



Plastics Division

December 3, 2020

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

Submitted electronically via Regulations.gov

Re: EPA-HQ-OLEM-2020-0462

Dear Administrator Wheeler:

The American Chemistry Council (ACC) appreciates the opportunity to submit comments on the draft National Recycling Strategy that was released by the Environmental Protection Agency (EPA) on October 5, 2020.

ACC is a non-profit trade association representing the leading manufacturers of chemicals and plastics in the United States. Its Plastics Division is an industry leader in promoting innovative plastics recycling and recovery programs and is a proud sponsor of educational and outreach programs to improve plastics recycling nationwide. In fact, ACC has recently released our Guiding Principles for Eliminating Plastic Waste¹, Roadmap to Reuse², and [Plastics Solutions for America 2020 Report](#)³. Taken together these announcements highlight the plastics industry's plan and policies to reach our circular economy goals of reusing, recycling and recovering all plastic packaging by 2040.

We commend EPA for advancing the National Recycling Strategy and leading the conversation on building a national framework to collect and recycle more materials. We also support EPA's announcement of a National Recycling Goal to increase the national recycling rate to 50% by 2030. As a signatory to the America Recycles Pledge and an organization leading the transition to a more circular economy for plastics, ACC looks forward to working with your agency on the development of a national framework, specifically relating to advanced plastics recycling, innovation, increased collection and recycled content for plastics.

Our comments (attached to this letter) address the proposed strategic objectives of the National Recycling Strategy and we make the following strategic recommendations:

- 1) Incorporate advanced recycling in all three of the strategy objectives, especially the role it will play in creating new markets for post-use plastics.

¹ <https://www.reuseplastics.org/advocacy/guiding-principles/>

² <https://www.reuseplastics.org/advocacy/the-roadmap-to-reuse/>

³ <https://www.reuseplastics.org/advocacy/roadmap-to-reuse-2020-report/>

- 2) Add a new objective on increasing collection.
- 3) Develop a more harmonized federal approach on education and standards to align the recycling interests of diverse communities across the United States.
- 4) Update the EPA waste hierarchy to be inclusive of all recycling processes and collaborate with other key federal agencies, such as the Department of Energy.
- 5) Work with Congress on policies that will enable private sector funding for recycling infrastructure while developing a broader federal strategy.

ACC members are actively developing new technologies and advanced processes to recycle more plastic. To scale up their operations, our members now require increased collection of plastics across the United States. Working with your agency and our value-chain partners, we know a more effective national recycling system is an achievable goal in our collective work to build a more circular economy.

We would welcome an opportunity to meet with EPA to discuss our comments on the U.S. National Recycling Strategy in greater detail. In the interim, please feel free to contact me at 202-249-6600 or Joshua.Baca@americanchemistry.com, or Craig Cookson, Senior Director of Recycling & Recovery, with any questions regarding these comments. Craig can be reached at (202) 249-6622 or Craig.Cookson@americanchemistry.com.

Sincerely,



Joshua Baca
Vice President, Plastics Division
American Chemistry Council

Introduction

Creating a stronger, more effective U.S. recycling system is a significant priority for ACC. We recently released *The Roadmap to Reuse*, which lays out our vision for achieving U.S. resin manufacturers' circular economy goals to recycle, reuse or recover 100% of U.S. plastics packaging by 2040 while creating a new more circular economy for plastics.⁴ Reaching this goal will require value-chain collaboration among plastic makers, manufacturers, brand-owners, retailers, recyclers and waste haulers, as well as federal, state and local governments. A key aim of the *Roadmap* is to develop a national recycling framework built on common definitions, metrics and standards. With the right policy support, continued collaboration and investment, we see a future in which all plastic packaging is recycled through both mechanical and advanced (chemical) processes.

The *Roadmap* focuses on increasing the supply of post-use plastics for recycling through new sortation and processing technologies and strengthening demand via end-market development. For supply, our priorities are engaging and educating consumers, increasing access to recycling and improving collection and sortation capabilities. For demand, we are working to build sustainable end-markets for recycled plastics from both mechanical and advanced plastics recycling. It is important to recognize plastics recycling innovations with a wave of new announcements for investments in mechanical and advanced plastics recycling, which exceed \$5 billion over the last three years.

Our plan aligns with the draft National Recycling Strategy (hereafter “the Strategy”), and we strongly support EPA’s use of the Sustainable Materials Management approach to reduce environmental impacts of materials across their lifecycle. We support EPA’s three strategic objectives with the following areas of focus:

- 1. Objective 1: Reducing Contamination:** Focusing efforts on consumer education and labelling will support not only reduced contamination, but also increased collection.
- 2. Objective 2: Increase Processing Efficiency:** Broadening the focus of this objective to prioritize innovation and investment that will deliver the feedstocks for both mechanical and advanced recycling will help build a more resilient and effective recycling system.
- 3. Objective 3: Improve Markets:** Developing the right recycled content and enabling policies to increase the demand of recycled materials will support innovation, jobs and better environmental outcomes.

We also recommend including and prioritizing the following strategic objective as the number one priority in the Strategy.

- **Increase collection:** Increasing the supply of collected materials will support end markets that are supply constrained now and support companies that are scaling up new technologies to recycle more types of plastics.

⁴ <https://www.reuseplastics.org>

Areas for consideration and improvement:

The Strategy defines “recycling” narrowly to only consider mechanical recycling. Given the seismic changes taking place with how plastic and other materials will re-enter the supply chain via advanced recycling (i.e., chemical recycling), we recommend that EPA make this a priority area of focus throughout the strategy. Specific recommendations include:

- Define “recycling” more broadly to ensure that it encompasses both mechanical and advanced recycling processes and products produced.
- Account for advanced recycling in the overview of the recycling process.
- Account for what is today considered “contamination” but will become the feedstock of the future for advanced recycling processes.
- Account for how increased collection will need to satisfy future demand for both mechanical and advanced recycling.
- Account for the key role of advanced recycling in *Objective #3: Strengthen the economic markets for recycled materials*.

We discuss our perspective on each strategic objective in more detail below.

Objective 1: Reduce Contamination in the Recycling System

Reducing contamination is important for the current recycling system to function efficiently, but this strategic objective should not come before increasing collection. Ultimately, the number one objective should be collecting a greater supply of material to recycle, as many end markets such as those for PET and HDPE bottles are supply constrained now. Many companies, including brand-owners, retailers and plastic makers, have recently made significant commitments to increase the recyclability and recycling of consumer products and packaging, as well as the amount of recycled content incorporated in them. For example, the U.S. Plastics Pact, which launched in August 2020,⁵ has brought together 60 signatories around the shared goals of making plastic packaging 100% reusable, recyclable or compostable by 2025 and recycling or composting 50% of plastic packaging by 2025. The recyclability goal will help shift the recycling system to provide greater access to recycling for many items that people think of as contamination today, like films, pouches and tubes. All these materials can be recycled through advanced plastic recycling processes. Therefore, the Strategy should support enhanced collection and processing of these plastics to develop new commodity streams rather than keeping them out of the recycling system and destined for landfill due to their current contribution to contamination.

Additionally, the commitment to increase recycling rates to 50% by 2025 signifies that the demand for post-use plastics will significantly increase. To achieve high collection rates, it will

⁵ <https://www.ellenmacarthurfoundation.org/news/the-u-s-launches-a-national-plastics-pact-supported-by-all-sectors>

take a combination of increasing access to recycling, consumer education, and harmonization of recycling programs, metrics and standards. A component of consumer education should be reducing contamination from materials, such as lightbulbs, that truly do not belong in the curbside recycling system. Still, it should be acknowledged that the material mix will continue to change, so the system must be adaptable. **We recommend that the first objective be a two-part focus: increasing collection and reducing contamination.**

As part of increasing collection, improving access to recycling should be central to the Strategy. According to McKinsey, about 30 million rural households and 15 million suburban households in the United States lack curbside recycling.⁶ Without the expansion of convenient recycling services to more households, recycling rates will remain low. We recommend elevating this priority within the Strategy.

We encourage EPA to lead on setting standards to harmonize consumer education for the more than 10,000 recycling programs across the country. A common problem with consumer participation in recycling programs is confusion. From one community to the next the words, images and communications tools used to explain recycling can be inconsistent or even contradictory. Correcting this issue through improved consumer education and convenience can reduce contamination and increase collection. For example, ACC supported the development of an educational tool for consumer and recycling professionals called, “[Terms and Tools](#),” which provides a [common set of terms](#) to facilitate the way recycling professionals communicate to community residents and to each other. The resources provided on this website are the result of wide-ranging feedback from plastic recyclers, plastic makers, recycling experts and recycling advocates through extensive surveys. Having common terms helps to increase both recycling rates and the types and amounts of plastics recycled by reducing confusion in the terminology used for the collection of materials, as well as the sale and purchase of recycled plastic commodities. Our experience with this initiative has shown that better communication leads to better recycling outcomes. And, this is an opportunity for the EPA to truly consider a national approach to consumer education and engagement.

We agree with the proposal to pilot education campaigns (1.1.3) and incorporate the most effective aspects into a national program. We would be pleased to discuss our own experience managing [Advancing Circular Packaging](#), which is a leading source of information, providing tips, tools and educational resources on plastics recycling and recovery.

We support the proposal to improve consistency of labels for recyclable products (1.1.5) and as a time-saving measure would encourage EPA to evaluate existing initiatives such as How2Recycle before consulting with stakeholders throughout the value chain on labelling requirements.

Lastly, we recommend EPA work with Congress to evaluate and consider the proposal for a Packaging and Printed Paper Fee included in the Recycling Partnership’s recently released report, *Accelerating Recycling: Policy to Unlock Supply for the Circular Economy*.⁷ This fee would apply to all packaging materials and printed paper, including plastic, metal, glass and paper fiber. As outlined in the report, an industry-led Packaging and Printed Paper

⁶ <https://www.mckinsey.com/industries/chemicals/our-insights/accelerating-plastic-recovery-in-the-united-states>

⁷ <https://recyclingpartnership.org/accelerator-policy/>

Stewardship Organization (PSO) would be established to collect fees from the private sector and fund capital investments in collection and sortation infrastructure, as well as consumer education. For consistency and efficiency, one PSO would serve the system nation-wide or across regions of multiple states. The goal would be increased supply of recyclable materials through enhanced access, collection, sortation and consumer education that could meet the growing demand in the country's developing end-markets. For more details, please refer to the Recycling Partnership's report.

Objective 2: Increase Processing Efficiency

We agree that core recyclables, such as glass, plastic bottles and containers, aluminum cans, cardboard and newspaper, should be sorted and recycled mechanically. There are well-established recycling processes and markets for these materials, and the Strategy should support improvements in processing efficiency. But that is only half of the equation for plastics.

Our research shows that mechanical processes alone cannot meet the challenge of achieving zero plastic waste. In fact, to achieve our circular economy goals, a significant and growing amount of plastic packaging will need to be recycled through advanced chemical processes by 2040. The reason for this is the heterogeneous nature of mixed plastic waste streams can be less efficient to sort at material recovery facilities (MRFs). Advanced chemical recycling processes can handle these different resins and convert them into high-value products.

Advanced plastics recycling, also called chemical recycling, refers to several different technologies such as pyrolysis, gasification, depolymerization, solvolysis, and other processes in which material is chemically changed and converted into new feedstocks for plastics and chemical products, waxes and lubricants. Current research already shows growing demand for the products of advanced recycling. For example, a 2019 report by the Closed Loop Partners (CLP), an investment platform supporting the transition to more circular economy, found advanced recycling technologies "could meet an addressable market with potential revenue opportunities of \$120 billion in the United States and Canada alone."⁸

Leading companies working to scale up advanced recycling technologies have formed the [Advanced Recycling Alliance for Plastics \(ARAP\)](#) within ACC's Plastics Division. The ARAP has brought together innovative recycling companies, plastic resin manufacturers, converters and other stakeholders to develop and advocate for public policy approaches that will help rapidly scale up and commercialize advanced recycling technology, educate the plastics value chain on the tremendous opportunities in advanced recycling and raise awareness about the environmental and economic benefits of deploying advanced recycling systems throughout the United States.

With this momentum, investment and technological development, advanced recycling will come to play a large role in the U.S. recycling system, specifically for mixed plastics (resin codes 3 through 7), which include films and flexibles, multi-layered pouches, tubes and other plastic items. As a result, the focus of the Strategy cannot be on mechanical recycling alone. It should support improved sortation at MRFs while recognizing that multi-layer films and other plastics that are difficult to sort and recycle into new products mechanically will require advanced

⁸ <https://plastics.americanchemistry.com/what-is-chemical-recycling/>

recycling solutions. ACC member companies have the chemistry expertise and scale to rapidly develop advanced recycling technologies and accelerate the transition to a more circular economy. We encourage the Agency to review our members' advanced recycling initiatives in our recently released report, *The Roadmap to Reuse: Plastics Solutions for America 2020*.⁹

With an expanded focus on strengthening both mechanical and advanced recycling capabilities, we support the proposed priority actions outlined by EPA. This will help increase the overall plastics recycling rate which has stayed flat at 8.5% since 2017.

Conducting a needs assessment of recycling infrastructure in the United States (2.1.2) will be essential for identifying the investments that are required to build a more effective recycling system. We support assessing MRFs, secondary processing facilities and remanufacturing centers, but the needs assessment should also determine how to improve "access" infrastructure, including servicing multi-residential buildings and rural communities.

Following the completion of the needs assessment, EPA should identify available federal funds to support recycling infrastructure (2.2) while tying this initiative to the development of a broader federal funding strategy. The federal government could influence the development of the U.S. recycling system through municipal grants and support for private-sector investments. We recommend developing a federal funding plan and consulting stakeholders on this aspect of the Strategy.

Investing in research and development of new technologies that can be scaled up and replicated across the country (2.3) is essential to meet the challenge of zero plastic waste. As noted in our comments on the list of potential measures for the National Recycling Goals, we encourage EPA to consider processing efficiency within the context of producing cleaner bales of material not only for mechanical recycling but also for advanced recycling. Companies purchasing mixed plastic bales of films, flexibles and pouches want to ensure each bale contains the highest proportion of plastic material possible. ARAP, in collaboration with ACC members and value-chain partners, is working to provide detailed information on feedstock specifications for advanced recycling and bale specifications needed for advanced recycling. As this work continues, we will share the outcomes with you.

We support increased consideration of the sorting process in the design of new products (2.4). Products and packaging that can be collected and sorted more efficiently will help increase recycling rates. Guidelines should be developed that can be used to help ensure packaging is 100% recyclable or recoverable.

Implementing national recycling system definitions, measures, targets and performance indicators (2.5) should be prioritized because this work will serve as the foundation for a more effective recycling system. We appreciate that EPA consulted first on the list of potential measures, and we would generally refer you to the feedback we provided in response to that consultation. **However, we do want to re-emphasize the importance of developing clear definitions and standards, especially for advanced recycling technology processes, in partnership with the Department of Energy (DOE), to ensure that recycled content in new**

⁹ <https://www.reuseplastics.org/advocacy/roadmap-to-reuse-2020-report/>

products from advanced recycling is credited and accounted for using mass balance principles, which we discuss in the next section.

Objective 3: Improve Markets

Improving markets is an area where ACC and our members have and will continue to lead. Over less than three years (January 2018 to August 2020), there have been 64 projects worth \$5.3 billion in announced investments to modernize mechanical and advanced recycling technologies in the U.S., many of which expand the types and volumes of plastics that can be recycled.¹⁰ These projects have the potential to divert 4 million metric tons (8.8 billion pounds) of post-use materials (mostly plastic) from landfills. ACC's members have been leaders in setting aggressive goals for the use of post-use plastics as feedstock and the manufacturing of recycled content resins. Examples include:

- [Chevron Phillips Chemical](#) recently announced the production of circular polyethylene (PE) called Marlex ® Anew™ using advanced recycling technology;
- [LyondellBasell](#) set a new sustainability goal to produce and market recycled and renewable-based polymers annually by 2030;
- [Americas Styrenics](#) has committed to 25% recycled polystyrene in its foodservice and packaging by 2030; and
- [Shell](#) has committed that by 2025, it will use 1 million metric tons of post-use plastic per year as an alternative feedstock at their chemical plants around the world.

On February 3, 2020, DOE and ACC entered a Memorandum of Understanding (MOU) to advance “innovation in energy efficient plastics recycling and reduce waste through enhanced recovery of post-use plastics.”¹¹ The MOU serves as a framework for DOE and ACC to collaborate on developing approaches for mechanical and chemical deconstruction of post-use plastics into useful chemical building blocks that can be converted into high-value products, as well as developing new polymers that are inherently designed for recycling.

We appreciate the dialogue EPA has maintained with stakeholders since the America Recycles Summit in 2018 and certainly look forward to participating in additional workshops on developing end-markets for recycled materials (3.1). **We would also like to ensure that future discussions build on existing initiatives, such as our MOU with DOE, and lead to actions on setting national standards that will increase the demand for recycled materials, as discussed in our response to action item 3.5.**

We support increasing the manufacturing use of feedstocks (3.4), but these activities should not be limited to a regional basis. EPA policies should support the development of a robust market for recycled commodities within the United States. A key change that would deliver this outcome is treating collected plastics as a resource for domestic manufacturing through policies and laws.

¹⁰ <https://plastics.americanchemistry.com/advanced-recycling-resources/investments-in-advanced-recycling-us.pdf>

¹¹ <https://www.energy.gov/articles/us-energy-department-and-american-chemistry-council-sign-memorandum-understanding>

First, advanced recycling facilities should be properly defined and regulated as “manufacturers” and their materials as “feedstocks” to streamline the approval and development of new technologies that will accelerate the transition to a more circular economy. Nine states including Florida, Wisconsin, Georgia, Tennessee, Iowa, Texas, Ohio, Illinois and Pennsylvania recently passed laws to regulate advanced recycling facilities as manufacturing operations rather than waste processing plants.

Second, to support the development of advanced recycling markets, the Non-Hazardous Materials and Waste Management Hierarchy¹² should be updated to account for advanced recycling and recovery. States are looking for guidance and an enhanced hierarchy could demonstrate what constitutes recycling as they update their laws. **We encourage EPA to consult on updating the hierarchy to reflect a 21st century recycling system.**

From our perspective, the best policy approach to support demand for recycled materials is establishing recycled content standards. As part of ACC’s goal that 100% of plastic packaging in the United States is reused, recycled, or recovered by 2040, we have developed and recommend the following principles to advance recycled content standards.

- Recycled content should include both physical outputs from mechanical recycling and physical and attributed output from advanced recycling.
- Any mandated recycled content targets must consider environmental lifecycle outcomes.
- Performance standards for recycled content should be managed between value-chain partners.

Any recycled content requirements for plastics developed and widely adopted to incentivize the highest-value, must use and consider end-product applications. To support implementation of these requirements, a mass balance approach to chain of custody traceability and marketing claims should qualify as recycled content. Already seven ACC members have received International Sustainability Carbon Certification Plus (ISCC+) or completed the ISCC process for their recycled content in plastics based on public information.^{13 14} The ISCC+ certification recognizes mass balance attribution for recycled content.

A mass balance approach measures the amount of post-use plastics that enter advanced recycling processes and provides information that helps to confirm claims of recycled content allocated to new products. Mass balance has previously been successful in developing high levels of transparency and consumer trust for other materials, such as paper and renewable energy. We recommend reviewing ACC’s mass balance certification principles¹⁵ for advanced recycling, as part of this work, and working closely with our organization and DOE to develop, consult on and finalize a mass balance approach for tracking recycled content.

¹² <https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>

¹³ <https://www.iscc-system.org/certificates/all-certificates/>

¹⁴ <https://amsty.com/news/amsty-and-agilyx-announce-completion-of-a-certified-circular-recycling-pathway-for-polystyrene>

¹⁵ <https://plastics.americanchemistry.com/recycling-and-recovery/Mass-Balance-Certification-Principles-2020.pdf>

For further support of recycled material markets, EPA should consider how a disposal surcharge, as recommended by the Recycling Partnership in *Accelerating Recycling*, can impact end markets and demand. Landfill tipping fees paid by waste haulers at the point of disposal are low and remain far less than the rate of inflation. Adding an additional surcharge to disposal fees would build in the economic and environmental costs of throwing away recyclable materials and thereby incentivize and make recycling more competitive with disposal.

Conclusion

ACC appreciates EPA's steady focus on the importance of recycling and its work to increase the national recycling rate. EPA's adoption of its "Recycle 50 by 2030" goal sends an important signal to U.S. businesses and state and municipal governments about the importance of recycling to a healthier planet and a growing economy. EPA's strategy aligns well with U.S. resin manufacturers' goal that 100% of U.S. plastics packaging is recycled, recovered, or reused by 2040. To achieve our goal it will take the right mix of policies and public and private investment. However, to truly maximize the effectiveness of EPA's National Strategy, we recommend that EPA do the following with respect to its three objectives:

- 1. Objective 1: Reducing Contamination:** Focus efforts on national standards for consumer education and labelling to support increased collection along with reduced contamination. And, EPA should emphasize increasing the supply of collected materials to support supply constrained markets and the new end markets made possible by advanced recycling.
- 2. Objective 2: Increase Processing Efficiency:** Broaden the focus to prioritize innovation and investment that will deliver the feedstocks needed for both mechanical and advanced recycling.
- 3. Objective 3: Improve Markets:** Develop the right recycled content policies to increase the demand of recycled materials to support innovation, jobs and better environmental outcomes.

As leaders in developing new markets for post-use plastics, ACC and its members would welcome the opportunity to help support efforts associated with objective #3. We appreciate the opportunity to provide our comments on the Strategy and look forward to working with EPA on supporting the transition to a more circular economy.

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