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RESPONDING TO THE CHALLENGES FACING RECYCLING IN THE UNITED
STATES

Wednesday, June 17, 2020

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The committee met, pursuant to notice, at 10:07 a.m. in room 106, Dirksen Senate Office Building, the Honorable John Barrasso [chairman of the committee] presiding.

Present: Senators Barrasso, Carper, Inhofe, Braun, Rounds, Boozman, Ernst, Cardin, Whitehouse, Merkley, Gillibrand.

Senator Barrasso. Before we start the hearing today, I wanted to just say it is Beth Lang's last hearing. She has been with the committee since 2017. For the last two years, she made sure our hearings and our markups ran smoothly and on time. We appreciate all the work for the committee, and we wish her very well in her new job with the Department of Agriculture and the Legislative Affairs Team.

During that time, she was able to have a baby named Jack, a lovely young lad. Some of us were hoping that it would be John instead of Jack, but we understand. Off to the Department of Agriculture with you.

[Laughter.]

Senator Barrasso. Anyway, Lia Schafer is taking over and will do a great job with Beth. Thank you so much for your service to the committee, and we are going to miss you. Thank you.

Senator Carper. Could I just add our thanks and our congratulations as well? You have one child, just one child?

Ms. Lang. Just one.

Senator Carper. Have you had enough of Jack? Do you think there might be another one somewhere down the road?

Senator Barrasso. A girl named Jill, maybe?

[Laughter.]

Senator Carper. That would be good. USDA?

Ms. Lang. Yes.

Senator Carper. All right. In the Bible, Matthew 25, it says, "when I was hungry, did you feed me?" and going to the USDA, thank you for feeding us, and thank you for your great work here. It has been a joy. Thank you.

STATEMENT OF THE HONORABLE JOHN BARRASSO, A UNITED STATES
SENATOR FROM THE STATE OF WYOMING

Senator Barrasso. With that, we call this hearing to order today. Today we are going to consider the recent challenges facing recycling programs in the United States and the potential solutions to these challenges.

I will tell you, in the big story today in the Casper newspaper is, today, I see Senator Udall, today, we are opening the recycling facilities that we have all around Casper that have been closed as a result of the Coronavirus crisis that is affecting us that have been closed as a result for a number of months. So, we are going to look specifically today at consumer goods, including paper, plastics, metals, and glass.

I would point out, in reading this article today in the Casper Star Tribune, they said that we are not able to, again, recycle glass. We will be recycling paper, plastics, and others, but not glass. It is interesting as we deal with this topic of recycling what you can and can't, including no longer can, and what we should in the future. I believe we have a shared responsibility to keep recyclable materials and other waste out of the environment.

In the United States, State and local laws, not Federal laws, govern recycling. That means that towns, cities, and counties manage recycling programs. Local recycling programs

can consist of curbside recycling, which takes place alongside weekly trash collections.

These programs can also include drop-off recycling, which is what we have in Casper, Wyoming, which involves Americans taking their recyclable goods to one or more collection sites. I will tell you, other members, that when I take them there, and as my wife has me dutifully sectioning things out, and we take the clear plastics and the plastics with color, and then the magazines, and then the newspapers, and the inserts and put them all in the different bins, that one day, I was there, and what looked like a big trash truck pulled up and lined up with each of the dumpsters, and dumped them all into the same locations.

So I guess the only reason I am actually moving them is because my wife says it is important that I do separate them out before I take them, but that is the way we collect them but then when they take them beyond. There are lots of interesting points to be dealt with as we learn more and more about how and what we can recycle.

Local governments typically fund recycling programs through the sale of recyclable materials and user fees. While we are opening our recycling centers again in Wyoming, what we know is that it now has a cost to do it. It doesn't pay for itself, especially with the distances that we are from other communities.

For decades, communities in the United States sold much, if not all of the recyclable materials for export to China. Chinese manufacturers were hungry for raw materials. Large cargo ships, which would otherwise return empty to China, often made it less expensive to export recyclable materials than transport the materials locally.

But in 2018, China all but ended imports of mixed paper and mixed plastic. As a result, the value of the materials collapsed. In response, local governments have had to decide whether to raise user fees or end, suspend, or scale back their recycling programs. And what we are seeing in Wyoming today is that, there had been a debate at city council, should we end this program. It is an important program. What other public services will not be granted because of the money that is going to be used at the cost to recycle, a program that used to pay for itself?

When local governments end or suspend recycling, recyclables often end up in landfills, so this is something that no one wants to see. Another challenge facing recycling programs is the issue of contamination. Contamination occurs when consumers mix recyclable materials with material that can't be recycled, or material that can't be recycled locally. Contamination lowers the value of recyclable materials and can drain revenue from local recycling programs.

When China imported much of our recyclable waste, we didn't have to worry much about that in terms of the contamination. China and other countries sorted our waste for us. Now that these countries have imposed import restrictions, we have been forced to confront contamination head-on.

State and local governments believe that if they can reduce contamination, they can find or develop new markets for their recyclable materials. Local recycling programs are responding in several ways. Some have launched campaigns to educate consumers about what can and cannot be recycled. Others have switched from single streams of recycling to dual or multiple stream recycling. Others have invested in new technologies that can sort materials with greater sophistication.

The private sector has also taken additional steps to boost recycling capacity here in the United States. Consumer product companies have pledged to use more recyclable materials in their products and in their packaging. Companies are making investments in what is known as advanced recycling. Advanced recycling is a group of technologies that use heat or chemicals to break down certain plastics and other materials.

With traditional or mechanical recycling, plastics can only be recycled a few times and generally for lower quality goods. Advanced recycling allows plastics to be reused indefinitely. They also allow plastics to be used for other high-quality

products. Advanced recycling won't replace traditional or mechanical recycling, but it can reduce the need to produce new materials.

The COVID-19 pandemic has presented a new set of challenges. It has disrupted curbside recycling in many communities. Nine out of 10 States that have bottle and can redemption programs, have, to this point, suspended these programs because of the pandemic. It has also contributed to the collapse in crude oil prices, which reduces the value of many of the recyclable materials.

Finally, COVID-19 has called into question taxes and bans on single-use plastics. In its reopening guidelines, the Centers for Disease Control and Prevention has encouraged restaurants to use disposable food service items, such as utensils and dishes. We are talking about plastic spoons, plastic forks, plastic knives, plastic plates, as recommendations from the Centers for Disease Control and Prevention.

California, Maine, Massachusetts, New Hampshire, New York, and Oregon, and well as a number of municipalities have delayed or suspended their bans and taxes on single-use plastic shopping bags. Some State and city governments, along with nationwide retail chains, have now even prohibited reusable bags. The pandemic has reminded us that the critical role that single-use

plastics do play in protecting public health.

To help us navigate these challenges, we have a panel of three experts who will help identify potential solutions for communities and companies alike.

Senator Udall is also here, and he cares deeply about recycling, and is here to share his thoughts with the committee. Before turning to Senator Udall, however, let me now turn to Ranking Member Carper for his opening statement.

[The prepared statement of Senator Barrasso follows:]

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES
SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Thanks, Mr. Chairman. Thank you so much for scheduling this hearing. This is a hearing that Senator Udall, Sheldon and I, and others have sought for some time, and I am just delighted we could be here and warmly welcome our friend Tom Udall.

I would like to also welcome Bridget Croke, and I would like to welcome Meghan and Nina. I think Meghan and Nina are here, but are just going to be joining us from afar, but we are delighted that you are going to be part of this presentation today.

As some of my colleagues know, recycling has been a lifelong passion of mine. When I was 22, I was a young Naval flight officer flying out of the Naval air station in Moffett Field in California, lived in Palo Alto when we were not overseas, and I wanted to recycle. I found a place where you could actually take stuff in my Volkswagen Karmann Ghia, and go recycle. I would go there about every month, and I have never stopped.

In the last year or two alone, I have recycled a Ford Exploder, I called it an exploder, a Ford Explorer, I have recycled paint thinners, electronics, televisions, a bundle of outdoor tree lights, a dehumidifier, and a whole lot more. My

wife thinks I am crazy, but I am a big recycler. Today is her birthday, and I don't have any intention to ever recycle my wife. I will hold on to her as long as I have held onto my 2001 Chrysler Town and Country Minivan, and then a little bit longer, if she will put up with me.

But anyway, recycling is a win-win-win solution. It saves our environment, grows our economy, creates jobs, as the chairman has said. For a small State like Delaware, recycling is particularly important because, to be honest with you, we just don't have a lot of room for landfills. We are about 50 miles wide, about 100 miles north to south. So we just don't have the extra room to store garbage and trash.

As co-chairs of the Senate Recycling Caucus, Senator John Boozman, who is sitting right here with us, he and I have collaborated, as he knows, on a number of efforts this Congress, with the help of our staffs. We are grateful for that, and we have held stakeholder briefings, passed a resolution to recognize America Recycles Day, and asked Senate leadership to consider the recycling industry in future COVID-19 legislation.

We are also working on legislation that would gather much needed data about our recycling system and explore the opportunity for the U.S. to implement a national composting strategy.

While I am proud of the work that Senator Boozman and I

have done in recent years with the help of our staffs, I also know that we have more work to do, a lot more work to do. With a national recycling rate of just 35 percent, recycling is not a silver bullet solution to our waste management problems. We must also incorporate solutions that address reducing and reusing materials.

That is why our friend and colleague Tom Udall is here with us today, to highlight both the challenges that single-use plastics present to our society, and potential solutions to those challenges. As we discuss recycling challenges facing the U.S., and the Chairman has already mentioned a couple of them, we also need to focus on the challenges that plastics present to our recycling system, namely single-use plastics.

Since the mass production of plastics began in the 1950s, we have produced more than 8 million metric tons of plastics, half of which have been produced over the last 13 years alone. Of all the plastics ever produced, only 9 percent, only 9 percent, have ever been recycled. If we continue down this path, the World Economic Forum predicts that we are on track to have plastic pollution outweigh fish in our world's oceans by 2050. Let me say that again, the World Economic Forum predicts that we are on track to have plastic pollutions outweigh fish in our world's oceans by 2050.

The Great Pacific Garbage Patch is a harbinger of this

crisis. That mass of marine debris floating in our oceans is more than 300 times the size of my State. But we don't have to voyage to the South Pacific to witness the world's recycling crisis. That crisis is burgeoning right here in the U.S., oftentimes in our own backyards.

My wife and I live in Wilmington, Delaware. It is located not far from the I-95 corridor. When I head for D.C. on session days, if I am not on the train, I oftentimes take an on-ramp near our home onto I-95 South, then head for our Nation's Capital on 95.

Usually, a crew from DelDOT picks up litter along that on-ramp that I traveled on this morning, as well as along other on-ramps onto I-95. People throw their trash out of their vehicles when they get on the on-ramps of I-95. They just say, well, this is my last chance, I am going to get rid of this, and that is what they do.

Usually, there is a crew from DelDOT that picks up litter along the on-ramps as well as other on-ramps onto 95. During the pandemic, however, those pickups have occurred less and less frequently, leaving an unsightly mess that is, in a word, infuriating.

The past month, the mowing crews have stopped showing up too, until the grass grew to a height of one foot. My wife would drive by there and look at it and just become furious,

until last week, that is. When the mowing crew showed up last week, they not only cut the grass, they shredded aluminum cans, they shredded plastic bottles, Styrofoam, trash bags, diapers, and more. As if it didn't look bad enough before, you can imagine what it looked like after that.

I decided to do something about it, and thinking about my wife's birthday, this is what I did. This past weekend, I found an old DelDOT Adopt-a-Highway yellow fluorescent vest in our garage. I put it on. I grabbed a couple of large 45-gallon trash bags, climbed into my like-new 2001 Chrysler Town and Country minivan, headed for a place to park not far from that on-ramp, and went to work. Two hours later, the right-hand side of the on-ramp had been cleaned up. I loaded the bulging bags onto the back of my minivan and vowed to return the next weekend to finish the job.

I tell you that story for this reason: as I drove home, I couldn't help but think about how concerned many of us in our neighborhood and in our State and around our Country, how concerned we are about a great garbage patch in the sea on the other side of the world, even though we have a sea of garbage just a mile or so from, in this case, our own backyards. I couldn't help but think about how recycling just one of those Coors aluminum cans I would pick up would have yielded enough energy to run a TV for three hours. Let me just say, if you are

wondering what people who threw out trash are drinking, they are drinking Coors beer. I picked up I can't tell you how many other aluminum cans.

Litter like that I have just described is not just an eyesore; it is wasteful. It is harmful to our environment. By not recycling properly, we miss an opportunity to do something good for our planet and its inhabitants.

The amount of waste winding up on the side of the roads in our States and other States is, sadly, not unique to Delaware. In a lot of places in America, it is about to get worse. Prior to 2018, as the Chairman has said, the U.S. shipped enormous quantities of scrap recyclable materials to China. That came to a halt when China imposed new restrictions on certain imported materials coming in from other countries, including the U.S.

As we grapple with the fallout of China's policies and the impacts of the Coronavirus pandemic, the price consumers will have to pay for curbside recycling service is likely to rise, not fall. That means many consumers will be forced to make a choice, a Hobson's choice, either pay for recycling services, or put their money toward other basic needs.

No American should have to debate whether they can afford to recycle, especially amid a pandemic that has caused great economic hardship, and whose effects are exacerbated by air pollution.

When municipalities are no longer able to afford recycling, the Chairman has referred to this, the collected recyclables are oftentimes incinerated or pile dup in landfills, leaking air toxins into the air we breathe. Burning plastic or allowing plastic to melt in landfills not only contributes to climate change, but also pollutes the air we breathe.

We can't afford to breath toxic air even in the best of times, and we sure can't afford to breathe it during a respiratory pandemic. If you happen to be African American, the news is even worse. Black Americans are three times as likely to die of asthma-related illnesses and are dying from Coronavirus at three times the rate of white Americans, three times. None of us who profess to believe in the Golden Rule, and I think we all do, should turn a blind eye to a public health disparity of this magnitude.

In closing, neither can we afford to turn a blind eye to those that will be most affected by the global uptick in virgin plastic production and our Country's lack of recycling collection: low income communities, indigenous communities, and communities of color that cannot afford to handle more waste, our waste. As we examine the challenges facing America's recycling efforts today, I hope we will begin a new discussion, a robust discussion, not just focusing on those challenges, but on the opportunities they bring with them to make Planet Earth a

better home for all of us, and for God's creation, all of us who occupy it together.

Thank you, Mr. Chairman.

[The prepared statement of Senator Carper follows:]

Senator Barrasso. Thank you very much, Senator Carper.

Before we turn to our three witnesses, we would like to hear from Senator Udall. Senator Udall has a significant interest in recycling, and has helped the Senate advance the Save Our Seas 2.0 Bill earlier this year.

Welcome back to the committee, Senator Udall. For many years you were a long and productive member of this committee, and we look forward to hearing from you now.

STATEMENT OF THE HONORABLE TOM UDALL, A UNITED STATES SENATOR
FROM THE STATE OF NEW MEXICO

Senator Udall. Thank you so much, Chairman Barrasso and Ranking Member Carper, and members of the committee. It was a real pleasure working with Senator Whitehouse on that Save Our Seas Bill, and thank you for inviting me today.

In recent years, Americans across our Country have woken up to the fact that we have a plastic pollution crisis. A study released last week found that the equivalent of millions of plastic bottles rain down or are swept onto our western national parks each year in the form of tiny plastic particles.

We know plastic doesn't go away, so when it breaks down, we find it two miles above sea level in the Rocky Mountains in the form of rain. Seven miles below sea level in the Mariana Trench, the deepest place in the ocean, there are plastic wrappers. It is in our own bodies. Research shows we swallow a credit card's worth of plastic every week through our air, water, and food.

For too long, we have placed the burden on millions of consumers and taxpayers through curbside recycling and the hope that, if we dutifully sort our plastic into blue bins, we will reduce pollution. It is clear that this approach has failed. We cannot expect consumers to clean up all this plastic waste. We have lost sight of the foundation of our environmental laws

and the teachings of Economics 101: the polluter, not the consumer or the taxpayer, should pay to clean up the waste.

The place to focus is where plastic is created, at the front end of production, where millions of tons are created. But companies have no responsibility once they sell their product. More and more cheap, new plastic items are being produced that will never get recycled or reused.

The burden falls back on our municipalities to manage a suffocating amount of plastic waste, costing local taxpayers billions of dollars a year across the Country. Worse yet, most of that plastic recycling is a lie. It is actually landfilled, incinerated, and shipped overseas to developing countries.

Is there any question why our local governments are shutting down recycling programs? Why do we force taxpayers to sort, clean, and transport plastic pollution at their own cost, after companies have profited from them?

Take a look at this chart, and I hope there is a smaller copy up there with you, from 2017. Americans generated 35 million tons of plastic waste. Only 8 percent of that waste was sorted for recycling. The vast majority was sent directly to landfills and incineration, and that 8 percent was mostly shipped overseas to developing countries. Only a tiny fraction was recycled domestically.

We can't just place the blame on other countries for

polluting the oceans. If we can't recycle or manage our own plastic waste here in America, how can we expect a developing country to do so?

Here is the root of the problem: this is plastic that is not manufactured for recycling or reuse. This is plastic that manufacturers have designed for a one-time use. It is the opposite of sustainable. Companies churn out new products, I want to show these around, companies churn out new products and outsource the cleanup of their waste to taxpayers, beach and highway cleanups, and good Samaritans, none of whom can keep up with the avalanche of waste.

We need to return to the polluter pays principle and recognize who the true polluters are. My bill, the Break Free from Plastic Pollution Act, does just that. We start by dramatically reducing the manufacture of those items that pollute the most and can't be recycled.

Plastic bags top the list, causing tremendous environmental harm. For other products and packaging, we reform how these items are handled after consumer use. Producers need to take responsibility for the collection, recycling, and disposal of the products they create. This will create powerful incentives to design products that are more sustainable and easier to recycle.

This is a tried and true market-proven concept. We already

do this for batteries, paint, and other items that are dangerous if disposed improperly.

Look closely at the soda bottle. Many U.S. States have had bottle deposits for decades. Using deposits on beverage containers greatly increases the return of those products for recycling and keeps them out of the environment.

My bill also stops sending plastic waste overseas to developing countries and requires that new products be made from recycled plastic here in America. We need economies of scale to bring down the cost of recycled plastic compared to cheap new plastic. Many companies set recycled content goals, but are unable or unwilling to do so given the limited supply and high cost.

Finally, my bill presses pause on expanding more plastic-producing plants. These new, planned facilities are greenhouse gas super-polluters, and they are an environmental hazard to communities around them. If built, they are guaranteed to pump billion more tons of plastic waste into the environment.

The lack of regulation on these facilities is shocking. Many Americans simply would not believe it. It is a scandal. This jar contains plastic pellets scooped from the riverbanks of Cox Creek, Texas, where Formosa Plastic is estimated to be discharging between 500 million and 5 billion plastic pellets each year. Around the globe, these plastic pellets are dumped,

spilled, and lost to the environment at a rate of 250 thousand tons per year.

It is shocking that there is no Federal ban on dumping plastic pellets in waterways. My bill would fix that.

Colleagues, I was not the first person to become concerned with plastic pollution. There is a mass movement of people across our Country who are fighting this awful situation. When people realize that the blue recycling bin is largely a lie, they are angry. They want answers.

It is a shame that we are trashing our planet, but it is not the consumer's fault. This is not the fault of a few litterbugs. It is past time for Congress and the industry to step up on solutions to this problem.

My legislation does just that. I would like to submit a letter for the record from 470 organizations that support my bill, Mr. Chairman.

Senator Barrasso. Without objection.

[The referenced information follows:]

Senator Udall. I thank you for your time, and I am deeply grateful for this Committee's attention and involvement. Thank you, Mr. Chairman. I yield back.

[The prepared statement of Senator Udall follows:]

Senator Barrasso. Thank you so much, Senator Udall. It is always good to have you back at this committee on which you served so ably for so many years, but even after you left the committee, you played a critical role in our agenda. In the 114th Congress, you successfully spearheaded efforts to reform our Nation's chemical law, the Toxic Substances Control Act.

Like your father, you have been a tireless champion for the environment. Your father Stewart Udall, you know him, maybe some others don't, your father, Stewart Udall, served as Secretary of the Interior to both Presidents Kennedy and President Johnson. As you know, I think I got for you a photo of your father with Senator Kennedy in Laramie, Wyoming at the University of Wyoming in 1963.

So we welcomed both of them to Wyoming, and I have a picture hanging on my wall of then-President Kennedy addressing the group at the University of Wyoming in 1963. Of course, for people who aren't familiar with this, you may be watching from home, the Department of Interior's headquarters bears your father's name.

This committee thanks you for your service to our Country. Thank you for being with us today, Senator Udall.

Senator Udall. Chairman Barrasso, thank you for those generous words. You failed to note, though, I come every summer to Wyoming to the Wind River Mountains to backpack and hike and

climb mountains, which is one of my favorite places in the world.

Senator Barrasso. We look forward to having you back again this year. Thank you, Senator Udall.

Senator Udall. Thank you.

Senator Barrasso. With that, we are going to hear from our three witnesses today. We are joined by Bridget Croke, who is the Managing Director at Closed Loop Partners, and she is joining us remotely. We also have Ms. Meghan Stasz, who is the Vice President of Packaging and Sustainability at the Consumer Brands Association, and Ms. Nina Bellucci Butler, who is the Chief Executive Officer of More Recycling.

I want to remind the witnesses that your full written statements and testimony will be made part of our official hearing record today, so we ask that you please try to keep your statements to five minutes so that we may have time for questions.

We look forward to hearing the testimony, and with that, let me start with Ms. Croke.

STATEMENT OF BRIDGET CROKE, MANAGING DIRECTOR, CLOSED LOOP PARTNERS

Ms. Croke. Thank you, Chairman Barrasso, Ranking Member Carper, and committee members. I will also mention that I also really love the Wind River Range. I am thrilled to have the opportunity to share my and my company's perspective with you, albeit remotely, and to see this topic discussed by national leaders.

Senator Barrasso. Can you tell us where you are? I think you are in Vermont today, is that correct?

Ms. Croke. I am in Vermont. We are headquartered in New York, but right now, we are all remote, and are not travelling, so apologies for not being there in person, but thrilled to be a part of this.

Senator Barrasso. Thank you.

Ms. Croke. As I mentioned, my name is Bridget Croke, and I am a Managing Director at Closed Loop Partners. We are an investment and innovation firm that has brought together private industry like Walmart, Procter & Gamble, Unilever, Nestle, and others, industry groups like the American Beverage Association, and investors including major banks, pension funds, family offices, along with environmental foundations to invest in the infrastructure and innovative solutions needed to minimize waste and ensure recycled materials become the manufacturing feedstock

for future products and packaging, while hopefully creating good jobs and minimizing taxpayer dollars spent to manage waste.

Over the last five years, Closed Loop Partners has deployed nearly \$70 million in investment capital in over 50 communities and businesses across the United States, from Arizona, to Iowa, to Tennessee, and we have leveraged an additional \$270 million in co-investment funds from public and private sources.

I tell you this to make the point that we are on the ground turning our current take, make, waste economy into what we call a more circular economy, whereby we minimize the need to extract raw materials because we extend the use of those materials and remanufacture them back into new products and packaging.

We know with the right systems in place, there are opportunities to turn waste into value. In our current system, nearly \$10 billion of commodity value are lost to disposal each year in the United States. Small and large communities are spending billions of dollars on disposal as others have mentioned, so we are literally throwing money in the trash.

Unfortunately, the recycling industry has suffered from outdated infrastructure, especially small to medium-sized communities. Over the last 30 years or so all across the Country, there has been a significant lack of innovation in our supply chains. But that is starting to change, and good policy that incentivizes growth of this vital industry will bring more

investment both to reduce waste and develop thriving communities.

As mentioned also, the recycling market goods have suffered from the closure of one of the biggest unused markets: China. That said, we and many others see this as an actual opportunity to accelerate domestic recycling and manufacturing infrastructure, which will help keep our dollars local.

Given the attention on waste and marine debris and the growing demand for major consumer brands and retailers for circular packaging and recovery system solutions, we are beginning to see tremendous innovation that can rapidly advance solutions.

I will give just a few examples. First is the introduction of robotics and artificial intelligence into the recycling industry. Companies like AMP Robotics have introduced robots with artificial intelligence systems that enable the sorting and production of high-quality commodity bales of paper and plastics, while adding safeguards against contamination.

The second is packaging innovation. We are seeing the emergence and growth of smart, refillable packaging systems like Algramo, that make it cheaper, safer, and more convenient for consumers to use packaging more than one time. We are also seeing significant growth in packaging that is designed to be recycled for value.

Finally, we are seeing advanced plastics recycling technologies, including purification technologies and chemical recycling technologies mentioned earlier. I just want to frame that as a whole category of technologies that remove impurities from recycled plastics or take plastics back to their base monomer, intermediary, or carbon state in order to remanufacture them into a new plastic.

These technologies have the potential to create, in success, infinite circular economy and value loops for plastics. These and other advancements are attracting significant private capital from leading investors. Google and Sequoia have invested in AMP Robotics in Colorado; Goldman Sachs is now the largest shareholder in Lakeshore Recycling Systems, the largest independent recycler in Illinois; and Citi is the largest investor in rPlanet Earth, a bottle-to-bottle plastics recycling facility in Southern California.

Leading municipalities, recyclers, manufacturers, and consumer brands are starting to partner together to establish and profit from a circular economy in the United States where goods are continually manufactured using recycled material collected from recycling programs in towns large and small. This new partnership model is developing a circular economy that we believe will result in one of the largest investment opportunities in the United States over the next decade.

The additional economic impacts include major reduction in waste disposal fees paid by municipalities, and will become a significant driver of job creation in local economies.

We encourage you to develop policies that build incentives and spur market demand for recycled content and packaging of products, drive product and system innovation to eliminate waste, and create good jobs that benefit both the economy and the planet.

Thank you.

[The prepared statement of Ms. Croke follows:]

Senator Barrasso. Thank you so much for your testimony. Please hang around. I know we are going to have a chance to ask questions in a little bit.

We are going to hear from our other two witnesses first, and next is Ms. Meghan Stasz, who is the Vice President of Packaging and Sustainability at the Consumer Brands Association. Thanks so much for joining us today.

STATEMENT OF MEGHAN STASZ, VICE PRESIDENT OF PACKAGING AND
SUSTAINABILITY, CONSUMER BRANDS ASSOCIATION

Ms. Stasz. Thank you. Good morning, and thank you Chairman Barrasso, Ranking Member Carper, and members of the committee for the opportunity to speak to you today.

I would also like to thank Senators Sullivan and Whitehouse for your bipartisan work on the Save Our Seas 2.0 Act, as well as Ranking Member Carper and Senator Boozman for your leadership as co-chairs of the Senate Recycling Caucus. We were deeply honored and grateful for your participation at the inaugural meeting in January of the Recycling Leadership Council.

Chairman Barrasso, let me reiterate my appreciation for calling this hearing, and for the invitation to testify. The challenges that we face in resolving the barriers to a better recycling system need thoughtful leadership, and we thank you for this committee's engagement.

As you said, I am Meghan Stasz, Vice President for Packaging and Sustainability at the Consumer Brands Association. We represent the consumer-packaged goods, or CPG industry. We make household and personal care items and food and beverage products, contributing \$2 trillion to U.S. GDP and supporting more than 20 million American jobs.

The products that we make are essential to every American every day. The products that we make must also come in

packaging, packaging that protects safety and quality.

But packaging can be better, and that is something the industry is actively working toward. We have made significant commitments to improving the design of packaging: less material, fully recyclable or compostable, using more recycled content. There is tremendous momentum and innovation.

All of this momentum and innovation relies on a functioning recycling system, and today, that system is at a breaking point. Recyclable packaging ends up where it shouldn't, in landfills where it can't be reused, or even worse, as pollution.

But we can't be daunted by the challenge of fixing our broken recycling system. If anything, this is a tremendous opportunity to create something new and lasting.

To achieve that goal, there are five challenges I would like to call the committee's attention to. The first is that there is a market opportunity that is currently going unmet. Many of the industry commitments I mentioned center on using recycled content.

Unfortunately, at present, the domestic supply of recycled plastics is only able to meet 6 percent of current demand. The market clearly exists, and an important challenge to understand is, why is recyclable material getting landfilled?

The second challenge is that our system is far too fragmented and confusing. There are nearly 10,000 recycling

systems in America, each with their different rules. Consumer Brands found that Americans think recycling is more confusing than doing their taxes.

It is getting even more confusing. We are seeing fewer materials accepted, or programs shutting down entirely because recycling was upended when it lost China as the biggest buyer of U.S. recyclables. Losing that customer exposed the need for greater innovation and investment here in the U.S. to ensure that recycling has a future.

The third challenge isn't a need for funding; it is a need to figure out what to fund. There are many ways to pay for changes. We discussed six concepts in a policy platform that we released in April, but we will land in the same place if we don't advance smart, strategic changes to the underlying recycling system. We should use financing to drive desired behaviors, to solve specific problems, not simply to overlay additional funds on a system that isn't working.

The fourth challenge is ensuring every stakeholder is in, or recycling will be out. We believe no single industry can solve the packaging and waste crisis alone. This year, the Consumer Brands Association launched the Recycling Leadership Council, which is a coalition of 21 stakeholders from consumer-facing industries, the packaging supply chain, and NGOs. Together, we are building a public policy framework to

fundamentally reimagine recycling in the U.S.

The last challenge that I will mention is really the first step we need to take. We don't have consistent, reliable recycling data that is needed to make informed decisions. There is no standardized or required reporting on recycling nationwide. There isn't even a standardized definition of recycling.

As the saying goes, you can't manage what you can't measure. Without a clear picture of what is happening in States and municipalities, we can't effectively target solutions. From what little data we have, we know one thing is clear: recycling isn't working as it should.

We need the Federal Government's help, so two places I would flag: require better data, building on work that has already been started by Senator Carper, and encourage recycling infrastructure and end-market development.

We really applaud the clear commitment of Chairman Barrasso and Ranking Member Carper in leading this committee's focus on recycling, and I look forward to your questions.

[The prepared statement of Ms. Stasz follows:]

Senator Barrasso. Thank you so much for your helpful testimony.

We look forward to the questioning in just a few moments. First, I would like to turn to Ms. Nina Bellucci Butler, who is here, the Chief Executive Officer of More Recycling. Thank you so very much for joining us today.

STATEMENT OF NINA BELLUCCI BUTLER, CHIEF EXECUTIVE OFFICER, MORE
RECYCLING

Ms. Butler. Thank you, Chairman Barrasso, Ranking Member Carper, and members of the committee.

I am Nina Bellucci Butler, CEO of More Recycling, a business of Sena. We as a Nation are at a great inflection point, and you have an opportunity to deploy meaningful and proven policy solutions for communities across this great Nation struggling on so many levels right now.

I am thinking about the rural communities in my birth State of Kentucky to my previous home in San Francisco, California. It is time to unlock economic drivers to manage resources sustainably and circulate capital throughout America, not just in the wealthy regions.

Until we establish policy that places the cost and benefit of a healthy environment on the balance sheets of companies and countries, we risk further erosion of the infrastructure and by extension, the environment on which our children's lives depend. I have two of them.

Recycling is not just about cutting down waste heading to landfills that our children will need to endure, it is about the dramatic energy savings we get out of recycling. Take bottles, for example, such as detergent bottles. Using recycled plastic cuts the amount of energy by almost 90 percent.

I got involved in plastics in the year 2000. I actually felt destined to go to med school and had a desire to study the threat of plastics on our health. In 2003, I had the opportunity to travel down the amazing Amazon River, and I remember looking out in Manaus and seeing an entire layer of plastic film. The water level was low, and it was like a geologic layer, this stratum of plastic.

I was lured then by the notion that if we just implemented the best programs, we could solve the plastic waste problem. I have had 20 years of working directly with the plastics industry and the recycling industry. I have come to the very firm conclusion that we need significant policy to right our course for plastic waste, which is inextricably linked to climate change.

While the economics are straightforward, the environmental tradeoffs around plastics are extremely complex. Plastics are a paradox. They benefit society on so many levels. Think about what you are not willing to give up that is plastic. Plastics have given us truly supernatural abilities, from flying, diving deep in the ocean, clear eyesight, better hearing, communicating with friends and family around the world. They got me here from Chapel Hill, North Carolina in less than a day. That is supernatural.

However, plastics present enormous environmental

challenges. Plastic scrap exists, as Senator Udall said, everywhere from the Mariana Trench to the Great Pyrenees.

It is simply unethical to make something that nature cannot absorb and not provide a system to manage it. It is imperative that we look at the problem and unlock this plastic paradox holistically. The gap between new plastic produced and plastic recovered is widening, and the recycling rates are trending downward from already a failing grade.

I have some charts. So, we can see here that we have been increasing the amount of domestic recycling for many years, and that was, in a sense, a comfort, and we were seeing a decline in export, even before the national soared. But the reality is we still are at absolute failing grades. In the last two years, our company tracks this data, we have actually seen a decline.

This is the real reality of putting this notion together. This is the recycling capacity in the United States right now for a major category. That is polyolefins, and this is the production capacity for the top, just the top 10, virgin resin producers. We have 5 percent of this capacity. It is going to take a lot more than forward-thinking company investment or asking people to recycle better. It costs more to recycle than to waste or use virgin plastic.

Here is the current cost of a virgin material on the spot market. Here is the cost of process to get to high quality

going back into food grade.

But it doesn't have to be this way if we put value on energy savings. Just getting recycled content in trash bags, which is very common in countries throughout Europe, could have a dramatic impact. It would be more than the equivalent of 2 million tons of CO2 savings on something that is already destined for landfills.

Instead of plastic recycling on a growth plan, we have a trickle compared to a tsunami of new plastic production. We learned from the University of Utah, as Senator Udall said, it is raining plastic, and that is a problem worse than acid rain.

With today's lifestyle in which we can get what we want when we want it from wherever, thanks largely to plastic, it is clear we have the knowhow to produce and distribute products. Therefore we surely have the skill sets to design elegant, reverse logistics to recapture the product. It is not a moon shot; it is an Earth shot. We just need economic drivers in the right place. We need to put value on carbon.

We need the leadership and cooperation to unleash human ingenuity to design, implement, track, and optimize a sustainable resource management plan, or a North Star. Because what is equally as scary as plastic waste is the realization that if we just omit certain plastics without changing our consumption patterns and our economic model, we will quadruple

the greenhouse gas emissions on a regular basis.

Leaders, even in the petrochemical companies, see policy as a means to create competitive advantage to those companies that lean all the way into the circular economy.

It is an honor to appear before you today to share my expertise on recycling and more efficient, mindful use of resources.

Thank you.

[The prepared statement of Ms. Butler follows:]

Senator Barrasso. I appreciate your testimony, and specifically the trip in 2003, the Amazon experience, which has now brought you passion as well as expertise. There is a marvelous book, *Running the Amazon*, which a couple of my buddies from Wyoming have done, and this was back in the 1980s. The experience that they had; it just must have been amazing. So thank you so much for sharing with us today.

I would like to turn to Ms. Stasz. The COVID-19 pandemic has reminded us of the value of single-use plastics. Single-use plastics have been indispensable in protecting medical professionals, first responders, others who are on the front line caring for patients and fighting the virus.

Can you share with us some lessons about single-use plastics and what States and municipalities should do to cut down on plastic pollution, and what we can learn from this pandemic and the unique situation in which we find ourselves?

Ms. Stasz. Yes, thank you, Chairman. That is an excellent question. I think the COVID pandemic has shown that there is a real need for a range of packaging materials, that packaging has this critical job to play, in particular, safety, quality, protection of product.

What it is also showing is that we need a system that can handle and process those materials. We need a 21st century recycling system that can handle the packaging that is needed

today and that is in use today and the packaging that is being developed for tomorrow.

Senator Barrasso. In 2017, China said they would restrict most of the imports of mixed paper and mixed plastic, continuing along the line of what you just talked about. So since then, the private sector has taken steps to increase the capacity to recycle these goods here at home.

What are the most noteworthy actions taken by the private sector to date?

Ms. Stasz. China closing their doors to our recyclables really exposed a shocking lack of infrastructure here, domestically. Our industry has taken aggressive commitment to improve our packaging, but we need that underlying recycling system to work.

We are still in a supply and demand break. We are still in a supply and demand challenge. Our industry has certainly innovated, we have invested in improvements, and I think we need all stakeholders at the table to rebuild and reimagine that recycling infrastructure here domestically, creating jobs, and filling that supply for the demand that is out there.

Senator Barrasso. Ms. Croke, I don't want you to feel lost up there in Vermont, I want you to feel engaged in all of this. I have a couple questions for you.

First, in terms of the single-use plastics that we have

heard are difficult to recycle, too often single-use plastics end up, as we hear, in rivers, oceans, where they threaten and kill wildlife and present all sorts of problems.

What are the most promising advanced recycling technologies when it comes to single-use plastics?

Ms. Croke. Great question, and I might back up a little bit and just note that we believe that there is no one solution, there is no silver bullet. We are not going to solve this with an individual innovation.

We need to look at reduction strategies, and we need to look at ways to recover those materials at the end of life. So we are both seeing on the reduction side, refill models that make it easier and safer to use some plastic types more than once.

Then we are also seeing new advanced recycling technologies, both in terms of, as I mentioned, robotics and AI and recycling facilities to sort those materials out. But the ability to actually turn plastics into another plastic in a high value way, again and again, through some of the chemical technologies and purification technologies.

One example is a company called PureCycle, where if you have, for example, a polypropylene yogurt container that you recycle, there is very little market for that today. But if you can turn that back into a clear pellet that doesn't have smell

or color in it, it can go into a new packaging just like a virgin material. That is used through an enzymatic process.

There are a lot of different technologies out there. There is no single technology within that category. As we see the conversation grow and policy grow in this space, that is a market demand driver that brings innovators to the table.

Senator Barrasso. So, still to you, Ms. Croke, the COVID-19 pandemic has contributed to a collapse in crude oil prices. We have seen this worldwide. Lower crude oil prices make it cheaper to produce virgin materials, especially plastics.

What are the practical impacts for local recycling programs looking to sell their recyclable materials, companies looking to increase the recycled content in their products, things along those lines?

Ms. Croke. It is a question I can't say that we have a final answer to. The markets are highly volatile right now, and we don't know exactly where they are going to go. I wish we did.

What I can say is that with COVID, we have seen that both on the fiber and plastic side, that it is clear that we need that material going into the manufacturing supply chain. When we saw a lack of access to toilet paper and other items that typically have high recycled content in them, it showed us how critical that feedstock is, and the same thing with packaging.

We know companies that couldn't make enough pumps for their cleaning products to get them out to customers, because they couldn't get that material.

If we can build the supply chains around recycled content, we know that material exists. So if we can get it collected and get it back into those products, that will help manage the supply chains.

On the plastics pricing issue and on the oil prices, it is definitely a risk, and we need companies to be able to make long-term contracts, off-ticket contracts, for those materials to help even out the prices so that we can scale the system where recycled content goes back into the manufacturing supply chain, so it that can compete with the raw material supply chain.

Senator Barrasso. Thank you.

Senator Carper?

Senator Carper. Thanks, Mr. Chairman. Again, our thanks very much to each of our witnesses for joining is today, and it has great to be with our colleague, Tom Udall, especially. I really appreciate what you said about Tom's family, especially his father. I know that they have a lot to be proud of. And we are proud of him as well.

I am a glass half-full guy. My colleagues would tell you, some of them say, one of them said the other day that I am the

most unrelentingly optimistic person they know. Sitting here in this hearing today, I am not feeling optimistic. I always look at problems, I think, oh gosh, this is, in adversity lies opportunity, that is Einstein's words, and this is going to be fun. We will put together a team and we will figure out how to address this.

But this is a daunting challenge. This is a daunting challenge. I am a big believer in not just focusing on symptoms of problems. I told the story about taking my two 45-gallon plastic bags, trash bags, and collecting litter on the on-ramp to I-95; that is addressing the symptoms of the problems.

I am a big believer in addressing root causes. I am also a big believer that there is usually no silver bullet to solve most of our problems. There are a lot of silver BBs. Some of them are bigger than others, and you helped address and draw our attention to some of those.

I always like to say, I felt this way when I was governor and wrestling with the problem in Delaware, I would always say to my cabinet when we are trying to figure out what to do on a particular issue, including recycling, and I would say, let's look at other States. Let's find out what other governors are doing; let's find out how we can learn from them, and take their ideas, and maybe rework them and use them in our State. So I would like to find out what works and do more of that.

Right now, I would like to figure out what is our role, the role of the Federal Government. The EPA has made an effort to bring together recycling industry stakeholders. I commend them for that. That includes municipalities, businesses, non-profits, and others to discuss how the U.S. can increase recycling rates across all 50 States.

There is a consensus that the Federal Government can play a greater role in facilitating recycling, but the details of what that role should be are subject, as you know, to debate. A question for each of our witnesses: in your view, how can Congress best build on EPA's and stakeholders' efforts, and what should the Federal Government's role be in this challenge?

Let's just start with Senator Udall if we could, and then we will go to Bridget, Meghan, and Nina. Tom? Is he gone? All right. Okay Tom, you can mail it in.

We will go to Bridget, to Meghan, and to Nina. I have heard him address this enough times that I could probably do it for him, but I won't.

Bridget, you go first, please. It is a problem when you have hearing rooms this big. It is like a football field in here.

Ms. Croke. Thank you for the question. I think a lot of the proposals that are on the table have a lot of value in them, so again, I don't have a [indiscernible] solution to this.

I would say that we have a massive industry of raw materials, and building up a system that aggregates recycled content material and helping it compete with the raw material market requires the same incentives that the raw material markets get. Tax incentives and other ways that you can incentivize market demand for this material, so that companies can turn their commitments into actions more easily, and kind of make the economic case for that, and accelerate that.

We believe that at scale, a circular system can compete economically with a linear system where you are extracting materials, using it, and disposing of it. But we need to build up that system. So the incentives to help build that system to be on par with the raw material market would be incredible.

Senator Carper. Thank you, ma'am.

Meghan?

Ms. Stasz. Thank you, Senator Carper. I think there are a couple of things that the Federal Government can do. I agree with you that this is daunting, but this is also an opportunity. We have an opportunity to rebuild a functioning, effective, efficient recycling system here, domestically now. I think hearings like this are such an incredible opportunity to put those big ideas on the table.

The first thing that I think government could do, which I said in my testimony, is around standardization and data

collection. We want to raise recycling rates in the States, but we don't know what the baseline is. We don't know what the recycling is in most States. So how can we get that standardized, harmonized data collection, so that we at least know where our starting point is.

The second piece, and this is part of the three-part platform that Consumer Brands Association put out in April, we think there is a terrific role for the Federal Government to play in end-market development. Creating this infrastructure creates jobs.

North and South Carolina is a great example. There is \$250 million invested in plastics recycling infrastructure in those two States, but the State needs more supply. Those facilities are running under capacity. So North and South Carolina have launched a program called Your Bottles Mean Jobs, encouraging households to recycle just two more bottles a week, which would contribute \$10 million in economic benefit and support 300 jobs.

There is opportunity here. There is a great role for the Federal Government to play in terms of leadership for incentivizing infrastructure development.

Senator Carper. Thank you.

Nina, same question.

Ms. Butler. Is this very specifically about what can be done right now given current stakeholders and with the EPA, or

is it something longer term? I just want to clarify between short versus long-term.

Senator Carper. Longer term. The role of the Federal Government, longer term, from this day forward.

Ms. Butler. Long-term, I think we fundamentally have to establish North Star policy that is grounded in valuing carbon, that is a sustainable materials management plan that includes extended producer responsibility, so that we can truly level the playing field and set the right economic drivers in place.

Senator Carper. All right, thank you ma'am. Thank you all.

Senator Barrasso. Thank you, Senator Carper.

Senator Inhofe?

Senator Inhofe. Thank you, Mr. Chairman. I am going to ask questions of two of the witnesses, and I will start with Ms. Stasz. And then I have a second question for you if there is time after I go to the second witness.

We are talking about, it has been introduced, a bill that would put in place a ban of many single-use plastics. I would ask you, Ms. Stasz, what are some of the unintended economic or environmental impacts of the alternatives? There are alternatives that have been named, but I would like to know some of the problems that may be there for those alternatives.

Ms. Stasz. Thank you for that question, Senator. As we

said, packaging has this really critical job to play. It protects the safety, quality of products, and as we just mentioned, the COVID pandemic laid bare the need for a range of packaging, including single-use plastic packaging.

What we need to make sure is that we have all options on the table when it comes to packaging types, because there is a range of consumers in terms of the packaging that they need for their use. There is a range of products that need different packaging.

We have entire teams of Ph.D. packaging engineers who are spending their careers making sure that the packaging that is used for a product is the best one possible to do its job, to get the product to consumers safely and intact and with minimal environmental footprint.

What we don't want to do is take arrows out of the quiver, right? We want to make sure that we have all those options on the table, but a system that can actually process them. Because forcing switches in packaging material, if they don't have a full life cycle analysis in mind, they can cause those unintended consequences, potentially more greenhouse gas emissions, or they might be fragile and break, and you will lose the product, and you waste food, et cetera, when I think about the role that packaging has to play.

I think we want to have a recycling system that will accept

and use and keep that packaging in play, keeping it out of landfills, and absolutely keeping it out of the environment.

Senator Inhofe. That is good, I appreciate that.

Now, I wanted to ask a question of Ms. Croke, and it may sound like it is a little stretch in this committee, but I think it has very important to me. I would like to have you share your thoughts on probably one of the most discussed recycling problems that is out there, and that is of electric car batteries. Would you share with us your knowledge on this?

Ms. Croke. Sure. Look, I am not an expert in battery recycling, but what I can tell you is that certainly, the fact that this is an emerging growth industry, and that [indiscernible] waste and battery waste and things adjacent to that are still emerging, that it is in early days in terms of solving some of these challenges.

So, as you can see, with the plastics issue, where there has been significant attention drawn to it over the last couple of years, when you put the microscope on something, that is when stuff happens. That is when we can actually make change.

So in order to solve getting away from some of the raw material inputs that go into that and being able to re-utilize the high-value material that is coming out of that, we need to actually put attention into what the problem is and the innovation that can come around that.

I might just add to Meghan's answer on the previous question as well, it is also not binary in terms of what exists today versus solving for packaging or processing. We have to solve for both. An example of that is we invested in a company called Cambridge Props, which has a silk protein that goes over food from meat to produce, et cetera, that helps extend the shelf life, that removes the need for as much packaging around that.

At the same time, there is critical packaging that is needed. So we need to drive innovation. We need to drive system innovation and product innovation. That is true for plastics, paper, and battery recycling.

Senator Inhofe. Let me get to the second part of the first question. That would be, and this is for Ms. Stasz, would you speak to the economic impact that a ban, such as the ban that has been discussed, would have on the cost of living for middle-class Americans?

Ms. Stasz. Yes, I can, Senator, and thank you for that question. We want to make sure that the products that U.S. consumers use and rely on every single day are delivered safely, intact, and affordably. Affordability is certainly part of the decision around what is the best packaging for that product.

So for banning certain materials, or taking those arrows out of the quiver, we could, unintentionally, be driving up the

cost of getting product to consumers, or creating unintended waste. That is certainly not an outcome that we want to see, and again, I think we need that underlying system that can handle the packaging that is the best for the product, the packaging that is in use for today, and the packaging that is in use for tomorrow, so that we don't see unintended consequences like increased cost to consumers.

Senator Inhofe. Very good. Thank you very much. Thank you, Mr. Chairman.

Senator Barrasso. Thank you, Senator Inhofe.

Senator Whitehouse?

Senator Whitehouse. Thank you, Chairman, and thank you both for this hearing and for your support of our plastics efforts over time.

I see that Senator Sullivan came in, and he has been a wonderful companion working on this legislation. It strikes me that when there is a whopping failure, and I don't think there is any way to describe recycling as anything other than a whopping failure when less than 10 percent of recyclable product gets recycled, even when it is put in the bin by a consumer, that the problem is usually one of incentives.

It also strikes me that when the problem is one of incentives, that usually means the problem is revenue. I think the question for us here is, what is the revenue proposition for

an investor in better recycling? I remember travelling with our friend John McCain to Mali when there was extremist uprising, and we went to see the troops who were deployed there. When I drove from the airport into Bamako, I looked at the fields nearby, and I thought to myself, how could there be so many ravens, or crows? What are these fields that are just filled with black birds?

It turns out there weren't black birds at all. They were black plastic trash bags that had hooked onto a piece of ground and were flapping in the wind and looked, at first glance, like a bird. It struck me that in a country as poor as Mali, if you could just give people a penny for turning in one of those plastic bags, they would be gone.

I note that Unilever, which is probably the most forward-looking company on this, has said that it is going to take a pound of plastic out of the environment for every pound of plastic it puts into the environment through its products. It is going to be a lot harder for Unilever to find that pound of plastic coming out than it is to put it in as packaging.

But when they do that work, they will end up having to pay people to get the plastic out of the environment. That creates a revenue proposition.

I am sorry that American companies aren't doing as well as Unilever on that front, and I note with some sorrow that when

the American business community speaks for market solutions, their interest in market solutions usually evaporates when it comes to paying the cost of cleaning up their mess. Suddenly, that is not such a great market solution. Then they want partnerships and programs and reimagining and public relations efforts, and anything but putting the revenue out there to create the incentive to clean up their mess.

That is the way economics is supposed to work. Senator Udall described it as Economics 101. It is Economics 101 that the cost of the mess of your products should be baked into your product.

Tell me where you disagree with me in that analysis, and tell me what you would support in terms of getting a revenue proposition out there to create what we all need, which is, we want to have 100 percent recycling. But until it pays somebody to pick up the Coca-Cola bottle and put it in a bin, and until it pays somebody to make sure that once it is in the bin, there is better than a one in ten shot that what is in the bin is actually going to get recycled, this isn't going to work.

So let me start, if I may, with Ms. Stasz, because she has big Rhode Island connections.

[Laughter.]

Ms. Stasz. I do. The best State.

Senator Whitehouse. The best State. Thank you. Much

better than Wyoming, all this big talk about Wind River. We got Narragansett Bay, Mr. Chairman.

[Laughter.]

Ms. Stasz. You raise a really excellent point, Senator, and I think especially around Economics 101 and what is the revenue proposition here.

As I said in my testimony, certainly for recycled plastics, the demand signal is there. It is strong. All of the 25 largest CPG companies that have made big commitments to improving their packaging somehow, largely by dramatic increases in recycled content.

But as Nina pointed out, the supply isn't there. So what is the break in the Econ 101 value proposition? I think that is a really important question for all of us to consider. When we think about financing these systems, how do we spur investment or how do we finance recycling and improvements to recycling?

There are a number of different ways to do that. We put out six different funding concepts in the policy platform that Consumer Brands released in April. What we wanted to do was identify not just funding ideas, but funding ideas that solve specific problems, that get to underlying problems in the recycling system and use funding to fix those problems to drive intended outcomes.

There is a range of ideas in there that get at those

targeted problems, one of which is a fee on packaging. We were talking about other concepts like landfill tip fees. There is a whole host of ideas out there that can be used in the right circumstances. But any financing that goes to improve infrastructure, it has got to solve specific problems in the recycling supply chain.

Senator Whitehouse. Mr. Chairman, I am over my time, so if I could invite the other two witnesses to respond to that question as a question for the record, just provide a written response per the committee's rules, that will allow you to move on to other Senators who are present.

Senator Barrasso. Thank you, Senator Whitehouse.

Senator Rounds?

Senator Rounds. Thank you, Mr. Chairman. I recognize that this discussion today is about recycling. But I am really curious because in most cases, the reason for the recycling in the first place is to try to get some of this product back out of the environment in the first place, in particular, those items that have a very long life.

In this particular case, we are talking primarily about petrochemical-based products. These petrochemical-based products, these polymers, have a very, very long if not indefinite lifetime. Therefore they get into the environment, and they don't leave. They just get smaller, more broken up,

but they still remain there.

I haven't heard one item of discussion today about the alternative, which would be a biopolymer, rather than a petropolymer, a biopolymer made out of soy-based products and so forth. I would really like to know whether or not you see a future for our biopolymer products that are produced right now; they do not have an extended lifespan. Yet, with the research that has been going on for 30 plus years, there appears to me to be a very reasonable expectation that a biopolymer product replacing a petropolymer product should seem at least part of the discussion when we talk about trying to recycle.

I would just like, very quickly, just to kind of go down the line, and get a thought, are we missing something by not talking about the promotion of bio-based polymers in the packaging and in the short lifespan needs of so much of what we use plastics for that are petrol-based today?

Let's just start with Ms. Croke to begin with, and kind of move our way down.

Ms. Croke. Great question. What I would like to do is just break this into two pieces that sometimes get confused, not that you are confusing this, but just in general for the broader audience.

There is a difference between bio-based polymers that turn into a polymer that acts and looks like any other polymer, and

at end of life, reacts like every other polymer and can be recycled. Then there are compostable solutions that look and act like plastic, but can actually break down, at least theoretically, into a compostable solution.

So I break those into two items. I think they are both viable and on the table, especially if you think about making biopolymers that are still going to, at end of life, have to go through the same processes as regular polymers, but you extract less petrochemicals, and if you can identify sources of that biomaterial that are going to be waste products, even better.

We have seen companies like Origin Materials that use waste cellulosic material and turn that into a polymer. Super-cool, great opportunity, lot of investment going into that.

The compostable plastics are also a potential opportunity, especially for items that are unlikely to be recycled ever, because they are food contaminated or they are very small and can't go through a recycling system. That said, if we are going down that path, we really need to think about investment in our food waste, our composting, and anaerobic digestion infrastructure, which we are investing in through and across many of our funds.

I think there is significant opportunity there. But you can't create products like that without thinking of the infrastructure and making sure that material is actually bio-

available, so that when there is a product coming out of that compost facility, it has high value and can be sold, just like a recycled item.

Senator Rounds. Thank you.

Ms. Stasz?

Ms. Stasz. I will admit that I am not a chemist, so your knowledge on biopolymers is likely more advanced than mine. I think what I would say to that is that we need a range of packaging materials. We need a whole suite of options in terms of what is the best materials. And there are so many new materials, new innovation happening in the packaging space. And to Bridget's point, we need a system that can process and handle those.

I think another point here would be that whichever materials we use and whichever system we use to handle, process, recycle them, keep them out of landfill, as much as possible, we should have clear, harmonized standards so that consumers aren't confused about what to do with that particular container, if it is a biopolymer or a more traditional plastic. But 10,000 different recycling systems in the U.S., every single one with their own set of rules, it is incredibly confusing.

So, regardless of which kind of material we are using, I think it has important that we have clear, consistent guidelines, harmonization, so that we can reduce consumer

confusion and help consumers do the right thing with their packaging when they are done with it.

Senator Rounds. Thank you. Ms. Butler, would you like to respond?

Ms. Butler. Sure. Yes, this is actually what my master's project was on at Duke University because I absolutely have this allure of like, why can't we just make these materials out of natural materials. This is a no-brainer.

But this is the complexity of plastic. You can't have it function exactly as you need it to in the most efficient way and then poof, go away. That doesn't mean that there aren't opportunities to displace a lot of applications.

When we look at the fact that more than half of what we produce on an annual basis is not going into the packaging stream, it is going into our clothing, and all kinds of other applications, there are absolutely -- but that is why I keep going back to we need that North Star policy that is based on how we value carbon. We have to align and manage all the tradeoffs that go back to that one piece, because we will have a lot of unintended consequences if we don't keep that clear North Star in check.

Senator Rounds. Thank you.

Thank you, Mr. Chairman. I just think it is important that as we talk about these polymers and the moving forward, that the

bio-based products not be forgotten. I think there are years of research on it, and there are a number of ways in which soy in particular, soybeans, have been used.

The biopolymers, we have had petrochemical engineers from the different oil companies actually tell us that once you get into that position, it is very difficult to tell them apart, and a polymer engineer can use it whether it is bio-based or a petrol-based. The difference is the lifespan, and I think that is something that perhaps in the future we could explore.

Thank you, Mr. Chairman.

Senator Barrasso. Thank you, Senator Rounds.

We do have a number of Senators who are joining us remotely, as well as, I believe Senator Merkley, is next with questions. Senator Merkley?

Senator Merkley. Great. Thank you very much, Mr. Chairman. I am pleased to be able to participate in this fashion.

I wanted to start out with having gone down and gotten some breakfast this morning, and I will hold up, hopefully, you will be able to see this, the lid, the plastic lid, which has no triangle on it. Is there any way I can recycle this? If one of you can just give me a quick answer.

Ms. Croke. I can answer that. We are actually working, it is not super quick, but we are working with Starbucks and

McDonald's to find solutions with innovation and recovery solutions on that. It is a three-year project, so not today, but give me like, a year and a half.

Senator Merkley. Okay. Well, I also got a cup of yogurt and was handed a spoon, and this has no triangle on it either. Is this recyclable?

Ms. Butler. No.

Senator Merkley. And that spoon came in this bag, this little plastic bag. It has no triangle. Can I do anything with that?

Ms. Butler. Yes.

Senator Merkley. So. All of these are headed to the landfill or incineration, which has its own pollution problems. There's a term called wish-cycling, which is basically that we think we have this big plastic bucket that I am here next to, and I am throwing my plastic in there. I am looking for the triangles.

But then I find out in preparation for our gathering today, that right now, if it has a triangle and the number 3, 4, 5, 6, or 7, basically there is no market. Basically only number 1 and number 2 have a significant market. If I had a ton of it, a ton of number 3, say, can I sell that anywhere in Oregon?

Ms. Croke. If you had a ton of number 5, you could, but 3, not to my knowledge.

Senator Merkley. No go on number 3. How about number 4?

Ms. Butler. There is a market for number 4. What you said is that it has to have enough volume, and it depends on where you are. It has always very regional, and as Bridget said, there is more demand for polypropylene for number 2, emerging for number 1. There are differences between bottles versus trays.

And I want to point out that from the reclamation capacity that was starting to move up and thrive, and there are companies that despite so many challenges, have really demonstrated American ingenuity. They were getting some resins back up to almost virgin quality. This is all before the Shell gas revolution when the price went down pretty dramatically, starting in around 2014 and moving down.

So all of these questions are important. Anything can be recycled if you have enough of it and there is value for it. That is the problem. Both sides of the economic equation are out of balance in terms of low disposal costs.

Senator Merkley. My home State, which is really all about recycling, started the first bottle bill and the first effort for massive beach cleanup, but the marketplace is not there.

There are other pieces of this puzzle that haven't been talked about. One is that a lot of plastics are made from natural gas. Natural gas is produced in a fashion that

contributes a lot to global warming, the burning of plastics contributes to global warming, the leakage of methane out of the natural gas pipe system contributes a lot to global warming.

So why don't we just go with coated paper or other strategies? My colleague mentioned biopolymers. You have already responded to that, but there are a number of companies that are working on coated papers as an alternative to these uses. Why not kind of get out of this cycle, nonrecyclable plastic and burned plastic, rather than trying to double down on a losing strategy?

I would just ask Ms. Butler, what are your thoughts on that?

Ms. Butler. That is an excellent question, and this is why it is so important that we keep getting back to using science to really navigate the tradeoffs with that North Star in place. It is such a knee-jerk reaction to say, let's just use paper. But the reality is, for that paper application to function for the application we want, there are hosts of chemicals that have to be used.

The PFAS issue is serious, and in terms of the sheer volume of paper that is ending up in our landfills right now that are off-gassing methane, it is something that is not, I think, on the radar nearly enough. We are not managing and looking at all the renegade gases coming off of landfills, which is why the

cost of disposal is so much lower than it should be.

I think that you can switch to paper, but we will have a much more dramatic greenhouse gas increase if we don't change consumption patterns. It is a feel-good solution, but it doesn't get us to the right overall objective, which is reducing overall environmental impact.

Senator Merkley. Well, I do agree with that, that has to be the goal.

I wanted to mention one other thing that hasn't been raised, and that is plastic, as it deteriorates, produces chemicals that are endocrine disruptors. Study after study shows a significant impact on species, including human species and human health.

I think that is an issue that needs to enter into this discussion, that a future based on plastics is a future based on endocrine disruptors that impact human health. We are looking at a situation where even if you breathe the air on a remote hike on a western land, we are now finding that the dust is full of plastics. We are finding that the ocean is going to have more plastic in it than fish by weight within a couple decades.

It is everywhere, and it has profound impacts. I think we have to look at every possible strategy using that science, as you noted, to compare the impacts of different pieces, different approaches. But I think we are entering deep into an issue that

is deeply problematic for the human race and American health and environmental health.

I will just end it there. Thanks.

Ms. Butler. Thank you.

Senator Barrasso. Senator Cardin?

Senator Cardin. Mr. Chairman, thank you very much, and let me thank all the panelists on this hearing.

I am sorry I could not be here for the beginning part; we had another committee hearing at that time, but I thank you very much. I am going to follow up on Senator Merkley's point in regard to plastics, specifically dealing with microplastics that end up in the Chesapeake Bay. We had a report done by the Chesapeake Bay Program Scientific and Technical Advisory Committee in 2019 that took samples and found that nine tidal stations in the Chesapeake Bay watershed, every one they tested had microplastics, which are extremely damaging to the environmental future of the Chesapeake Bay.

We also found that wastewater treatment plants were not designed to get microplastics out of the water system, so that we also have a situation where we think we have treated wastewater successfully, where we have not in regards to microplastics.

I know we have been talking about this, but for those of us who are committed to the Chesapeake Bay Program and committed to

doing everything we possibly can to preserve the Chesapeake Bay for future generations, it is a national treasure declared so by many Administrations, can you tell us how we can use the tools available through the Chesapeake Bay Program and through the efforts there and partnership effectively to deal with microplastic issues in our waters?

Ms. Croke. I am happy to start, and I might let Nina talk a little bit more about some of the science, but I will say that if we are talking about microplastics, which you are correct, is a huge issue, we need to take a much bigger lens on industry at large. Because what we have identified is that a significant part of those microplastics are coming from the textile industry and fast fashion. The waste that is coming out of there is a quiet issue that hasn't emerged as much as the single-use packaging plastics, but is polymer-based, and is creating a lot of that risk, as well as tires on the road.

So I think taking a scientific approach to understanding where microplastics are coming from, so that we can create system solutions that solve for those issues around that particular issue. Nina, I am not sure if you have anything.

Ms. Butler. No, that was great, Bridget. I am going to kind of sound like a bit of a broken record, but again, it isn't until we put value on plastics and we navigate the tradeoffs, as Bridget said, we are going to continue to be going in the wrong

direction here. So because there is so little value, and there are immediate tools that you could look at in terms of bottle bills, do you get materials collected. But to Bridget's point, much of it is happening in applications that are not as visible, and what we see is like, well, we should just immediately eliminate or ban that.

It is fundamentally our responsibility to find a way to put value on carbon, and therefore plastic, so that it is less and less likely for someone to walk by and think it has okay to leave something sitting there. Until we do that, we are going to have more and more of both microplastic and just sheer volume plastic waste.

Ms. Stasz. If I might add on to that, I think no one wants to see pollution of any kind, which is why we are all here today. We want to talk about how we can keep packaging not just out of landfills, but out of rivers, out of lakes, out of streams, out of the Chesapeake Bay.

I think to Senator Merkley's point, this consumer confusion piece is really rampant, and that is because of these 10,000 different systems. What you do with the number 3, with the chasing arrows in your town could be different from a single-family house to the apartment building next door to your office building. It is no wonder that as some of the research that we did, we found that only 4 percent of Americans are not confused

by their recycling system. so they are either wish-cycling, putting the wrongs things in the bin, hoping it gets recycled, or they are not recycling altogether.

I think addressing this patchwork of systems, getting at some more harmonized systems, helps us educate consumers better, we get better quality product in the bin, but we also get consumers to start participating in recycling, keeping packaging out of landfill, keeping plastics in particular out of landfill, or rivers, lakes, and oceans.

Senator Cardin. Let me just make a comment if I might. The reason I asked the question, and I thank you all for your answer, is that microplastics are not seen or not known in the Chesapeake Bay. One of our great successes in cleaning up the Bay has been education, public education. The people in the watershed really want to do their share to preserve the Bay for future generations.

We need to do a better job in regard to plastics. Yes, we see the plastics in the ocean, and we see it in our waters, and we are concerned about it, and we want to do things. But what we don't see, sometimes, we don't deal with. I thank you all for your answer. I agree we have to look at the broader issues in regard to plastics. The Chesapeake Bay is just one of the casualties from not having a policy that reflects the true cost of plastic.

So I thank you all for your answer, and I think in regard to the Chesapeake Bay Program, we have to redouble our public education efforts so that the public understands that a lot of the efforts that we are doing to clean up the Bay, we need to put an effort in regards to the microplastics. Thank you all very much for participating in the hearing.

Senator Barrasso. Thank you, Senator Cardin.

Senator Gillibrand?

Senator Gillibrand. Thank you, Mr. Chairman.

Ms. Butler, I really appreciate your testimony. We really heard how plastic pollution in our environment, both in the land and in the air and the water, is a growing problem across the Country.

I want to talk a little bit about some of the activities that States like New York have engaged in. New York has enacted policies designed to significantly reduce single-use plastics that are difficult to recycle, including plastic shopping bags, straws, and Styrofoam containers. How effective have local bans been on reducing the amount of plastic consumed and discarded in communities with such policies in place?

Ms. Butler. Thank you for the question. It is not as straightforward as I would like to say. Again, I keep going back to you have to navigate the tradeoffs. Unfortunately, when we document how much availability of recycling, when it comes to

plastic bags, it has had a dramatic decrease in the access that citizens can find to recycle the things that are in their households that are far beyond the plastic bag. That place to receive the material is also what you can put your bathroom tissue wrap, your bread bags, all kinds of things that really do carry products and reduce food waste.

But the bigger issue looms that we don't have, the companies that take that material and have evolved over decades and really been the innovators, I think, in our economy, do not have the demand. While there are companies that want to buy recycled content, the reality is purchasing recycled content right now does cost a lot more than virgin. So there isn't true demand that is creating value to get that material back.

So bans can lead to unintended consequences, and it really depends on what application you are talking about, whether you are talking about bags, or you are talking about straws, or you are talking about polystyrene. With the case with bags, it has had, in some ways, a detrimental impact if it doesn't also reduce the use of paper bags that have a very heavy carbon footprint.

Senator Gillibrand. You testified that there are virtually no economic incentives for producers to use recycled plastic, and that producing new plastic is comparatively inexpensive. What financial incentives and/or penalties could help make it

more economically desirable to shift away from new plastic production and use more recycled content and reusable products?

Ms. Butler. Requirements for recycled content could go a very long way. Just take the trash bag example that I gave. We don't have, to speak of, very much recycled content in an application that is destined for landfills. It is very commonplace in Europe, but we don't have it, because it has simply less expensive.

So, as a publicly traded company, you are fiduciarily irresponsible if you are taking a feedstock that is more expensive than another feedstock, and you are increasing risk because it may not be the exact same performance that you have in highly-engineered virgin resin. We have both got artificial, low-cost on the one side of the economic equation, which is the cost to dispose, it has less than half in the United States than it is in say, Europe, and then on the other side of the equation, it has incredibly inexpensive to source virgin resin.

That really became the case, the tipping point was around 2014, 2015, where companies, for the most part, used recycled content because it was a cheaper application. There were policies such as the rigid plastic packaging law in California that really stimulated a lot of investment in the reclamation industry, getting significantly more recycled content.

But for the most part, once the price dropped below a

certain kind of specific sweet spot, it became incredibly difficult for reclaimers, the recyclers, to compete with virgin. It is only those pledges that go away when we have this superstorm of low virgin prices, all of a sudden China stepping away, and now COVID.

Senator Gillibrand. What role do you think industry should play in bearing the cost of cleanup of plastic pollution in our environment?

Ms. Butler. I think we need to use the economic drivers with very well-designed extended producer responsibility that is anchored, fundamentally, in the value we place on carbon, so that there would be fees that are what is called eco-modulation. The fee adjusts based on the performance of that product, and there is a feedback loop, so the better you design, the lower your fee.

What I am hearing from brand companies and even petrochemical companies as we have been working a lot more in Europe this last year, is that they are actually asking for it. There is not a North Star to be designed towards; there is a lot of confusion in the marketplace based on what does the consumer that may not know all the tradeoffs, but kind of the consumer directions giving, versus what we could have through smart policy that is really anchored in looking to reduce overall environmental impact.

So I think EPR is key. I think other tools that fit well within that, a bottle bill, recycle minimum, recycle content legislation are also really important. We can't keep our sights only set on the half-side of the equation. It has also how inexpensive it is to landfill. When we look at, if we broaden the true cost of landfilling, the price would be much higher, and that is taxing the bads, not the goods.

Senator Gillibrand. Thank you, Mr. Chairman. I appreciate it.

Senator Barrasso. Thank you, Senator Gillibrand.

Senator Boozman?

Senator Boozman. Thank you, Mr. Chairman, and thank you so much, you and Senator Carper, for holding this hearing. It was a real pleasure to work with Senator Carper on the Recycling Caucus, but also all of us. This is something, the nice thing about this, this is a very bipartisan issue that just makes a lot of sense, and could be low-hanging fruit that we need to take advantage of. So we do appreciate you guys so much for being here, and how you represent common sense stewards of the environment.

Tell me, one of the things that we talk about is that, it is great for the environment, we all agree with that, but tell me also about the opportunity that it does in creating jobs. I guess we could say that hundreds of thousands of good-paying

jobs, this and that, talk a little bit about that. That is something I think that we don't really talk enough about.

Ms. Stasz. Sure, absolutely, and thank you for the question. I agree, this is a really critical bipartisan issue, and I think that is so important to progress and to success of initiatives that we would put forward.

When China closed its doors to U.S. recyclables, it did expose or show this dramatic lack of domestic infrastructure innovation, or in many cases, investment here. But again, that provides this opportunity to rebuild that infrastructure, to rebuild those jobs, to put more money into the economy in different parts of the U.S. to be able to process recyclables here, domestically.

I think North and South Carolina, with their Bottles Mean Jobs program, is a really excellent example of that. I think another key driver or layer around how we can incentivize infrastructure or build that infrastructure in the right places, is starting with some baseline data. If we don't know where recycling rates are high or where most of our infrastructure is, if we have the sort of black box of data or lack of data right now, it has really hard to understand where should we put our resources, right? Where should we put our resources for the best return on our investment to create those jobs?

But I think that there is real opportunity both in

standardized data collection and in building that domestic infrastructure, so we can process our packaging here.

Senator Boozman. No, I agree totally. In fact, the next thing I was going to bring up was the fact that with thousands of systems nationwide that nobody knows what you are supposed to do, and in fact, many of the people that are recycling don't know what to do. It is a huge problem.

I guess the question is, what specifically, what can we do as a Congress, either directly or indirectly, through legislation or incentivizing people so that we can have some sort of a better system to collect data, have a better system to standardize? What are the keys to getting there? We talked about this a lot, but how do you actually do that?

Ms. Stasz. I think standardized definitions is a really good start. From EPA's work on their America Recycles effort last year, the work of that group found that there are 18 different definitions of recycled or recyclable in the U.S., and that is just the definition of recyclable, never mind the 10,000 different systems we have to process and handle recycling.

So some standardized definitions, I think, is a really good way to start standardized data collection so that we can target our investments in the right places.

Senator Boozman. You guys can jump in.

Ms. Butler. We have worked on this for many years, the

harmonization, because we track the amount of plastic that gets recycled domestically or sold export. The ability to really triangulate that data and look for double counting is based on how companies report this data.

We have looked at harmonizing from a commodity perspective, as well as harmonizing how we communicate to the general public. We have worked with many organizations to come up with this consistent way to do that. How we do audits, coming up with consistent methodology through the Association of Plastic Recyclers, and the American Chemistry Council, there has been a tremendous amount of work on that.

Then specifically, as Meghan was saying, the question of recyclability has been completely blown up. It used to be, you had 60 percent access, and you put a recyclable on it, and we are good. That was largely because we became very complacent in sending material to China that was more difficult.

Now we are in a whole different ball game. We worked with, there has been off and on about five different brand companies that last three years that had a particular package that was unknown as to whether or not it was deemed recyclable or not based on the last availability of recycling study. So we have developed this extensive decision tree to say without a doubt, if a company is going to make a claim to recyclability, you have to check all of these boxes, and it says it flows through the

system, is there market for it, is there availability, it is a very complex thing.

But I almost think that this is a bit of a distraction if we don't fundamentally have value on the material and there is demand for it. What is drastically lacking, I think, from a measurement perspective is verification. When you make a claim of recycled content, that is what creates real demand and gets it so that it has less likely to become litter. Right now, because there is not enough clarity on how to do that, the companies that are leading in that space aren't realizing a true competitive advantage. It is a market failure right now. From a Federal Government perspective right now, that would be huge.

Senator Boozman. Thank you very much. And again, thank you all and our participant by phone. Thank you all so much for the great work you are doing.

Special thanks to Senator Carper and his work and his staff, we know who does all the work with these things, I know it is true in my case, but we do appreciate your efforts.

Thank you, Mr. Chairman.

Senator Barrasso. Thank you, Senator Boozman.

Senator Carper?

Senator Carper. I just want to say to John Boozman, thank you, it is an honor to be your wingman, and our staff and I, we love working with your folks and the other members of this

committee, and a lot of people that are not on this committee, or in the Congress.

I want to ask a question, if I could, of Bridget, please, and that is the Closed Loop Partners mission, as I understand it, is to build a circular economy that seeks to eliminate waste and additional demand for new resources by reusing, by recycling, and repurposing materials.

However, recycling varies, as we know, in each State, we heard 10,000 different venues or sources, not sources, but places. Recycling varies in each town, city, and county across our Nation. It varies in our own State. Products that are recycled in one city may not be recycled in another. Many types of single-use plastics that are marketed or labelled as recyclable do not have end markets, as we have heard again and again here today.

This means that many municipalities are not recycling these plastics, and they are actually ending up, as we talked about, in landfills or in incinerators. This is a tremendous impediment to building a circular economy where our Country can use, can reuse materials efficiently.

Question: knowing this challenge, how can industry and government work together better, work together better, to build that circular economy that works for both our economy and for our environment, please? Bridget?

Ms. Croke. Thank you for the question, thank you.

I just kind of keep going back to something that has come up again and again. I would bring it back to what Nina said, in that we really need to focus on building value, more end markets. We believe, having talked to a lot of industry, big consumer product companies, retailers, petrochemical companies, who are also getting into the game, and big banks and investors, if there is opportunity, they will invest.

We don't need government to take on the lion's share of the investment in solving these issues. We need incentives to help create and drive end markets, motivate companies to design for recycling, and create an even playing field so that an investor who is looking at investing either in a recycling facility, a processing facility, or some innovation that is going to advance recovery of materials or even new material science, they are looking at this and they are thinking, the commodity markets are changing every year.

Right now, we see good markets, but last year, we saw bad markets, and vice versa. If they don't see a five-year horizon of a company purchasing that output, their investment is at risk. If we can help create an even playing field in terms of incentivizing the use of recycled content for end markets for big consumer product companies, investment will flow in the private sector.

So anything that the federal and regional governments can do to help drive that incentive will drive capital in significant levels into the space and build scale supply chains that naturally compete with the raw material markets.

Senator Carper. Thank you.

Let me ask my last question maybe of Meghan and Nina. When I was new in the Senate, I didn't know Ted Kennedy, and I asked if I could maybe come by his office and have a cup of coffee together. We actually had lunch together in his hideaway, which was quite an experience, quite a hideaway. My hideaway is the size of a broom closet; his was like a museum.

I said to him over lunch, I said, I have always wondered why you, a very liberal Democrat, are like the favored dance partner with a lot of Republicans when introducing legislation. Looking for a Democrat, they ask you, Ted Kennedy, one of the most liberal Democrats, to be their lead Democrat to make it a bipartisan bill. I said, why is that?

And he said to me, he said I am always willing to compromise on policy, never willing to compromise on principle. Think about that. Always willing to compromise on policy, never willing to compromise on principles.

What are some principles that we should take to heart, embrace, and maybe be reluctant to compromise on? Principles. Not policy, but principles, please, each of you. Nina, do you

want to go first?

Ms. Butler. Yes. This is very near and dear to my heart, and as I said, getting into the world of plastic, it was such an unnatural step for me. But it is that basic principle that we have to look at how we reduce the most overarching threat to life on this planet, and that is climate change, and it is toxins, but it has climate change.

Going back to the microplastic, what we can't see is really dangerous, and the acidification of our oceans through unbridled use of carbon and greenhouse gas emissions is our biggest threat. We have to unlock this plastic paradox by establishing the North Star policy so that we stay true to that basic principle of protecting this planet.

Senator Carper. Thank you. Meghan? And then I am done.

Ms. Stasz. I think it has an excellent question. I think a foundational principle here is the need for shared responsibility. No one actor, no one industry can solve this problem alone.

We really need an environment in which all stakeholders are at the table, and all stakeholders need to be at the table bringing ideas about how to fix the piece of the recycling supply chain that they control, that they have the most influence over.

We have seen our industry, the consumer goods industry has

made major commitments to packaging improvements as the piece of the recycling supply chain over which we have the most control. We need all of the other stakeholders at the table as well, bringing their ideas to the table on how to fix other elements of the packaging supply chain.

Senator Carper. Mr. Chairman, I just note in closing, one of the things that I think has been missing here is leadership. I have found the most important ingredient to the success of any endeavor is always leadership. This is an all-hands-on-deck moment, and the leadership has to come from a lot of sources: business, private sector, States, local governments, EPA, us, and from the White House, from whoever is leading our Country, and for us to learn from other nations that are leading.

I am delighted that we are here. I think this has been a great panel of witnesses, and we are grateful to each of them. Thank you so much, Mr. Chairman.

I would ask unanimous consent, if I could, to submit for the record a variety of materials that include news articles, fully recyclables, news articles, letters, statements from stakeholders, and other materials relating to today's hearing or on challenges facing recycling in the U.S. I would ask unanimous consent for that, Mr. Chairman.

Senator Barrasso. Without objection.

[The referenced information follows:]

Senator Carper. And one more, if I could. I ask unanimous consent to submit -- is that the same thing? They are the same. Two for the price of one. Thanks so much.

Senator Barrasso. Thank you, Senator Carper. We received a number of letters and written testimony from cities and a variety of organizations on the state of recycling in America, and I am asking unanimous consent to enter all of this material into the record, and without objection, that will be done.

[The referenced information follows:]

Senator Barrasso. I want to thank all the members of the Senate who were here to participate in this. I thank our witnesses, Ms. Croke, Ms. Stasz, and Ms. Butler for all of your help. Very thoughtful, very productive time.

Some of the members who were not able to join us may want to submit follow-up questions for the record. I know Senator Whitehouse had a question that he is going to ask several of you to respond to as well. So the hearing record will be open for two additional weeks.

I want to thank all of you for your time and your testimony for being with us today. The hearing is adjourned.

[Whereupon, at 11:58 a.m., the hearing was adjourned.]