have about 30 people working on them, so it is critical to resource them because there are a lot of questions; you have to pay invoices.

The positive thing about this, we reimburse a lot. Upon award, action starts happening. I know money might not be flowing yet, but momentum is growing in these places that have been awarded, so there might be a positive way to look at this also, because they are excited that they received the award. They are looking for other money. They have contacted us for additional money to match the EPA dollars, so action is happening, even if money might not be flowing.

I really appreciate your bringing up that critical need to support these local governments to help write the grants. We supported a few communities that needed to write grants to apply for this money, and I think that would be a really critical step, to really have a robust system to help urban areas and the rural areas get applied.

You are right, people that would apply to this are also the arborists or the sheriff at their local government. They do not have time to write grants.

Senator SULLIVAN. Yes, or they do not have the experience.

Mr. MARSHALL. That is right.

Senator SULLIVAN. Let me end with just a followup question. I am kind of running out of time here.

Senator CARPER. No, you are not. You are not.

Senator SULLIVAN. Ms. Fife-Ferris, I understand you were a consultant in Alaska a number of years ago, and so you know these

challenges specifically with regard to rural communities, limited financial resources for communities that are trying to benefit from these kind of programs.

Maybe this is a question for all of you. I know, Mr. Marshall, you have also testified about the importance of public-private partnerships, the Feds, the State, the local governments can't, they can't do everything here, so how do we enhance that element of addressing this broader challenge, so maybe Ms. Fife-Ferris, if we can start with you?

Ms. FIFE-FERRIS. That is a tough question. To get the private industry—

Senator SULLIVAN. Also your experience with the rural communities in Alaska, in particular.

Ms. FIFE-FERRIS. Oh, my experience, yes. When I was working, I was working primarily in Juneau, and we were working on a landfill, and they had a waste-to-energy facility that the local government was looking at taking over, but I also consulted with up in Anchorage and Fairbanks.

Yes, you can not bury waste very easily when the ground is frozen. You do not have someplace to take it. You do not have roadways to haul your material out of your city. You have to barge it. We looked at barging recyclables down to California. We looked at barging recyclables to Hawaii, at one point.

It is really, really difficult, and so you have to look at the community. I think this is a great area where waste prevention, and using durables, getting rid of single-use plastics, looking at what is right for the community that you are in and not something that fits for Seattle is not necessarily going to fit for one of your small, rural communities on the coastline, but there are ways to do it.

Then, the materials that are coming into your area should be recyclable and easy to capture; then you can back haul them, you can back barge them. In other words, you are bringing up supplies up to the area, and then you back haul them on that same barge or thing. There are ways to work it out, but it is not an easy solution.

Senator SULLIVAN. Yes, and it is expensive.

Ms. FIFE-FERRIS. It is expensive. Producer responsibility, you make it, you manage it.

Senator SULLIVAN. Mr. Marshall, on the public-private partnership issue? I know you have testified on that before.

Mr. MARSHALL. Yes, absolutely. I think sharing the stories of public-private partnerships is critical in this space. That is one way to do it, so the Recycling Partnership actually received a grant from EPA Region Four to start 10 years ago, so that has really gotten our start, and now we are fully funded by the private sector to deliver funds.

I would also highlight that those stories and connections are really happening at the local level of what the Conference of Mayors. This has been a major subject for them every single year, and so I just think what you are highlighting is critical to really lean in and learn how to do it. We are trying to get in front of as many local governments as possible, so they understand how to access these dollars.

Senator SULLIVAN. Great, thank you. Thanks to the witnesses. Thank you, Mr. Chairman. I appreciate it.

Senator CARPER. You bet. I just want to acknowledge the good work that you and Sheldon Whitehouse, Senator Whitehouse, have done on Save Our Seas that is still bearing fruit.

Before I ask another question or two, I just want to say that I, my staff and I would be happy to work together with your folks and certainly with Senator Capito's team to ensure that EPA provides technical assistance to rural communities in Alaska and West Virginia and other places where they need it in this regard when they apply for grants.

Senator SULLIVAN. Thank you.

Senator CARPER. You bet. Okay. We have had some mention here today about methane, food waste, and that sort of thing.

I must say, we have a son that lives out in the Bay Area in California, and every now and then, we will go fly out and see him. We fly in an out of SFO, San Francisco Airport. You walk through that airport, and they have, you know, sometimes you go to airports, you are lucky to find a distinction between recycling bins and non-recycling bins.

In San Francisco, they basically have three bins, and they have them throughout the airport. They are color-coded. One of them is for recyclables, one is for just trash that is not recyclable, the other is food waste.

One of the things that they do in the Bay Area, they have businesses, pretty successful businesses, that take the food waste and, through a process I will not describe here, but they create a fuel for buses and for trucks and stuff like that. In adversity, lies opportunity, but they have got it right. I have been intrigued by their success and anxious for us to replicate that in Delaware and other States, as well.

In October 2023, this would be a question, I think, for Secretary Biser and Ms. Fife-Ferris, but in October of last year, the EPA published a report that found that nearly 60 percent of methane emissions from municipal solid waste landfills actually does come from food waste.

Earlier this year, we held, as some will recall, we held an EPW hearing that explored strategies to reduce methane, a greenhouse gas that is, I believe, over 80 times more potent than carbon dioxide as a greenhouse gas. One of the strategies that emerged as a solution at that hearing was waste diversion. My question, both for Secretary Biser and for Ms. Fife-Ferris, is: what efforts are currently underway in your State and your city to divert food waste from landfills?

Ms. FIFE-FERRIS. Within Seattle, food waste is banned from being put into our garbage, and it has been since 2015. We have extensive collection opportunities, both at the curbside and then out in the commercial sector. We have robust composting facility opportunities. We have facilities for processing the materials, which is critical.

At the State level, they just passed a law where they are going to be studying how to better move food waste out of the waste stream, and they are going to be mandating that collection opportunities be available statewide for organic materials, but also supporting the processing aspect. You can not collect it if you do not have someplace to haul it, to process it.

Food waste is a local type of, you have to do it within a reasonable distance from where you are doing it, and that is one way to move the food waste.

We also have an extensive food rescue program where we are working with our local grocery stores or large businesses have these big cafeterias or restaurants to help move the food out the back door that is edible to the food banks or the rescue organizations that can use that. We are actually entering into a grant program where we are going to be giving money to help come up with innovative ideas on transportation. We will be announcing the winners of those grants probably within the next month.

We have identified different ways, and then we also educate our residents on how, we call it love food, stop waste, and so we educate them on how to make better shopping decisions so that they are not throwing those strawberries out at the end of the week, and they actually eat them.

Senator CARPER. That is a great rundown. That is wonderful.

Same question, Secretary Biser, same question. What is going on in the Tar Heel State that you maybe want to mention to us with respect to diverting food waste from landfills?

Ms. BISER. We are, in addition to looking at data, as I mentioned earlier, we have been analyzing how much wasted food is being generated versus our commercial composting capacity. It is a 2.1 million ton gap, so we are working with the industry to look at options there.

We also have a Use the Food NC campaign that we are doing, an educational campaign statewide along the lines of what Ms. Fife-Ferris was just discussing, trying to help folks understand both how to save money, I believe that the number is about \$1,500 per year that the average family wastes in food that they buy but never eat, but also how to keep it out of landfills.

We also have been convening our food hubs and food banks to look at how we can better help support them in the food rescue. Of course, we want the first priority for rescued food to go to feeding people who are hungry or food insecure before we look at other options such as animal feed or composting.

There have also been efforts to work with our cultural industry for providing food for feed at those operations, and then we are also supporting local government programs through a grant program. Recently, we gave a grant to a local company called Compost Now that is installing new tipping stations, reinforcing their loading dock, and making improvements for their compactors.

Senator CARPER. Thank you. Thank you very much. Those were encouraging comments.

Senator Capito, any other questions?

Senator CAPITO. I do not. I just want to thank the panel, and I appreciate everything. We will get to work; help us on the House side to get these bills across the finish line. That would be a good takeaway for today.

Senator CARPER. The Senate is about to start our first vote. In fact, I think we have just started our first vote. Senator Capito may feel the need to run and vote. I want to just take another minute or two and ask a couple questions before I head out.

Again, from my heart, thank you for believing in these issues and leading in these issues. Somehow, we have to figure out how to get the ball into the end zone in the House of Representatives. This is not something that either of us can do by ourselves. We can do a part of it by ourselves, but we have got to get this done.

There is a lot at stake here and great opportunities, as well. We look forward to doing that.

When I first became Governor of Delaware, an old Governor, a much older Governor, came to see me. I was just a pup at the time. He came to see me, and he said over lunch at the Governor's house, he said, Governor Tom, here is one piece of advice for you. I said, what is that? He said, the main thing is to keep the main thing the main thing. I said, the what? The main thing is the keep the main thing the main thing.

Here, in terms of moving this legislation and putting it on the President's desk is, we have to get it through the House. That is something that is going to take every bit of our efforts with our colleagues together. We look forward to that.

I will see you on the floor, Okay? Thank you, and thanks for your great work here.

I have, maybe, at least one more question on reuse. I am going to ask Ms. Fife-Ferris this question, if I could. I think, in your written testimony, you mentioned a public-private partnership that was established between Seattle Public Utilities and local businesses called Reuse Seattle.

This program has supported the promotion of reusable food service ware as an alternative to single-use containers in places like entertainment venues, in places like restaurants, maybe that includes public schools, and that sort of thing, throughout the city.

Would you just describe for us some of the successes of the program? How has the city been able to drive business and individuals to this program? Make sure, there you go.

Ms. FIFE-FERRIS. We started the program by getting people together who were stakeholders and getting them all interested, and that started to attract interest from reusable product vendors. Then, we worked closely with our stadiums, like our large stadiums, Climate Pledge Arena, where the Mariners, Lumen Field, where our Seahawks play.

We have also worked with our movie theaters, closed venues, a lot of music venues, festivals, with their actual people who plan these events. We just made connections, and we are not actually doing the work. We are not funding the work. We are funding a person to bring people together, but then we have also helped them with siting a wash facility, and then we have been working closely with PR3 on standardization.

Now, as of the last count, we have, through our activities that have gone on, the actual events, have resulted in displacing over a million single use items with reusables, but standards are really critical. You have a cup that people will not take as a souvenir, and they will put it in the bin. Then you have to have bins, but our vision is that this goes city-wide, and that we work with fast food locations.

We have drop-off locations around the city, and the city will help with that, that are similar to like, your library books, and you put

in, you will have a QR code, or you will have a bar code, and it will go into that. It will go into a wash station, and then it will be scanned, and then it will be redistributed.

That is our vision, but right now, we are working primarily in the closed-loop environments, but very large closed-loop environments, went you think about Lumen Stadium and where the Mariners play.

Senator CARPER. All right. Followup question that relates to this, but what, and you may have, in part, you have answered this, but I am going to ask it anyway. What lessons can communities across the Country, West Virginia, Delaware, and other places, what lessons can the rest of us take from programs like Reuse Seattle?

Ms. FIFE-FERRIS. I think you have to start small. Identify people who are groups that are really interested, small music venues, small theaters. You start, and you pilot, and you figure out what will work. Then, you expand it and you look for, there are a lot of people moving into this space.

You can learn from what other people have done, and you can put that into play where you are. You do not have to recreate the wheel, and then you look to places like the PR3 and the ARKUPS and others that are really active in this arena, and you look for help from them. Those are all private companies or nonprofits, so the government can convene it, but let the private sector run with it.

Senator CARPER. Okay, good. Thank you.

Mr. Marshall, I have one more question. Would you be up to it? Want to give it a shot? All right.

Recycling Partnership's Feet on the Street program in an initiative that provides direct feedback to consumers by tagging residential recycling carts with information about what residents can and cannot put in their recycling bin. This sounds great.

Mr. Marshall, what have been some success stories from the Feet on the Street program, and are there other projects that the Recycling Partnership is working on to improve recycling in communities across our Country?

Mr. MARSHALL. I am so glad you asked. The Feet on the Street program is a strategy that we use that we have developed over the years to try to get as close to that recycling behavior as possible. We have people in the field partnering with States and cities around the Country giving feedback, direct feedback to residents, checking out their recycling, talking to residents, and giving them that information on the cards, those cart tags that you mentioned.

One of the most recent and biggest successes we have had is in Smyrna, Delaware. We had a partnership with the Delaware—

Senator CARPER. Home of the Smyrna Eagles.

Mr. MARSHALL. Home of the Smyrna Eagles, I was going to say that.

Senator CARPER. Just north of Dover.

Mr. MARSHALL. The Delaware Waste Authority really wanted to test strategy at the local level to see how we can improve recycling, and they take those learnings to scale across the State. We love that because we take those learnings to scale across the Country.

Through this work and through engaging the residents in Smyrna, we saw a 78 percent reduction in contamination, which might

not mean much if you are not in the recycling field, that is a huge reduction.

Senator CARPER. That is great. That is great.

Mr. MARSHALL. We are really proud of that work. Delaware is ready to scale it and replicate it, and we are really ready to do that around the Country.

I think another, you asked for another success story in communities around the Country that we are working in. One would be, connecting to the public-private partnerships that we are discussing, Orange County, Florida is one example I would share where we worked on the same Feet on the Street program throughout the county, improving quality drastically. What that does is, it sends signals to the private sector, and now they are looking to have private sector investment in Orange County and Orlando to build a recycling facility to manage that material.

Senator CARPER. That is good. The people of Smyrna, I hope they are watching this hearing.

Mr. MARSHALL. Me too.

Senator CARPER. This is one of the most exciting things that has happened in Smyrna today. This is great.

We are voting in the Senate. I think they want me to come and vote, so I am going to close it out here, but I just really want to thank you all. I want to thank you for what you do with your lives, for our Country, for your States, and I want to thank you, certainly, for your time and your testimony today.

I want to thank Senator Capito. I want to thank our staffs, who have approached this issue, really, in a truly bipartisan way. I found a long time ago that bipartisan solutions are lasting solutions, and that is the way we approach things around here.

Your perspectives help us appreciate that although there are significant challenges relating to our waste, there are opportunities for us to do better. I believe the Federal Government can and should work with State and local governments, as well as non-profits and the private sector to help us build a circular economy and a more sustainable future for our Nation, for our kids, and our grandchildren. I look forward to our continued work together to protect our one and only planet.

For some final housekeeping, I ask unanimous consent to submit for the record a variety of materials that relate to today's hearing, including letters from stakeholders. Senators will be allowed to submit questions for the record through the close of business on June 5th. We will compile those questions and send them to you, to our witnesses, and I am going to ask that you try to respond by June 20th.

This is my favorite part, when I get to the end of the hearing, my other colleagues have left to go vote, and I can ask unanimous consent, and nobody can object because they are all gone.

[The referenced information follows:]



May 22, 2024

U.S. Senate Committee on Environment & Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

RE: Hearing on Efforts to Improve Reuse and Recycling

Dear Chairman Carper, Ranking Member Capito, and members of the Committee,

The Solid Waste Association of North America (SWANA) applauds the Committee on Environment & Public Works (EPW) for holding a hearing on Efforts to Improve Reuse and Recycling. There is a clear need for improved recycling and reuse programs in communities across the United States. Federal funding and support for recycling and reuse would lead to long-term growth and sustainability of these systems, strengthening the economy and the environment.

SWANA is an organization of 10,000 public and private sector professionals committed to advancing from solid waste management to resource management through a shared emphasis on education, advocacy, and research. Our members also include non-profits, universities, students, and other sectors. For more than 60 years, SWANA has been the leading association in the solid waste management field. SWANA serves industry professionals through technical conferences, certifications, publications, and a large offering of technical training courses. Members of SWANA and members of the media turn to SWANA as a resource to learn about federal initiatives, opportunities, and regulations.

Recycling and reuse are important topics for SWANA members, especially the owners and operators of recycling collections and sorting systems. SWANA members include the individuals who handle resident-facing outreach, manage resident drop-off centers, supervise collections routes, run transfer stations, manage Material Recovery Facilities (MRFs), market recyclable materials, and much more.

The funding from the Solid Waste Infrastructure for Recycling (SWIFR) Grants is making a difference for communities, states, and territories, enabling them to implement reduction, reuse, and recycling programs, including organics recycling, that they may not have otherwise been able to fund. While this funding is historic and significant, the national need still outweighs the funding available. SWANA encourages the EPW Committee to enact ongoing funding to support recycling systems.

In addition to funding, SWANA strongly supports the federal government having an active and visible role at the national level to create a stronger, more resilient, and cost-effective national recycling system. SWANA previously submitted comments on the *National Recycling Strategy* which focused on reducing contamination, improving processing efficiency, and improving markets. The federal government should continue to pursue the objectives and strategies described in this strategy.

8484 Georgia Avenue P 301-585-2898
Suite 230 SWANA.org
Silver Spring MD 20910





The Environmental Protection Agency (EPA) is the lead on the implementation of the *National Recycling Strategy* and SWANA encourages the EPA to increase collaboration with other government agencies such as the Chamber of Commerce to support markets for recycled materials and private investment in recycling and circular economy infrastructure. SWANA also recommends that the federal government connect with economic development departments at the state and local level to provide resources on recycling and encourage investment.

National collaboration and leadership are necessary to create a more comprehensive, resilient, and cost-effective recycling system. It is important to support the entire system, from design and labeling of materials, through collection and processing, to support for creating viable end products with market demand. Policies and proactive collaboration with manufacturers to design for recycling and to incorporate recycled content into packaging and products will make recycling systems more self-sufficient in the long-term. As a member of the US Plastics Pact, SWANA is collaborating with brands to achieve recyclable, compostable, and reusable packaging and to strengthen recycling systems to provide recycled content. As the federal government works to advance circular economy initiatives, SWANA is prepared to collaborate and to support its members in implementation of programs.

SWANA welcomes collaboration with elected officials and government agencies to connect directly with our members who are implementing programs, identifying the impacts of SWIFR grants implemented, as well as the remaining gaps and funding needs. Please contact the undersigned at koldendorf@swana.org.

Sincerely,

A handwritten signature in black ink that reads "Kristyn Oldendorf".

Kristyn Oldendorf
Director of Public Policy





185 Admiral Cochrane Drive
Suite 105
Annapolis, MD 21401

Tel (410) 694-0800
Fax (410) 694-0900

www.flexpack.org

June 5, 2024

The Honorable Thomas Carper
Chair, Committee on Environment and
Public Works
United States Senate
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member, Committee on
Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito:

On behalf of the Flexible Packaging Association (FPA), I write to commend the Committee on Environment and Public Works (EPW) for its continued efforts to improve recycling across the U.S., including the May 22, 2024, hearing on Efforts to Improve Reuse and Recycling. FPA and its members strongly agree with Senator Capito's sentiment during her opening statement that "The lack of consistent and clear labeling on everyday products is due to great variation in existing infrastructure and local recycling requirements across the country." To this end, FPA remains committed to supporting the improvement and expansion of recycling and composting and provides our input on this important topic.

The Flexible Packaging Industry & FPA

I am Alison Keane, President and CEO, of FPA, which represents flexible packaging manufacturers and suppliers to the industry in the United States. Flexible packaging represents over \$45 billion in annual sales; is the second largest and fastest-growing segment of the packaging industry; and employs approximately 85,000 workers in the United States. Flexible packaging is produced from paper, plastic, film, aluminum foil, or any combination of these materials, and includes bags, pouches, labels, liners, wraps, rollstock, and other flexible products.

These are products that you and I use every day—including hermetically sealed food and beverage products such as cereal, bread, frozen meals, infant formula, and juice, as well as sterile health and beauty items and pharmaceuticals, such as aspirin, shampoo, feminine hygiene products, and disinfecting wipes. Even packaging for pet food uses flexible packaging to deliver fresh and healthy meals to a variety of animals. Flexible packaging is also used for medical device packaging to ensure that the products packaged, like diagnostic tests, IV solutions and sets, syringes, catheters, intubation tubes, isolation gowns, and other personal protective equipment maintain their sterility and efficacy at the time of use. Trash and medical waste receptacles use can liners to manage business, institutional, medical, and household waste. Carry-out and takeout food containers and e-commerce delivery, which became increasingly important during the pandemic, are also heavily supported by the flexible packaging industry. Thus, FPA and its members are



particularly interested in solving the plastic pollution issue and increasing the reuse, recycling, and composting of solid waste from packaging.

Flexible packaging is unique in that it is one of the most environmentally sustainable packaging types from water and energy consumption, product-to-package ratio, transportation efficiency, food waste, and greenhouse gas emissions reduction standpoint; however, circularity options are limited. There is no single solution that can be applied to all communities when it comes to the best way to collect, sort, and process flexible packaging waste. Viability is influenced by existing equipment and infrastructure; material collection methods and rates; volume and mix; and demand for the recovered material. Single-material flexible packaging, which is approximately half of the flexible packaging waste generated, can be mechanically recycled through store drop-off programs, but end markets are scarce. The other half can be used to generate new feedstock, whether through pyrolysis, gasification, or fuel blending.

Developing end-of-life solutions for flexible packaging is a work in progress and FPA is partnering 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 Recycling Partnership (TRP); the Materials Recovery for the Future (MRFF) project; the Hefty® ReNew® Program; the University of Florida's Advanced Recycling Program; and the Flexible Film Recycling Alliance (FFRA). All of these programs seek to increase the collection and recycling of flexible packaging. Increasing the recycled content of new products will not only create markets for the products but will also serve as a policy driver for the development of a new collection, sortation, and processing infrastructure for the valuable materials that make up flexible packaging.

Flexible Packaging is the Sustainable Material of Choice

Flexible packaging refers to a diverse set of highly engineered package types that tailor their chemistries to best protect a given product. These unique chemistries help preserve food and extend its shelf life through, for example, the use of modified atmosphere packaging (MAP) so, that less food is lost or wasted, while also lowering the greenhouse gas footprint of that loss and waste. A report by the Oregon Department of Environmental Protection on the role of packaging and food waste found for meat, for example, the average carbon footprint of food production was almost 12 times that of the carbon footprint of the processing and packaging. Similar ratios were found in all food categories.

There is a reason why only about 50% of flexible packaging is mechanically recyclable—as 50% of flexible packaging is single-material. The rest are multi-material laminates. Multiple materials are required to provide the appropriate barrier protection to prevent contamination, extend freshness, and ultimately protect the product by providing puncture, tear, and burst resistance and strength. When assessing sustainability or examining the full life cycle of packaging, flexible packaging wins hands down. Flexible packaging uses fewer resources, generates fewer emissions, and creates less waste. This is because flexible packaging starts with using fewer materials and resources than other packaging types and can package the most product in the least amount of packaging possible, reducing energy

use, water use, and greenhouse gas emissions in the manufacturing and transportation of the package and product.

For example, producing a flexible foodservice pouch requires 75% less energy and generates just 1/10 of CO2 emissions during production than a metal can for the equivalent amount of product. One and a half pounds of flexible packaging will package the same amount of beverage or liquid as 50 lbs. of glass. Advancements in materials and production processes have reduced the weight of some flexible packaging by up to 50%. A study by the Natural Resources Defense Council shows that up to 40% of food in the U.S. is wasted; wasted food is the single biggest source of greenhouse gas emissions from solid waste in the U.S. Flexible packaging reduces this waste by preserving the shelf life of food—bananas last 36 days in perforated polyethylene bags versus 5 days unpackaged, and the shelf life of beef is extended from 4 days to 30 days when vacuum packed in oxygen barrier film. These are just two of the numerous examples where flexible packaging is helping to reduce food waste. Flexible packaging does the same for brick-and-mortar retail and e-commerce—by protecting and preserving the product during shipping and transportation with the least amount of packaging necessary, less waste and returns are generated.

Even when disposed of, flexible packaging has the advantage of having less waste than other packaging types. When comparing coffee in a steel can with a plastic lid versus a stand-up multi-material pouch, the recycling rate for the steel can (one of the most recycled products in the U.S.) would need to increase from 71% to 93%, and the plastic (LDPE) lid would need to go from 21% to 75% for the steel coffee can to have the same amount of landfilled material as the stand-up flexible pouch (assuming a 0% recycling rate for the pouch). This is just one of six case studies FPA commissioned using Trayak's Ecolmpact-COMPASS® lifecycle assessment tool. These case studies can be found at flexpack.org.

Finally, if the coronavirus pandemic taught us anything, it is the need to preserve sterile packaging for food, health and hygiene products, personal protective equipment, and medical and pharmaceutical goods. Therefore, all policy options must take into account the very real environmental and health benefits of today's packaging outside of its potential for recycling and composting alone. Banning these products could have serious unintended negative environmental and health consequences as substitutions and alternatives used may have a much larger environmental footprint. The picking of winners and losers, like banning materials and packaging, or setting arbitrary fees based solely on recyclability, discounts climate change, food safety and security, and potential innovations that could solve for both source reduction and recyclability/reuse. Instead, the U.S. recycling system must be modernized to collect, sort, and recycle or compost today's packaging.

Labeling for Recyclability

FPA agrees with the Ranking Member's comments that consumers need clear directions for what is and is not yet recyclable to eliminate the confusion and contamination currently rendering many ready recyclable packaging formats unacceptable for recycling and instead destined for landfills. Product producers and their packaging manufacturers cannot be expected to produce a 50+ state labeling solution (and in some schemes, municipal-level

requirements). We manufacture goods for the entire U.S., and in some cases, North America and globally. The environmental impacts and excess waste created by labeling products for individual states will be disastrous. In addition, critical goods will often not be able to travel across state lines due to differing labeling requirements, making a federal solution necessary to mitigate mass supply chain disruption. As the Ranking Member stated, "The federal government's role should reflect the well-established spirit of cooperative federalism that the regulation of waste management is based upon," and labeling for recyclability is a prime example of where that federal oversight is needed.

Similarly, the two bills already passed by the Senate and awaiting House action, as the Chair and Ranking Member reference, are also well positioned as federal instruments in the waste management space. FPA supports the Recycling Infrastructure and Accessibility and Recycling and Composting Accountability Acts, which would see federal grants used for investment in mechanical and advanced recycling systems and access to the collection, sortation, and reprocessing of all packaging, including flexible packaging. And, just like the investment needed to modernize our traditional recycling, investment in industrial composting systems that take packaging along with proteins, and access to collection and composting on a broad scale for U.S. consumers is needed. Federal grants under these two bills would be used to attract and jump-start this investment.

FPA appreciates the opportunity to engage in the Committee's initial foray into federal EPR legislation. In advance, thank you for your consideration. If we can provide further information or answer any questions, please do not hesitate to contact me at (410) 694-0800 or akeane@flexpack.org

Sincerely,



Alison Keane, Esq., CAE, IOM
President & CEO
Flexible Packaging Association



Statement for the Record
American Chemistry Council

Hearing on:
"Efforts to Improve Reuse and Recycling"

Senate Committee on Environment & Public Works

May 22, 2024

The American Chemistry Council (ACC) represents more than 190 companies engaged in the business of chemistry—an innovative, economic growth engine that is helping to solve the biggest challenges facing our country and the world. The members of ACC's Plastics Division create materials that countless companies rely on to make essential and often lifesaving products. These include medical-grade plastic for surgeries, personal protective equipment for ourselves and our caregivers, lightweight plastic components in our vehicles, and energy-saving products in our homes. ACC and our members are committed to creating a more circular economy for plastics and helping to end plastic waste in the environment.

The Solid Waste Infrastructure for Recycling (SWIR) Grant Program should prioritize recycling infrastructure such as secondary material recovery facilities to help increase long-term recycling. A *secondary material recovery facility* (MRF) recovers additional recyclables from the waste stream by performing a secondary sort of material that would otherwise be landfilled.¹

The SWIR program was allocated \$55 million per fiscal year from 2022 to 2026 to help implement the National Recycling Strategy.² The scope of intended activities includes improving post-consumer materials management and infrastructure; supporting improvements to local post-consumer materials management and recycling programs; and assisting local waste management authorities in making improvements to local waste management systems.

Investments in this type of infrastructure will help yield the greatest results for three reasons.

- **Productivity:** Infrastructure such as secondary MRFs build on current infrastructure making it more productive by sorting additional recyclables. This means that fewer items are landfilled, and more items can be recycled.
- **Long-term impact:** Investing in infrastructure, like secondary MRFs, helps extend SWIR's impact long into the future. This could also help create a more stable supply of recycled materials that could help spur further investment to meet recycled content demand.
- **All materials:** Infrastructure like secondary MRFs benefit the recycling of all materials and packaging types. Secondary MRFs help recover additional

¹ Titus MRF Services, "Pacific Northwest Secondary Sorting Demonstration Project," Industry report, 2019, <https://perma.cc/3THV-CFUV>.

² U.S. Environmental Protection Agency, "National Recycling Strategy: Part One of a Series on Building a Circular Economy for All." Government report (Washington, D.C., November 15, 2021), <https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf>.

materials that would otherwise be landfilled and allow communities to add additional recyclables to their recycling program.

ACC and our members are committed to creating a more circular economy for plastics and helping to end plastic waste in the environment. Plastics contribute to businesses' sustainability goals, which support a cleaner, more sustainable future; plastic waste does not. Waste in the environment, including plastic waste, is never acceptable. We are eager and taking action to solve this problem.

ACC's plastic circularity plan aligns with the National Recycling Strategy. Many aspects of ACC's Roadmap to Reuse³ aligns with the National Recycling Strategy especially the focus on increasing the supply of post-use plastics for recycling through new sortation and processing technologies and strengthening demand via end-market development. Among the items the National Recycling Strategy calls for is optimizing processing efficiencies and increasing recyclable collections. We share these objectives which could have the highest impact on increasing domestic recycling because they will increase the amount of what we recover in existing recycling streams.

Recycling infrastructure improvements are critical to meeting climate challenges. Plastics play a critical role in addressing climate change. One analysis found that in 13 of 14 cases, the use of plastics lowered greenhouse gas emissions compared to alternatives at scale.⁴ That analysis demonstrated that in terms of both product lifecycle and use impact, GHG savings associated with the use of plastic compared to common alternatives ranged from 10 percent to 90 percent. Plastics also help lower food waste which is especially important because research shows approximately one third of all food produced never reaches consumers.⁵ Food waste makes up approximately 24 percent of landfilled material.⁶ Plastic packaging

³ Plastic Division, "Roadmap to Reuse: Plastic Solutions for America," Industry report (Washington, D.C.: American Chemistry Council, September 2020), <https://www.plasticmakers.org/files/aaf59c57da5b7b4dc7882614986d7abdd79a2b95.pdf>.

⁴ David Feber et al., "Climate Impact of Plastics," Industry report (McKinsey & Company, July 2022), <https://www.mckinsey.com/industries/chemicals/our-insights/Climate-impact-of-plastics>.

⁵ Food & Agriculture Organization, "Food Wastage Footprint & Climate Change," Fact sheet (United Nations, November 2015), <https://perma.cc/S7SA-FWDU>.

⁶ U.S. Environmental Protection Agency, "National Overview: Facts and Figures on Materials, Wastes and Recycling," 2023, <https://perma.cc/K2QD-F3WC>.

is proven to increase the shelf life of fresh foods such as cucumbers, lettuce, meat, pasta, and cheese.⁷

Recycled plastics reduce the climate impact of products compared to virgin plastics. For example, one assessment found that *mechanically recycled* plastic reduced total energy consumption by 79 percent for PET, 88 percent for HDPE, and 88 percent for PP.⁸ Another assessment found recycled content from *advanced recycling* could reduce climate impact by more than 100 percent compared to landfilling and waste-to-energy.⁹

However, current recycling infrastructure was not built to recycle many plastics. The recycling infrastructure needs to be modernized to optimize collection of existing and evolving post-use plastics.

Infrastructure improvements can help the United States achieve a higher recycling rate. A recent study demonstrated that a combination of *advanced recycling* and *mechanical recycling* could help supply sufficient material to achieve 30 percent recycled content in plastic packaging by 2030 and 40 percent by 2040.¹⁰ Mechanical recycling involves sorting, washing, shredding, and extruding post-use plastics. Typically, heat is used in advanced recycling to break down post-use plastics into building blocks that can be used to create new products.

Advanced recycling compliments mechanical recycling by creating recycled feedstocks out of mixed, layered, and soiled plastic that are difficult to mechanically recycle. It also creates a recycled feedstock that can go into food- and medical-grade packaging. Together these complimentary technologies will help increase both the domestic recycling rate and amount of available recycled content.

Secondary MRFs are needed because they help increase the amount of recyclables required for both recycling technologies. They also help decrease contamination,

⁷ Todd Bukowski and Michael Richmond, "A Holistic View of the Role of Flexible Packaging in a Sustainable World," Industry report (Flexible Packaging Association, April 9, 2018), <https://perfectpackaging.org/wp-content/uploads/2018/09/FPA-Holistic-View-of-Sustainable-Packaging.pdf>.

⁸ Franklin Associates, "Life Cycle Impacts for Postconsumer Recycled Resins: PET, HDPE, and PP," Industry report (Eastern Research Group, December 2018), <https://perma.cc/GTSS-77D3>, <https://plasticsrecycling.org/images/library/2018-APR-LCI-report.pdf>.

⁹ Lauren T Creadore and Marco J Castaldi, "Quantitative Comparison of LCAs on the Current State of Advanced Recycling Technologies" (New York, NY: City University of New York, October 2022), <https://cnyeec.org/wp-content/uploads/2022/10/comparisonOfAdvRecyclingLCAs.pdf>.

¹⁰ Prashanth Sabbineni, James Ray, and Paula Learnini, "INSIGHT: How the US Can Achieve High Plastic Recycling Rates," *ICIS Explore* (blog), July 6, 2021, <https://www.icis.com/explore/resources/news/2021/07/06/10660235/insight-how-the-us-can-achieve-high-plastic-recycling-rates>.

which helps increase the quality of the recycled plastic feedstock produced. Prioritizing investments in infrastructure will help support increases in recycling and recycling content and extend the long-term impact of the SWIR grants.

Senator CARPER. I get to serve in the Senate for another 7 months or so. People say to me almost every day, people are very nice, they say to me almost every day, I hope you are enjoying your retirement.

I say, I am not retired. Frankly, I have no intention to ever retire, God willing, but we have plenty of work to do in this committee and in the Senate and the House. We have to figure out how to thread the needle over in the House on the recycling legislation. We have, I think, done good work here. It is not probably perfect. We can certainly, everything we do, I know we can do better.

We look forward to working with Democrats and with Republicans and the Administration until we can finally get the ball into the end zone.

Let me just turn around and say to our staffs, is there anything else that we are missing here? Okay. With that, it is a wrap. With that, the Senate hearing is adjourned.

Thank you all very much.

[Whereupon, at 11:42 a.m., the hearing was adjourned.]

