



ISRI is the voice of the recycling industry, promoting safe, economically sustainable, and environmentally responsible recycling through networking, advocacy, and education.

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Office of Resource Conservation and Recovery

Office of Land and Emergency Management

U.S. Environmental Protection Agency

Washington, DC 20004

Re: Draft National Strategy to Prevent Plastic Pollution (EPA–HQ–OLEM–2023–0228)

The Institute of Scrap Recycling Industries, Inc.® (ISRI®) is grateful for the opportunity to submit the following comments on the U.S. EPA’s “Draft Strategy to Prevent Plastic Pollution” (EPA–HQ–OLEM–2023–0228; 88 FR 27502-27504; May 2, 2023) (hereinafter referred to as the “Strategy”). As the Voice of the Recycled Materials Industry™¹ promoting safe, economically sustainable and environmentally responsible recycling, ISRI takes great interest in EPA’s proposal, and we offer our support on its development and implementation.

ISRI represents the infrastructure through which the vast majority of recycled materials in the U.S. flow for processing into high-quality materials for manufacture into the everyday items and essential infrastructure that people depend upon. This infrastructure includes companies that process, broker and industrially consume metals, paper, plastics, glass, textiles, rubber, and electronics, whether sourced from commercial, residential, or industrial operations. It also includes those companies that manufacture and distribute optical and infrared scanners, balers, shredders, conveyors and other sorting, separation, and size-reduction machinery and transportation equipment that are used in all parts of the chain.

ISRI is proud to have been actively involved in the development of EPA’s National Recycling Strategy and praises the Recycling Strategy as forward-thinking, achievable, and inclusive of all the components required for a successful recycling ecosystem. ISRI believes that – once finalized, incorporating the input from ISRI and others – the proposed Plastics Strategy can help achieve the goals identified in the National Recycling Strategy and provide the guide for achieving circularity for plastics while reducing the pollution resulting from its mismanagement,

¹ With headquarters in Washington, DC and 18 chapters nationwide, ISRI represents more than 1,500 companies that are processors, brokers, industrial consumers, equipment manufacturers and service providers. Recyclable commodities include metals, paper, plastics, glass, tires and rubber, electronics, and textiles. ISRI provides education, advocacy, and safety and compliance training, and promotes public awareness of the essential role that recycling plays in the U.S. economy, global trade, the environment, and sustainable development. Generating nearly \$117 billion annually in U.S. economic activity, the recycling industry supports more than 500,000 Americans with good paying jobs.

over production, failure to consider recyclability at the point of design, and underinvestment in recycling infrastructure.

1. Introduction

ISRI applauds EPA for proposing a strategy to improve post-consumer materials management, foster circularity, reduce pollution, and prevent the movement of plastics and other post-consumer materials onto the land and into our waterways and oceans. We are submitting these comments in furtherance of these goals.

Summary of Comments

- Plastics recycling markets are subject to unique pressures, yet plastics recycling volumes and rates continue to increase. This Strategy should support policies that do not interfere with existing efficient markets and encourage maturation of developing markets through technological innovation and other efforts.
- The recycled materials industry is continuously innovating to recycle more types and amounts of material, more efficiently. We are also partnering and working closely with consumer brands and other stakeholders to help them increase their recycling rates, use more recycled content in their products, and to design their products for recycling after their useful lives.
- The sustainable production of recycled materials in the U.S. requires access to global markets. The current language in the Basel Convention confuses recycling processes with waste disposal and treatment processes, and U.S. ratification of Basel (as it is currently written) would negatively impact trade in commodity-grade recyclable raw materials.
- Plastics recyclers are continuously innovating, making it imperative that any extended producer responsibility “EPR”/product stewardship policies established do not interfere with currently existing markets and also, support developing markets. However, ISRI supports consideration of such EPR policies that are temporary in nature to support nascent markets for currently difficult-to-recycle items until the markets mature.
- ISRI encourages policies that incentivize manufacturers to design their products for recycling after their useful lives, to use greater amounts of recycled content in manufacturing, and to use recyclable and recycled content in packaging, provided there are no negative implications to the product’s recyclability.²
- ISRI supports EPA’s exploration of an accredited, voluntary third-party certification program for plastic recyclers and encourages EPA to explore supporting the recycling industry’s existing certification program, the Recycling Industry Operating Standard (RIOS), which is designed for recyclers of all commodities.
- ISRI supports EPA’s exclusion of processes that convert plastics (as well as other energy-containing materials) to fuels, fuel ingredients, or energy from being considered as recycling.

² See ISRI’s Position on Design for Recycling: https://www.isri.org/docs/default-source/policy-position-statements/isri-design-for-recycling-policy.pdf?sfvrsn=8cff7612_2.

- Any claims as to the use of terms “bio-degradable,” “oxo-degradable,” “photo-degradable” and other terms that indicate a plastic is easily degraded should be supported by independent third-party research and testing using accepted standard methods and specifications published by standard making bodies. Additionally, the introduction of products with degradable additives must not harm or compromise currently acceptable recycling practices, recycled material product expectations, and the affiliated recycling infrastructure.
- Plastics producers should be evaluated separately in this Strategy from plastics recyclers, since recyclers are part of the solution for decreasing plastic waste and pollution, and their operations vary significantly from the operations of virgin plastic producers.
- Recyclers recognize their role in building and maintaining healthy neighborhoods, and they seek to be recognized as members and partners in the well-being and growth of their communities.
- ISRI welcomes the opportunity to collaborate with EPA and others on efforts to advance this proposed Strategy.

We have organized our comments by issue and corresponding proposed actions as presented within the Strategy.

2. Issues for Comment:

Market Dynamics/Realities (A1.1, A2.1, B2.2)

The plastics recycled materials marketplace is resilient, efficient, adaptive, leads innovation, and is responsive to consumer demand but is also affected by the global market economy. Thus, ISRI encourages EPA to include actions in its Strategy that support existing end markets for recycled plastics while also encouraging and helping new markets to grow.

“Plastics” is an umbrella term for a diverse array of materials, some more easily recycled than others. For example, many single-use plastics are difficult to recycle, given current technological limits. Plastic is also often infused into other materials like packaging, making it sometimes difficult to recycle. But other plastics, such as the material used in soda bottles and laundry detergent bottles, are recycled often — at three times the average recycling rate.

The good news is that recycling technologies for plastics are advancing, and as a result, companies are stepping up recycling of plastics that have traditionally been considered difficult to recycle. These include PVC products, such as plumbing and irrigation pipes and drains, and plastic film used for everything from shielding crops to grocery bags. Recyclers processed at least 1 billion pounds of U.S. plastic bags and film in 2017, up 54 percent since 2005. Scientists and recyclers have developed several technologies for plastics recycling during the past decade, some of which are highly developed, with others still in their infancy.

Plastics for recycling are sourced primarily from three sources: commercial, industrial, and residential. While all three sources are important, they each have very different market dynamics that must be understood when developing policies to encourage market development. For

example, the markets for plastics sourced from industrial operations generated during a manufacturing process are strong, with supply and demand generally balanced. This plastic is generally homogeneous and “clean” and more easily recycled, making it desirable as a high-quality resource in the manufacturing supply chain. The market for these plastics (often called “pre-consumer” plastics) does not require intervention in the form of government mandates or policies to support them.

In contrast, the recycling of plastics from end-of-life consumer products — whether collected through the residential recycling system or from businesses, commercial operations, and institutions — are subject to an ever-changing and heterogeneous mix of materials on the supply side which flows into the recycling stream regardless of whether there is market demand for the material. Additionally, this part of the recycling stream relies on human behavior to choose to recycle (and how to recycle). A consumer’s choice to recycle is often affected by their level of recycling education, their belief in their local recycling systems, and their access to recycling. Further, “green” commitments made by brands and consumer products manufacturers, “wishcycling,” and expectations by the general public for expanded plastics recycling all influence the recycling of materials in this stream.

To help ensure the quality of the recycled materials from these various sources, ISRI publishes guidelines for the buying and selling of recycled materials that are used globally and are reviewed and updated regularly, as the flow of recycled materials evolves with the introduction of new products and disappearance of earlier products from the supply chain. Most recently, ISRI launched a new, digital version of our Specifications Guide at [ISRISpecs.org](https://www.isri.org/specs), thanks to a grant from the U.S. Department of Commerce’s International Trade Administration that will improve communication among all entities along the manufacturing supply chain — regardless of their geographical location or language. For residentially-sourced recyclables, especially packaging, achieving “specification-grade” quality starts with all of us at home — we consumers who not only choose to purchase and place (if appropriate!) these products or their packaging into the recycling bin but who also have the ability to ensure that the product or its packaging is minimally contaminated (e.g., “empty” containers, with no or low residual product inside). Responding to this need, ISRI published “Inbound MRF Specifications” that provide guidance to communities on what they can do to ensure less contamination of recyclables, thereby increasing the opportunity for more materials to be recycled.

Despite these market pressures and consumer behavior, plastics recycling volumes and rates have increased. For example, Stina, Inc.’s post-consumer data for 2021 (published in April 2023) showed increased plastics recycling rates. In particular, 5.9% more post-consumer plastics (such as plastic bottles and film) were recycled.³

To address market pressures and increase recycling, ISRI suggests that EPA apply the policies outlined in Objective A of the National Recycling Strategy: Improve Markets for Recycling Commodities to plastics. Proposed actions that could be beneficial under this objective include:

³ See the 2021 U.S. Post-Consumer Plastic Recycling Data Dashboard: <https://circularityinaction.com/2021PlasticRecyclingData>.

promoting market development; producing analysis of different types of end markets that considers resilience, environmental benefits, and other factors associated with investing to strengthen the recycling system; increasing demand through policies and programs, such as: programs that increase awareness of regional raw materials available to local manufacturers (See A3.1); and initiatives that incentivize less-mature markets to reach maturity and consistent methodology and calculations for calculating recycling rates.

Assessments, Incentives, and Policies on Plastics Production and Post-Use Materials Management (A1.1, A1.2, A1.3, A1.4, A2.1, B1, B2.1, B2.2, B3.1, B4.2)

To foster circularity and reduce plastic pollution, demand for recycled plastics must increase, but not through mechanisms that disrupt currently existing efficient recycling systems such as extended producer responsibility programs.

When considering policies to reduce the production and consumption of single-use, unrecyclable, or frequently littered plastic products (as proposed in A1, A1.1, and A1.2), ISRI fully supports initiatives and incentives that are designed to strengthen domestic residential recycling and markets utilizing the strength of the U.S. government’s purchasing power, such as recycled content requirements in EPA’s Comprehensive Procurement Guidelines and expansion of such mandates through legislation. On the former, ISRI’s representative on the GSA Acquisition Policy Federal Advisory Committee (GAP FAC)⁴ participated in the development of the recommendation to GSA for “Reducing Single-use Plastics and Packaging.”⁵

When identifying effective policy tools and approaches towards reducing production of single-use, unrecyclable, or frequently littered plastic products (in accordance with A1.4), ISRI encourages EPA to consider the following:

- Make distinctions between different types and priorities of single-use plastics. For example, PET (polyethylene terephthalate) bottles, in particular, are single-use, but highly recyclable. While reduction of plastic used in PET bottles is still worthwhile, EPA should focus its attention on forms of single-use plastics that are both frequently littered and unrecyclable. EPA should also consider using and/or building on the U.S. Plastics Pact’s list of Problematic and Unnecessary Plastics⁶, as it is a list that has already been vetted by a cross-sector group.

When performing Life-Cycle Assessments (LCAs) on plastic products and potential alternatives (as outlined in A2.1), EPA should consider the following:

- To increase the value of this tool, comparable LCAs of the alternative materials must be provided, so that consumers of the data can compare the specific impacts of a plastic product/package versus the substitute product/package.

⁴ See GSA Acquisition Policy Federal Advisory Program: <https://www.gsa.gov/policy-regulations/policy/acquisition-policy/gsa-acquisition-policy-federal-advisory-committee>.

⁵ See GSA Blog, *GSA’s Acquisition Policy Advisory Committee presents first recommendations*: <https://www.gsa.gov/blog/2023/05/18/gsas-acquisition-policy-advisory-committee-presents-first-recommendations>.

⁶ See U.S. Plastics Pact’s Problematic and Unnecessary Materials List: <https://usplasticspact.org/problematic-materials/>.

- Other forms of analysis in addition to LCAs should be provided to supplement the information provided in LCAs.

When conducting a study on the effectiveness of existing public policies and incentives upon the reuse, collection, recycling, and conservation of materials (in accordance with B1), ISRI encourages the EPA to consider the following:

- The study should include analyses of the impacts of these policies on existing reuse, collection, recycling, and conservation businesses and organizations.
- Any initiative or policy to encourage demand for recycled materials could include incentives and stimulus measures but must ultimately be driven by the market economy. Examples of incentives include tax credits, tax exemptions, loans, grants, and bonds for investment in recycling facilities. Recycling involves capital intensive operations that require significant investments in equipment, technology, and research and development to transport and process materials into high quality raw materials.
- The EPA should avoid any mandates that may stifle innovation by hampering recyclers from taking advantage of opportunities in shifting markets.

Additionally, concerning all reuse-related projects within the Strategy, EPA should support reuse models that consider end-of-life for the reusable item once it is broken, lost, or otherwise not reusable for its intended purpose. Reusable items should still be designed for recycling once they reach end-of-life as a reusable good.

International Implications (B6.1, B6.2)

The recycled materials industry is part of the global manufacturing supply chain, and recycled plastics are part of that sustainable supply chain. It is imperative that EPA does not implement policies or procedures that would further interfere with the existing efficient markets for recycled plastics, including at international fora, such as the Basel Convention or the UNEP INC negotiations for a treaty to address plastic pollution. ISRI has long been a major player in international discussions and negotiations surrounding trade in recycled plastics, and while exports of recycled plastics from the U.S. have declined in recent years, this Strategy should focus on the vital role that recycled plastics play as an important sustainable manufacturing input.

Basel Convention (B6.1)

ISRI has concerns with proposed action B6.1, *Support the Basel Convention*. ISRI cautions against the U.S. ratification of the Basel Convention (hereinafter referred to as “Basel”) as Basel defines recycled materials as “waste”. Basel seeks to control – and in certain circumstances outright ban – the transborder trade of “hazardous wastes and other wastes,” particularly to countries that are perceived to have little capacity to manage it in an environmentally sound manner. However, instead of distinguishing between waste material that is illicitly dumped, Basel also lists materials intended for recycling operations, such as recycled materials processed by ISRI members, as waste instead of valuable manufacturing inputs. Until this terminology is modified to accurately reflect that recycled materials are not waste, but rather high-quality

materials, ISRI remains concerned that Basel has lost sight of the positive environmental benefits of recycling, and not only for recyclable and recycled plastics.

ISRI has focused considerable time and resources over the last 15 years meeting with government officials representing environmental, industry, and trade ministries in India, China, Indonesia, Malaysia, and other countries worldwide, including many in the developing world. The common thread through all these discussions is the desire of each of these countries to differentiate shipments of specification-grade recycled materials needed to supply their domestic manufacturing operations from shipments of waste, and to find ways to increase enforcement of illegal shipments. Unfortunately, to the untrained eye, recycled materials and waste materials can look very similar. That is why we have at various times provided training to inspection agencies in these countries and provided other support to improve enforcement activities and help with the fight against illegal shipments.

We share the frustration of policymakers around the world and the desire to find ways to shut down those bad players that are shipping solid waste under the banner of recycling. ISRI has consistently and continuously condemned the movement of waste across borders and has always supported bans on the trade in waste. However, what we have never supported are bans that include recycled materials that are part of the global manufacturing supply chain. That is why we do not support U.S. ratification of the Basel Convention as currently written.

Unfortunately, the term “waste” is the predominant term used in Basel to refer to materials in the recycling process, including many recycled materials. Many countries reflect the Basel terminology and definitions in their own national statutes and regulations, thus further confusing the difference between recycled materials and waste. Basel also contains definitions that conflate the process of recycling with waste management activities, such as disposal and treatment. This again is carried forward into the laws and regulations of many countries.

Worldwide, more than 900 million metric tons of recycled materials are consumed by steel mills, foundries, paper mills, refiners, and plastics formulators. More than 25 percent of that amount constitutes cross-border trade fed by a demand-driven manufacturing supply chain that relies on recycled materials for 40 percent, on average, of its feedstock for the manufacture of new consumer and industrial products. This trade helps create a more resilient planet in an increasingly resource-constrained and carbon-constrained world. It also supports the livelihoods of hundreds of millions of people in the developed and developing worlds.

Shutting down the trade in high-quality recyclable feedstock is not the answer. It is short-sighted and will do more harm to the circular economy and the environment in the long run, not to mention the harm it will do in communities around the world that rely on recycling activities to support family livelihoods.

The passage of the 2019 plastic waste amendments, which became effective in January 2021, pose a significant challenge for recyclers that seek to trade recycled plastics, even if those countries demonstrate environmentally sound management of these materials. The amendments generally do not restrict trade in recycled plastics that meet ISRI specifications, such as certain single polymer plastics and mixed recyclables as long as they are destined for recycling, but each

country can impose stricter restrictions. However, trade in newly-controlled, non-hazardous plastics will make it harder for countries without recycling capacity to export plastics collected to countries with recycling infrastructure in place. Basel fails to recognize the environmental importance that recycled materials can play in reducing carbon emissions and sustainability efforts, as the strict Basel controls disincentivizing the use of recycled plastics in favor of carbon-intensive virgin plastic materials.

Meanwhile, the prior informed consent (PIC) process creates significant administrative burden for all parties involved – regardless of whether the U.S. is a party to Basel. The Organization of Economic Cooperation and Development (OECD) Decision provides a more streamlined approval process, such as time limits and tacit consent and pre-consent procedures, all of which do not exist under Basel. In order for the U.S. to fully ratify Basel, it would require the passage of implementing legislation that would modify certain aspects of the Resource Conservation and Recovery Act (RCRA). These changes could impact the critical distinction of recycled materials under U.S. law from waste products, as currently defined by Basel.

As an alternative to full ratification of Basel, the U.S. government should continue its leadership at the OECD on recycling-related issues. The U.S. should consider revisiting discussions with OECD members on alternative approaches to the incorporation of the Basel plastics amendments into the OECD Decision for non-hazardous plastic materials, as OECD members could not reach consensus in 2020. This would help provide further legal clarity to recyclers that trade in non-hazardous recycled plastics. The U.S. government should also continue to engage at the OECD Joint Working Group on Trade and the Environment (JWGTE) and the Working Party on Resource Productivity and Waste (WPRPW).

The Basel Convention does little to address the illicit trade and poor handling of end-of-life plastics that are a true cause of plastic pollution globally, including in the marine environment. Although it is intended to be part of a global response to address the plastic pollution crisis, the plastic amendments hamper the world's ability to recycle plastics, which creates additional risks of plastic pollution. As a result, ISRI cannot support U.S. ratification of the Basel Convention as currently written.

Trade in Recyclables Destined for Countries with Environmentally Sound Management Systems (B6.2)

ISRI supports the environmentally sound management of recyclables traded with other countries, as outlined in B6.2. Particularly, ISRI supports enhanced practices to ensure that environmentally sound management of recyclable materials can benefit in a circular economy framework. ISRI, alongside its international counterpart, the Bureau of International Recycling (BIR), both recognize that not all countries have the existing capacity to recycle materials, including plastics, nor do these countries have sufficient materials to attract investment in national infrastructure. ISRI would support regional or transboundary solutions that optimize the environmentally sound management of recycled plastics.

At the most recent United Nations Environment Programme (UNEP) International Negotiating Committee (INC-2) to form a legally binding instrument to address plastic pollution (particularly

in the marine environment) held in Paris this past spring, the INC Secretariat outlined potential options for elements to be included in the treaty. This includes a core obligation that aims to broadly “strengthen waste management,” which includes many of the potential options proposed as issues that ISRI supports. For example, the options paper lays out potential ways to enhance capacity and innovation in the waste management sector, such as to “[d]eploy and foster the development of technologies for the collection, recycling and disposal of plastic waste.” ISRI also supports the development of guidance that would encourage public investment in recycling infrastructure, efforts to promote research for innovation in the industry, and certain efforts to set minimum recycled content standards. These objectives currently being negotiated have significant overlap with the Strategy’s proposed actions.

Product Stewardship/Extended Producer Responsibility (EPR) (BI)

ISRI applauds the EPA for evaluating voluntary policies to increase recycling rates. However, we strongly caution the EPA in its promotion of product stewardship policies, such as EPR programs that either target, include, or disrupt the recycling of materials or products that are being successfully recycled and consumed in existing markets.

We recognize that certain materials and consumer products are entering the residential recycling stream for which commodity markets do not currently exist or are not yet economically viable at the point of collection. There are also recycling programs driven by government mandates or sustainability goals that are not supported solely by market values, and certain materials that were previously economical to recycle may no longer have viable end markets due to major changes in global commodity markets. These conditions create items that are difficult to recycle.

To address facilitation of the proper recycling of difficult-to-recycle items, ISRI supports consideration of policies that are temporary in nature to support markets for recycling of those items until the markets mature, and that require consumers and manufacturers to: (i) provide collection mechanism through manufacturer-facilitated collection systems developed in cooperation with retailers or other entities; and/or (ii) compensate municipalities and recyclers for costs associated with separate collection, transportation, and processing systems.

Plastics recyclers are continuously developing new recycling technologies alongside scientists and are partnering with manufacturers to design products with recycling in mind, making it imperative that any policies established do not interfere with currently existing markets and also support developing markets and encourage technological innovation and investment.

Packaging EPR Elements. EPR legislation affecting packaging is an issue that will significantly impact the way commodities commonly found in the curbside bin are collected, processed, bought, and sold. For difficult-to-recycle items coming from the residential stream, ISRI supports policies that are temporary in nature until markets are established for those items.

Collection and Access. ISRI supports efforts to increase the access, collection, and processing of recyclable materials into recycled materials (such as those outlined in the RECYCLE Act) to decrease greenhouse gas emissions and increase energy savings.

ISRI also cautions using lists that deem certain types of plastics as not recyclable as this stifles market innovation, design for recycling, and recycling processes.

Minimum Recycled Content Legislation

ISRI strongly supports policies and incentives that are designed to strengthen recycling markets through recycled content mandates that drive demand for recycled plastics. However, such policies must be written in such a way that recognizes that mandate levels must vary by application and type of plastic. Additionally, manufacturers and brand owners should be further encouraged to increase the use of recycled plastic resin beyond specified levels when possible.

Recycled content policies are critical because successful recycling requires market demand. If there is no end market to utilize the recyclable materials that are being collected from homes, offices, retail stores, and industrial locations, those materials will not be recycled and used again in manufacturing, regardless of the volume of material collected. In other words, a business without a customer has no business; and collection without market consumption is not recycling.

Design for Recycling® (A2)

Recycling requires constant innovation because the products and materials used across the economy are always changing. This is why ISRI and its members encourage and partner with producers and manufacturers to design their products for recycling. Design For Recycling® (DfR) is a market-based approach which embodies the concept that while products are in the design stage serious efforts should be made to eliminate or reduce the use of hazardous substances and any substances or materials that might impede the recycling process.

The most important first step in the recycling process begins with the initial product design. Choosing the right materials and manufacturing processes at the design stage to ensure products are recyclable is an imperative to achieving circularity. When recyclability is not carefully considered at the outset of product design, recycling will not occur regardless of cost or technological ingenuity. This is especially the case for the wide variety of consumer products and packaging that enter recycling through residential collections.

More than 30 years ago, ISRI started the Design for Recycling® initiative to encourage manufacturers to consider the ultimate destiny of their products during the design-stage of a product's development. This concept continues to be more relevant today, as stakeholders throughout the recycling and manufacturing supply chains in the U.S. and around the globe are working hard to better manage material flows, incorporate sustainable practices and do their part for the green economy amidst an ever-changing supply and demand for high-quality recycled materials.

Designing products that are designed with recyclability in mind:

- Contain the maximum amount of materials that are recyclable;

- Are easily recycled through current or newly designed recycling processes and procedures;
- Are cost effective to recycle, whereby the cost to recycle does not exceed the value of its recycled materials;
- Are free of hazardous materials that are not recyclable or impede the recycling process; and
- Reduce the use of raw materials by including recycled materials and/or components.

The following are examples of products made using the Design for Recycling® concept. Each is a winner of ISRI's prestigious Design for Recycling Award:

- **EnviroSense® PaperBlister™ Packaging (Sonoco Alloyd).** Made entirely from renewable resources, the mono-material EnviroSense® PaperBlister™ package is plastic-free and completely recyclable in the paper stream. EnviroSense PaperBlister packaging offers a recyclable alternative to traditional retail plastic-to-card blister packaging – all without the need for costly new sealing equipment lines.
- **EcoCart™ (Cascade Engineering, Inc.).** EcoCart™ is the first cart ever manufactured with residential bulky rigid plastics from curbside collection. It delivers the same durability, shape, and performance and is recyclable.
- **Lexmark™ Toner Cartridges.** Lexmark Toner Cartridges are designed with recyclability in mind by planning cartridge design and selecting materials that work well in Lexmark's recycling process for reusing and recycling all parts at Lexmark.
- **Pure Life® 700ml Bottle (Nestlé®).** The Nestlé® Pure Life® bottle is made entirely from recycled content and features a state-of-the-art, pressure-sensitive label that releases easily during the wash stage of the recycling process.
- **The Latitude 5590 Laptop and 5285 2-in-1 (Dell).** The Latitude 5590 contains a removable battery, is free of harmful substances such as mercury, eliminates the use of glues and adhesives, contains a modular design, making it easier to access and disassemble, and uses standardized fasteners. The Latitude 5285 2-in-1 uses gold recycled from used electronic products.
- **EcoStrate SFS, Inc.** EcoStrate manufactures via its proprietary technology platform composite plastic products from 100% post-consumer, high-polymer content recyclable materials that are difficult to recycle. EcoStrate's products include traffic signs, indoor/ADA signs, flooring, and other surface materials.
- **4K ULTRA HD OLED and LED TVs (LG Electronics, Inc.).** The 4K ULTRA HD OLED and LED TVs include mercury-free display panels; use of recycled and recyclable plastics; inclusion of PVC and BFR-free components; small and lighter packaging; ease of disassembly and label/seal separation; and standardized materials and connection types.

ISRI encourages EPA to establish coalitions of stakeholders, including the recycled materials industry, that develop and promote the principles of Design for Recycling and explore all options to promote and foster the design and manufacturing of products suitable for recycling, using currently available recycling technology and best management practices. Additionally, continued federal funding for U.S. government-led public-private partnerships focused on research and development of innovative technologies and implementation of Design for Recycling principles (e.g., the REMADE Institute⁷) would go a long way to help address the challenges facing the recycled materials industry. Design for Recycling can also be implemented through the U.S. government's procurement guidelines or through other purchasing and procurement requirements, or possibly even through tax credits for those who take demonstrated steps to improve product design for purposes of increasing a product's recyclability.

ISRI supports the promotion of design guides for recycling and upstream analyses of a material's/product's recyclability; issuing information about secondary materials that are in demand; and designing incentives for manufacturers (in accordance with B4 of the National Recycling Strategy). ISRI cannot overstate the importance of designing for recycling.

Standards and Certifications (*A2.7, B3.5, B4.6, B5.2*)

ISRI recognizes the need for effective standards/certifications, labels, and messaging campaigns to help close the recycling loop and to increase awareness and decrease confusion among consumers.

ISRI supports EPA's exploration of an accredited, voluntary third-party certification program for plastic recyclers to increase the safe and effective management of plastic recyclables in the United States. The recycling industry has an existing certification program, the Recycling Industry Operating Standard (RIOS), which is the only global recycling industry management system standard for quality, environment, health, and safety (QEH&S). RIOS is designed for and has been implemented by recyclers of all commodities: ferrous and non-ferrous metals, paper, plastic, tire and rubber, and the full range of electronics recyclers, refurbishers, and repair facilities. RIOS is a recognized management system certification for commodity-specific standards, such as R2⁸ and E-Stewards.

A plastics recyclers certification program should use an existing quality, environmental, health and safety management certification (such as RIOS, or ISO 9001, 14001, and 45001) as its foundation, and add on plastics recycling specific requirements that meet EPA's goals. ISRI designed and developed RIOS in the early 2000's and has since created a separate and independent organization that manages the RIOS standard. RIOS is built on the well-established Plan-Do-Check-Act model and takes a risk-based approach to addressing all QEH&S risks and

⁷ See <https://remadeinstitute.org/focus-areas>.

⁸ ISRI was also part of the stakeholder group that led the effort – along with EPA – to develop standards for the recycling of electronics, that eventually resulted in R2. R2 is now overseen by an independent body known as SERI – Sustainable Electronics Recycling International (HomeHome - SERI (sustainableelectronics.org)).

impacts within a recycling facility. The management system approach has been adopted by companies of all sizes in the U.S. and around the world, across all industries because of its effectiveness.

ISRI is happy to work with EPA on the development of such a voluntary program.

Definitions

To accurately identify single-use, unrecyclable, or frequently littered plastic products and suggest alternatives (as proposed in A1.1), the Strategy must clearly define recycling.

Recyclables are high-quality raw materials processed by recyclers to a specification-grade and valued by manufacturers for their cost, energy, and environmental savings. The written references in the draft Strategy muddle the reality (as well as statutory understandings) that materials collected for the purpose of recycling are separate from solid waste.

ISRI suggests incorporating the following definitions into the Strategy:

Recycling refers to the series of activities during which obsolete, previously used, off-specification, surplus, or incidentally produced materials are processed into specification-grade commodities, and consumed as raw-material feedstock, in lieu of virgin materials, in the manufacture of new products. The series of activities that make up recycling may include collection, processing, and/or brokering, and shall result in subsequent consumption by a materials manufacturer.

A “**Recyclable**” material is an obsolete, previously used, off-specification, surplus, or incidentally produced material for processing into a specification-grade commodity for which a market exists.

Chemical Recycling (*See Goal and Scope of Strategy*)

ISRI supports EPA’s exclusion of processes that convert materials to fuels, fuel ingredients, or energy from being considered as a recycling practice.

Innovation is a constant in the recycled materials industry. Robotics, artificial intelligence, optical scanners, laser separation and other sophisticated technologies are now commonly found in recycling operations, allowing recycling to continue to be an essential part of the solution to creating a more resilient planet. As new recycling processes and technologies emerge to help address the increasing variety of plastics and plastics products in commerce, it is important to properly identify these processes and technologies and define them appropriately.

ISRI recognizes that significant investments are currently being made in researching non-mechanical processes (variously called “molecular,” “advanced,” or “chemical” processes) to convert end-of-life plastics back into recycled resin, resin precursors (i.e., monomers), and petrochemical intermediates, fuel intermediates, and fuels. Such non-mechanical processes

should only be designated as recycling when they convert plastics at the end-of-life into recycled resins and monomers to be consumed in lieu of virgin materials as feedstock in the manufacture of material products and not in the production of energy or fuels. According to the Ocean Conservancy, processes converting plastics into fuel or energy sources “are not contributing to a circular system since materials are cascaded into fuel products instead of being sent back into plastics.”⁹

Non-mechanical processes that convert plastics at the end-of-life into petrochemical products that are fuels or used to make fuels cannot be properly considered recycling.

Degradable Additives and Compostable Materials (A2.4, B3.1, B3.2, B3.4)

Degradable additives in plastic packaging for the purpose of making non-degradable plastics “bio-degradable” can cause confusion in the marketplace and harm plastic recycling as they may be mixed unknowingly with non-degradable plastic and cause the resulting recycled material to be significantly compromised. It is essential to the success of recycling in the U.S. to avoid the mixing of plastics designed to bio-degrade with plastics that are not designed to bio-degrade.

ISRI suggests: (i) any claims as to the use of terms “bio-degradable,” “oxo-degradable,” “photo-degradable,” and other terms that indicate a plastic is easily degraded be supported by independent third-party research and testing using accepted standard methods and specifications published by standard making bodies; and (ii) the introduction of products with degradable additives must not harm or compromise currently acceptable recycling practices, recycled material product expectations, and the affiliated recycling infrastructure.

EPA’s Strategy should also examine recycling infrastructure needs in addition to evaluating current composting infrastructure, as outlined in proposed action B3.1. Further, ISRI encourages the EPA to revise proposed action B3.4 to consider the need to prevent compostable products from entering the recycling stream through the development of a comprehensive strategy.

Generally, ISRI supports compostable products as alternatives, provided the impact to the recycling system and possible contamination is adequately addressed. For example, if businesses are encouraged to purchase and distribute compostable cups only where recycling infrastructure exists, those cups are likely to end up in recycling bins given their similar appearance to recyclable cups and will therefore contaminate the recycling stream.

ISRI encourages EPA to prioritize recycling over composting due to the current state of existing infrastructure for both processes and the waste hierarchy. As an example, cardboard is technically compostable but could be recycled into new cardboard many times over first, preventing use of virgin pulp.

⁹ See Ocean Conservancy’s *Recommendations for Recycled Content: Requirements for Plastic Goods and Packaging*: https://oceanconservancy.org/wp-content/uploads/2022/02/RRS_OceanConReport_Feb2022_Final.pdf, p.34.

Regulatory Matters - Stormwater Permits & Hazardous Substance Release During Transit *(A2.4, A2.4a, A2.4b)*

ISRI suggests revising proposed action A2.4 to clearly distinguish plastic producers from recyclers. This section discusses "plastic producers and recyclers" as if they are indistinguishable or equal in terms of their pollution potential. Because recyclers are part of the solution for decreasing plastic waste and pollution, and their operations vary significantly from virgin plastic production, they should be evaluated separately from plastic producers.

Environmental Justice *(A2.5, B2.1, B3.3, B4.1)*

Recyclers are committed to being good neighbors in their communities by operating environmentally responsible and safe recycling facilities and engaging with their communities. Through their activities, recyclers seek to be recognized as members and partners in their community's well-being and growth and recognize their role in building and maintaining healthy neighborhoods.

ISRI suggests that this Strategy include funding to communities for access to recycling and recycling infrastructure. Although recycling infrastructure is more mature than reuse and composting infrastructure, it remains drastically underfunded and underdeveloped, especially in multifamily, commercial, and rural settings. The Strategy should include a similar provision as those for reuse and composting infrastructure funding for recycling infrastructure, and priority on direct/indirect benefits should be given to under-resourced communities.

Conclusion

ISRI thanks EPA for the opportunity to comment on the Draft Strategy to Prevent Plastic Pollution. Given the complexity of the recycling system, there simply is no one single answer to the challenges facing plastics materials management in the United States. However, there are many solutions that, taken together, can make a significant difference in keeping plastic out of the environment and, instead, circulating in the economy through proven recycling markets.

As an organization representing the recycled materials industry, we welcome the opportunity to further collaborate with EPA and others on efforts to advance this proposed strategy. ISRI is most interested in helping EPA develop focused strategies for recycling plastics, including support for plastics recycling technology and better product and packaging design, as an important part of the solution to prevent plastics pollution and promote circularity. Recycling that incorporates the highest standards in quality, environment, and health and safety directs these valuable material resources into the manufacturing supply chain, generates both economic

and environmental opportunities, and benefits the circular economy approaches identified in this Strategy.

We look forward to working with EPA on the final development of the Draft National Strategy to Prevent Plastic Pollution. At any time, if we can be of further help, please do not hesitate to contact me at rwiener@isri.org (202) 662-8512.

Sincerely,

A handwritten signature in black ink, appearing to read "Robin K. Wiener". The signature is fluid and cursive, with the first name "Robin" being the most prominent.

Robin K. Wiener

ISRI President