

March 8, 2021

Office of Resource Conservation and Recovery
1200 Pennsylvania Avenue, N. W.
MC 5305P
Washington, D.C. 20460

Submitted via email to EPA-HQ-OLEM-2020-0443 at ORCRMeasurement@epa.gov

Dear U.S. EPA,

The Alliance of Mission-Based Recyclers (AMBR) is pleased to provide comments to the EPA on the *Draft National Recycling Rate: EPA-HQ-OLEM-2020-0443*. AMBR was created by mission-driven, community-based nonprofit recycling and zero waste organizations in the U.S. Together we are guiding new recycling policies and infrastructure investments to rebuild credible, transparent recycling systems that serve as a bridge toward a circular economy as well as just, resilient local communities. Our comments reflect more than four decades of experience in building model community-based recycling programs in the U.S.

AMBR is encouraged to see renewed leadership at the EPA to improve our national recycling system and to update the way that the recycling rate is calculated. However, while the recycling rate is one important metric in the story of how we manage our resources, AMBR strongly supports **per capita waste generation and disposal as the primary metric** for measuring our progress toward a circular economy. The recycling rate alone does not accurately reflect our consumption of resources or our efficiency of resource management. A 100% recycling rate is not the primary goal. We cannot continue to consume more resources and simply recycle more. That is a zero sum game. This data collection must include waste generation per capita with the goal of reducing overall generation and the amount of waste sent to landfills and incinerators.

Further, **the recycling rate does not measure the success of waste reduction, refill and reuse strategies, which are paramount to recycling in the EPA's materials management hierarchy.** Numerous states, organizations and other parties are moving away from the recycling rate as the primary metric and AMBR encourages the EPA to put more emphasis on waste generation and disposal per capita.

AMBR recognizes that the scope of this review is only for the recycling rate methodology. **We do want to emphasize that processing yield is a critical factor in understanding our true recycling rate.** The amount of materials collected for recycling is not a true reflection of our national recycling rate. What is truly captured and then processed into recyclable materials or organic products is a preferred data point and should be given substantial discussion and weighted importance in the EPA's forthcoming methodologies for recycled commodity contamination, processing yield and commodity value.

Please see our comments below on the specific questions related to the recycling rate methodology.

COMMENTS ON SCOPING CATEGORY 1: SOURCES OF RECYCLABLE MATERIAL

Programs and policies designed to improve diversion rates are most effective when targeted to meet the needs and generation trends of specific sectors. To that end, we applaud the EPA's suggestion to include all of the sources listed as part of the recycling rate. However, AMBR supports having a separate category for process-related industrial materials since the weight of these materials may heavily influence the recycling data.

AMBR also supports subdividing the residential category into both single-family and multifamily (as defined by the census designated threshold of 10+ units). Multifamily properties are significantly underserved in terms of access to recycling across the US. This is a serious equity issue within our recycling system, and separating out the data will call more attention to the need to provide equitable access to recycling for all residents regardless of their housing type.

COMMENTS ON SCOPING CATEGORY 2: MATERIAL STREAMS

AMBR supports the current detailed data published by the EPA on material streams. This data is very valuable in tracking trends and measuring the success of programs or policies related to specific material types. AMBR supports the use of a national composting rate, to include food, organics and yard debris, to complement our recycling rate and to measure the success of reducing food waste and improving organics recovery. More attention should be given to measuring and calculating construction and demolition (C&D) debris as an underrepresented source of waste in the US and an enormous opportunity to improve recycling rates and reduce GHG emissions. AMBR recommends tracking C&D materials in a separate category because the heavy nature of these materials, such as concrete and asphalt, has the potential to wildly skew the recycling data.

AMBR supports the inclusion of these categories in the national recycling rate, but encourages the EPA to exclude any production of energy or fuel from these products as a form of recycling:

- Appliances
- Batteries
- Carpet
- Electronics/e-waste
- Mattresses

- Paint
- Textiles

AMBR supports including the following materials in a separate category of industrial recycling:

- Renewable energy equipment (wind turbines, solar panels, etc.)
- Tires
- Automobiles
- Industrial waste (coal ash, foundry sand, iron and steel slag, etc.)

Household Hazardous Waste (HHW) should not be included in the recycling rate as the majority of these materials are “safely disposed” in landfills or incinerated, rather than recycled.

COMMENTS ON SCOPING CATEGORY 3: MATERIAL MANAGEMENT PATHWAYS

AMBR strongly recommends that the EPA exclude the following pathways from its recycling calculations:

- **Combustion with energy**
- **Pyrolysis and gasification**
- **Depolymerization and solvolysis**
- Land application
- Sewer/wastewater treatment
- Landfill cover, such as the use of crushed glass for alternative daily cover (ADC)
- Beneficial use (encapsulated, such as in concrete; or unencapsulated, such as use in roadbed)

AMBR strongly advocates that recycling be defined to focus on processes through which materials are returned to the marketplace for use in the form of raw materials or products in place of virgin materials. This excludes the production of fuel, fuel products or landfill cover. This is in line with the definitions being adopted globally. **The ISO standards (18604:2013), U.S. Plastic Pact, EU Environment Commission, Ellen MacArthur Foundation, and other prominent groups do not consider energy recovery, plastics to fuel or backfilling operations as a form of recycling. AMBR urges EPA to follow suit to align with global efforts to reduce waste and promote a circular economy.**

“Combustion with Energy” is currently classified as a form of waste disposal and should never be included as a form of recycling. This is consistent with the EPA hierarchy and nearly every other waste hierarchy around the world. Combustion destroys the material value and perpetuates our reliance on virgin resources to make new products and packaging. It is widely recognized as not part of a circular economy and should not be included in the recycling methodology.

AMBR strongly opposes the inclusion of pyrolysis or gasification processes as a form of recycling as these processes almost exclusively produce fuel or fuel products as their primary outputs. The EPA

should focus its methodology only on technologies that turn recycled feedstocks back into new products or raw materials to be used in new products or packaging. Since the 1970s, efforts to chemically recycle plastics through plastics-to-fuel (PTF) technologies, such as pyrolysis and gasification, have failed to achieve long-term commercial viability on an industrial scale for economic and/or environmental reasons, primarily due to the trade-offs between energy inputs and quality of output. All current PTF technologies take more energy to extract, process and create the fuel than the amount of energy they produce, which means no PTF technology can currently offer a net-positive energy balance, and there is no evidence to predict that this can improve in the foreseeable future. In addition, existing pyrolysis and gasification facilities for plastic waste have been linked to hazardous emissions that pose health risks to workers and nearby residents. **Under no circumstance should the EPA consider the production of fuels or the production of fuel intermediate products as recycling.**

Plastics-to-plastics (PTP) recycling technologies such as solvolysis and depolymerization have the potential to complement mechanical recycling programs, but these technologies are also the least developed and most expensive chemical recycling processes. It is premature to include these processes in the national recycling data until they are further developed. Doing so would draw attention, financial and research investment away from cost-effective, proven methods of recycling and source reduction. For the EPA to list them in the recycling rate would give unwarranted importance to these methods and put them closer to having equal value and legitimacy to more sustainable, reliable practices.

Much more research is needed on full-scale, operational solvolysis and depolymerization facilities, not pilot or lab-scale processes, to fully understand and calculate the process yield; GHG, air and water emissions; and other environmental and social impacts of these technologies. Current data from pilot and lab-scale processes is incomplete and wholly insufficient as it does not represent real world working conditions. **AMBR recommends excluding solvolysis and depolymerization from the EPA methodology for the current time, and using the next 3-5 years to develop protocols for mass balance accounting to potentially include these processes at a later date, if they prove to be a safe and scalable solution to managing plastics and other materials.** These technologies have not yet been proven to truly recycle materials, especially at functional, scaled levels for post-consumer waste.

AMBR encourages the EPA to support certified, transparent mass balance standards that are developed and maintained through a multi-stakeholder process that includes the communities impacted by both mechanical and chemical recycling facilities. AMBR strongly discourages the use of free allocation in the context of mass balance accounting for chemical recycling, particularly when fuel is one of the co-products of the process. In the context of mechanical recycling, AMBR sees a role for mass balance accounting on a batch level; however, free allocation of credits across sites and product lines needs to be more fully evaluated to ensure that free allocation does not counter efforts to not only increase recycled content, but also to decrease the use and production of virgin plastic.

AMBR supports including distinctive rates for:

- Reuse;
- Repair, Refurbishment, & Remanufacturing;

- Donation;
- Composting;
- Anaerobic Digestion;
- Bio-based Materials / Biochemical Processing (which includes rendering of fats/oils/greases);
- Animal feed.

Waste reduction and reuse/refill strategies are paramount to recycling in the national waste hierarchy. These metrics are historically underrepresented in U.S. EPA data and need more focus moving forward as a critical solution to reduce climate impacts and move toward a circular economy. The recycling rate methodology fails to account for these important strategies and this is one reason why AMBR supports per capita waste generation and disposal as a preferred metric. In addition, **AMBR urges the EPA to develop comprehensive methodology to track source reduction and reuse/refill initiatives around the US to complement the national recycling rate calculations.**

COMMENTS ON SCOPING CATEGORY 4: MATERIALS DESTINATIONS

AMBR does not support including exports of recycled materials outside of North America in the EPA data collection. Recent years have shown that there is little to no accountability of what happens to those materials after they leave the U.S. Without adequate safeguards or global data tracking to ensure those materials are responsibly recycled, the EPA should not include exported materials in the recycling rate. AMBR does support the inclusion of materials headed to Mexico and Canada markets as part of the national recycling rate, so long as the materials are used in the country and not re-exported. This ensures that markets in Canada or Mexico are not used as loopholes to new international trade restrictions on scrap plastics.

OTHER CONSIDERATIONS

Measure capture rate/remanufacture rate, not collection - The goal of recycling is not simply to collect materials, but to utilize these materials in the production of new products and packaging. To that end, measuring the recycling rate based on the amount of materials collected is not an accurate representation of the success of our recycling system. Measuring the remanufacturing rate of that material and being able to quantify the usage of recycled versus virgin materials used in manufacturing will show progress towards circularity and underscore the value of recycling in creating resilient, reliable, less environmentally harmful U.S. manufacturing feedstock. AMBR looks forward to reviewing the EPA's forthcoming methodology on processing yield as a more accurate measure of our national recycling system.



Add data breakdowns by Material Collection Method - Recycling programs and decision makers need to better understand how materials are being captured for diversion. Adding data about materials collected via curbside collection, drop-off centers, container deposit facilities, and other sources would provide helpful information on which programs are most successful in recovering materials and how to scale these solutions.

Impacts of recycling - The EPA must reinforce the importance of recycling as more than a waste diversion strategy by including metrics such as jobs created, GHG emissions diverted, social justice impacts and financial impacts in the form of municipal dollars spent/saved, recovered/landfilled material value, etc. are needed. These metrics will help elevate recycling as a critical solution to our climate crisis, to strengthen local economies and our national supply chain, and for reducing health and social impacts of our production and disposal systems upon frontline communities.

Access to recycling - Only half of U.S. households automatically receive curbside recycling services as part of their trash collection program and multi-family properties are vastly underserved by recycling programs. AMBR encourages EPA to work with The Recycling Partnership and their State of Curbside Recycling report to provide better data to document where recycling access needs to be improved in order to help drive funding and services to those populations.

We thank you for your consideration of our comments and please feel free to contact us with questions or for further information.

Yours in zero waste,

A handwritten signature in black ink that reads "Kate Bailey".

Kate Bailey

Policy & Research Director, Eco-Cycle, on behalf of the Alliance of Mission-Based Recyclers (AMBR)

AMBR Founding Members

