



Objective B: Increase Collection and Improve Materials Management Infrastructure

Recycling infrastructure – the equipment associated with the collection, conveyance, sorting, processing and reintroduction of recyclables feedstock into the manufacturing process – in the United States has not kept pace with the rapidly changing recyclables stream, and products are not designed with current infrastructure in mind. Access to recycling opportunities also varies, so access to the benefits of recycling subsequently varies among communities. Investment and innovation are necessary to increase collection opportunities, improve sorting materials, increase the efficiency of materials processing infrastructure, increase the collection of materials and create a more resilient recycling system. Examples of efficiencies that can be attained through additional investment include decreasing the cost of sorting recyclable materials; decreasing the amount of residuals that are removed from the recycling stream to produce properly sorted recyclable products; improving the quality and quantity of recyclables exiting the materials-sorting process; and increasing the proportion of recyclable materials post-sort compared to the amount of recyclables entering the MRF.

Anticipated benefits from infrastructure investment include adoption of innovative technologies for processing equipment, increases in materials for manufacturers, and economic benefits and job creation from expanding recycling capacity, particularly in underserved and rural communities.

B1. Improve understanding of available recycling infrastructure and needs.

- B1.1. Create a national map of existing recycling infrastructure to depict available recycling system capacity.** Building on existing information, develop a map of recycling infrastructure that includes key elements of the recycling system, from available collection points (e.g., drop-off centers, scrap yards, MRFs), sortation and secondary processing facilities (e.g., MRFs, baling operations, scrap yards, plastics reclaimers, pulp mills, glass beneficiation facilities), and, ultimately, manufacturing centers that use the recycled materials (e.g., plastic/products manufacturers, paper/paperboard mills, steel/aluminum mills, glass product/packaging manufacturers).
- B1.2. Conduct a needs assessment of recycling infrastructure in the United States.** Using information from the national map and other sources, conduct a needs assessment of the nation's recycling infrastructure that includes social equity in accessing recycling services. Then produce an outline of recommendations for infrastructure improvements and an investments/cost analysis to implement the improvements.
- B1.3 Conduct an environmental justice assessment of non-hazardous solid waste management infrastructure in the U.S.** National-scale data and

analysis of existing non-hazardous solid waste management infrastructure (e.g. landfills, incinerators, transfer stations, MRFs, chemical recycling facilities) is needed to understand whether non-hazardous solid waste management infrastructure disproportionately impacts communities. Such data, when considered along with community-level information, can help communities address environmental justice when siting new infrastructure. The data will also allow the United States to track progress nationally.

B1.4. Improve recycling infrastructure. Use the information from Actions B1.1, B1.2 and B1.3 to make improvements to the recycling infrastructure, ensure access to recycling is widespread, and ensure environmental justice is considered in the siting of new infrastructure. When recovery facility and collection equipment is upgraded, considerations should be taken so that the upgraded equipment is also safer and healthier for recovery facility collection workers. Create a list of milestones for MRFs to complete within a 10-year timeframe. Consider pilot programs for communities to make collection-related improvements, such as new bins, trucks, dual or multi-stream collection systems, and personal protective equipment (PPE).

B2. Increase awareness and availability of public and private funding and incentives and effective strategies to access the funding.

B2.1. Increase public and private funding opportunities. Additional sources of funding would help implement the infrastructure additions and upgrades that are identified as part of Action B1. Rapidly evolving sorting technology and advances in alternate forms of recycling technologies also increase the costs of maintaining up-to-date facilities. Funding could take the form of tax credits, grants, loans, subsidies or other types of funding at a local, state or national level; it should consider and prioritize direct and indirect benefits to under-resourced communities, to the extent allowed by law.

B2.2. Compile and share available funding sources and related resources. Public and private funding sources to support enhancements to infrastructure exist, but they are dispersed and not easily identifiable for many seekers of funding. Best practices and successful models addressing key issues – such as environmental impacts, collection costs, processing costs and revenue from material sales – should be compiled and made publicly accessible.

B3. Continue to fund research, development, demonstration and deployment of new technologies and processes for recycling.

Funding through grants and other mechanisms would support identification and evaluation of strategies and new technologies that could be scaled up and replicated across the country – both for existing materials that are difficult to process and for future materials. New technology and processes can improve manufacturing and

processing efficiencies, resulting in environmental and cost-competitive gains. Partners include universities, private industry and other research organizations.

B4. Increase consideration of recoverability and sustainability in the design of new products.

Manufacturers of products and packaging may not be aware of the impacts their material and design choices have on the ability of consumers, reuse markets, MRFs and secondary processing facilities to recover, reuse and recycle their materials. Material design and selection should consider both the intended useful lifetime and the impacts of the materials on established recycling systems. Strategies that should be explored are the use and promotion of tools such as design guides for recycling and upstream analyses of a material's/product's recoverability; collaborative dialogues among MRFs, retailers, product designers, chemists, academia and manufacturers; technical support programs; "design for environment" educational materials; information about secondary materials that are in demand; design incentives for manufacturers; purchasing specifications; consensus standards; and other outreach campaigns and tools.

B5. Optimize processing efficiencies at materials recovery facilities.

Create a universal guide for contamination audits at MRFs and perform optimization assessments to identify how MRFs can improve their processing efficiency. Explore regionalization strategies, such as the "hub-and-spoke" model, that can also optimize efficiencies and reduce costs.

B6. Increase collection of recyclable materials.

B6.1. Engage in outreach efforts to increase participation in recycling. Increasing the supply of collected materials will support end markets that are currently supply-constrained and companies that are scaling up new technologies to recycle more types of materials. Many companies have recently made significant commitments to increase the recyclability and recycling of consumer products and packaging, as well as increasing the amount of recycled content incorporated into them.

B6.2. Provide data and analyses to support increased collection of recyclables. Analyses could include a close look at each state's waste and recyclables profile and then use the information to improve recycling. An analysis of single-stream and source-separated recycling with recommendations and metrics could help decision makers choose the most effective option for their communities.

B6.3. Implement incentives, policies and programs that result in increased collection. Drawing upon the policy analysis in Action D2, decision makers can implement policies best suited to increase the collection of recyclable materials in their communities. Incentives could be explored to encourage retailers to become collection points for some types of materials.



Objective C: Reduce Contamination in the Recycled Materials Stream

Reducing contamination in the recovered materials stream is necessary to improve the quality of the recycling stream and produce the valuable secondary materials that drive markets. Contamination can occur at various times throughout the recycling process and negatively affects the ability of a MRF or secondary processing facility to produce high-quality, clean recycled materials that serve as feedstock for new materials and products. Efforts under this objective may expand to other ways to improve the quality of the recycling stream as contamination decreases.

Anticipated benefits of reducing contamination in the recycling stream will enable more material to be recycled and increase the value and quality of recycled materials and feedstock. Higher-quality recycled material will increase the available supply of recycled material and support strengthening markets for recycled materials.

C1. Enhance education and outreach to the public on the value of recycling and how to recycle properly.

C1.1. Develop messaging and educational materials about the importance and value of recycling. While it is generally understood that recycling is one action people can take to help protect the environment, additional messaging and educational materials emphasizing the environmental, social and economic benefits of recycling as a key aspect of a circular economy approach need to be produced and made available to state, local and tribal governments. For example, the America Recycles Network published a jobs infographic to help consumers understand the economic benefits of recycling. Communications and materials will be developed to reach and ensure access to diverse audiences, including persons with limited English proficiency and persons with disabilities. Title VI of the Civil Rights Act



Pressed plastic bottles in bales.



Bales of cardboard awaiting shipment.

requires that recipients of financial assistance from EPA and other federal agencies provide meaningful access to their programs and activities for persons with limited English proficiency. Executive Order 13166, “Improving Access to Services for Persons with Limited English Proficiency,” requires that EPA and other federal agencies also provide meaningful access to their programs and activities for persons with limited English proficiency. Sections 504 and 508 of the Rehabilitation Act ensure meaningful access for persons with disabilities. Under Section 504, EPA is obligated to provide reasonable accommodations such that persons with disabilities – including applicants, participants, personnel of other federal entities and members of the public – can meaningfully access and participate in EPA-sponsored programs and activities. Section 508 requires EPA to make electronic information and websites accessible. Section 504 also applies to federal financial assistance recipients.²

C1.2. Develop common recycling messages on key issues to promote awareness, increase recycling participation and ensure a more consistent stream of recyclable material. Common messages about key recycling issues are critical to reducing contamination by making sure the public understands the consequences of contamination and how to recycle properly. For example, the America Recycles Network published an infographic and developed a social media campaign to highlight positive recycling messages. A variety of educational messages are necessary to be responsive to and reflective of diverse communities.

² Title VI , 42 U.S.C. 2000(d) et seq.; Sections 504 and 508 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; *Lau v. Nichols*, 414 U.S. 563, 568-69 (1974) (finding that the government properly required language services to be provided under a recipient’s Title VI obligations not to discriminate based on national origin); Executive Order 13166 of August 11, 2000, “Improving Access to Services for Persons with Limited English Proficiency,” at <https://www.federalregister.gov/documents/2000/08/16/00-20938/improving-access-to-services-for-persons-with-limited-english-proficiency>.

C1.3. Identify effective ways to educate the public about recycling, test those methods with pilot educational campaigns and then incorporate them into a national program. There are a variety of approaches and strategies to develop effective messaging campaigns. For example, one approach, community-based social marketing, emphasizes direct contact among community members and the removal of structural barriers, since research suggests that such approaches are most likely to inspire behavior change (McKenzie-Mohr, 2011). Ultimately, the approach should be tailored to meet the needs and budget of the community.

C1.4. Enlist the assistance of traditional and social media, governments, MRFs, waste haulers, and product manufacturers to disseminate messaging. It is important to elevate the awareness of the importance of recycling and develop new educational materials and campaigns. This can be supported and advanced by traditional and social media, governments, MRFs, waste haulers, and product manufacturers to increase the impact of the messaging. For example, several states and local governments already create recycling toolkits, direct mailers, “oops” cart tags, and brochures. In schools, information about recycling can be taught to children, who then repeat the messaging at home. Connecting governments and product manufacturers is another strategy for amplifying and more broadly disseminating messaging through traditional and social media.

C1.5. Improve consistency of labels for recyclable products, recycling bins and trash bins. Consistent labels, signage, symbols and messaging for recyclable products, recycling bins and trash bins could reduce consumer confusion about what products can be recycled and which bins are appropriate for different recyclable materials. Likewise, clarifying existing labels that are confusing to consumers – for example, the resin identification code – could make recycling easier. Labels should be accurate and not misleading.

C1.6. Develop a plan to assist state and local governments with contamination. State and local governments often do not have the resources to effectively address recycling contamination problems. A comprehensive strategy will help state and local governments reduce contamination of recyclables caused by incorrect materials being placed in recycling containers.

C2. Ensure resources are available for education and outreach initiatives.

Education, outreach and information resource hubs will need resources to ensure that they are sustainable and effective. In-kind resources, funding or other types of support will need to be leveraged or created.



Objective D. Enhance Policies and Programs to Support Circularity

Different policies and programs can be effective in increasing circularity. Extended producer responsibility (EPR) policies – policies that place a shared responsibility for end-of-life product management on producers and other entities involved in the product chain – advanced recovery fees, and landfill bans are all examples of policy drivers that are intended to increase materials recovery at the state and local levels. However, governments need to know when to use them and what conditions make them successful. Efforts under this area aim to increase coordination, availability and accessibility of information on recycling programs and policies at the federal, state, tribal and local levels.

Anticipated benefits of enhancing policies to support circularity include better-informed, effective and efficient policies that lead to increased recycling.

D1. Strengthen federal coordination to support and encourage actions to improve the U.S. recycling system.

To support and encourage action to address the challenges facing the U.S. recycling system, federal partners could formalize their collaboration through a workgroup dedicated to identifying opportunities to leverage existing programs and funding. The federal government is uniquely positioned to advance recycling via policies, procurement, and management of waste and recyclables generated at federal facilities. Actions could include developing a common policy statement supporting the National Recycling Goal and other collaborative efforts to achieve it.



Workers sorting through trash in a recycling facility.

D2. Conduct an analysis of different policies that could address recycling challenges.

Governments and other entities have adopted various policy approaches to address the challenges facing the recycling system. Conducting an analysis of different policies for their effectiveness could help inform decision makers nationally. Examples of policies to include in the analysis are:

- Recycled content requirements for products.
- Taxes on virgin materials.
- Bottle bills.
- Take-back programs.
- EPR requirements.
- Fees for recycling incorrectly.
- Landfill fees.
- Packaging fees.
- Policies favoring natural resource use.
- Recycling mandates.
- Pay-as-you-throw.
- Consumer incentives.
- Bans on contaminants in products.
- Bans on producing/using specific materials.
- Bans on certain materials in landfills.
- National recyclability standards.
- Minimum standards on MRFs to recover certain materials.
- Minimum quality/contamination standards for MRF outputs.
- Dual stream versus single stream collection.
- Policies/incentives to divert materials from landfills.
- Data reporting requirements.
- Policies to support infrastructure development (permitting requirements, regulations, stakeholder engagement, etc.).

D3. Conduct a study on reflecting environmental and social costs in product pricing.

In 2020, the Government Accountability Office recommended that EPA develop an implementation plan for conducting a study and developing recommendations for administrative or legislative action regarding the necessity and method of imposing disposal or other charges on packaging, containers, vehicles and other manufactured goods to reflect the cost of final disposal, the value of recoverable components of the item, and any social costs associated with nonrecycling or uncontrolled disposal, as required by the Resource Conservation and Recovery Act.

D4. Increase awareness of and continue voluntary public-private partnerships.

Public-private partnerships are a proven, effective way to leverage government and private-sector commitments and translate them into results. For example, WasteWise is one of EPA's longest-standing partnership programs and has involved thousands of organizations, ranging from corporations and businesses to educational institutions and governments. Since 1994, WasteWise participants have prevented more than 247 million tons of waste from going to landfills and avoided 459 million metric tons of carbon dioxide equivalent, which is equivalent to the emissions from more than 97.5 million passenger vehicles. We should leverage existing successful partnerships and consider creating new ones to advance recycling and sustainability.

D5. Share best practices on policies, programs, funding opportunities and outreach through a free, publicly accessible online clearinghouse.

Through the America Recycles Network, the U.S. Chamber of Commerce Foundation launched an online, virtual clearinghouse as part of its "Beyond 34" initiative, which is aimed at increasing the recycling rate in the United States by providing a scalable model to optimize recycling and recovery systems. The clearinghouse was created to include information about effective education and outreach campaigns; existing reports about recycling policies in other countries; information on free, open-source, downloadable labels for recycling bins; lessons learned from COVID-19; MRF contract information and best practices for governments contracting for processing services; and more. The clearinghouse can act as a vehicle to share and amplify solutions to recycling challenges. Regular mechanisms for updating and maintaining accurate information need to be identified.



Workers in an assembly line sorting recycled materials.

D6. Coordinate domestic and international interests.

Countries around the world are working to implement circular economy strategies, consensus standards and policies. Coordinating U.S. circular economy interests with other countries will allow the United States to support a resource-efficient and circular economy approach to managing scrap and recycling.



Objective E: Standardize Measurement and Increase Data Collection

Measurement forms the bedrock of achieving the National Recycling Goal to increase the recycling rate to 50 percent by 2030 and the objectives described within the *2021 Strategy*. Different definitions and measurement practices create challenges to setting goals and tracking progress. Stakeholders across the recycling system agree that more consistent measurement methodologies are needed to measure recycling system performance. More standardized metrics will provide a powerful tool to create effective milestones and track progress as the *National Recycling Strategy* is implemented.



Benefits of standardizing methodologies and collecting measurement data include improved data availability and granularity for a range of recyclables, being able to track progress clearly and make adjustments on the road to achieving the National Recycling Goal, being able to compare data across different jurisdictions, and minimizing data gaps.

E1. Develop and implement national recycling system definitions, measures, targets and performance indicators.

Recycling definitions, measures, targets and performance indicators will help advance the understanding of how the recycling system is performing. This effort will improve data availability and granularity for a range of recyclables and support tracking and measuring progress nationally. EPA will continue to collaborate with interested stakeholders to develop standardized definitions, measurement methodologies, baselines and targets for future metrics and the National Recycling Goal. Action E1 should include work by other entities, including consensus standards bodies, to identify and develop additional metrics.

E2. Create a tracking and reporting plan.

The plan would allow for consistent tracking and reporting of recycling activities on a regional and national scale. This plan would also address how to integrate accountability into efforts and measure progress in achieving our goals. It would optimize the value of datasets by minimizing gaps in data and improving data collection.

E3. Create recycled content measures.

Explore national post-consumer content measures and third-party specification programs to make it easier to verify and compare recycled content in products. This information can help consumers make informed decisions about their purchases and provide a national barometer of use of recycled materials in products.

E4. Coordinate domestic and international measurement efforts.

Countries' abilities to recycle materials are often compared, particularly in the context of sharing best practices and effectiveness of policies. Enhancing measurement efforts could provide U.S. recycling stakeholders with the additional information necessary to compare domestic recycling efforts to those of other countries and make domestic improvements as needed.

E5. Increase data availability and transparency about recyclable materials generated and the materials manufacturers need.

- E5.1. Gathering data.** Data about the amount of recycled material generated, type of materials, location of materials, energy use and impacts of materials often are not readily available or easy to find and need to be gathered and provided. Compile nationwide information on buying recycled products, including federal/state/local government purchases and state and local laws and policies.
- E5.2. Improving data availability and transparency.** Improving the availability, granularity (local, regional, national), transparency, type and format of data about recycled materials would help governments, industry and others make recycling market development decisions. For example, it could enable potential buyers and sellers of materials to be more easily matched.
- E5.3. Improve the accessibility of data for product design and procurement.** Create a feedback mechanism to inform product designers and procurement decision makers about how materials are being collected, sorted and processed at the end of their lives. A directory of material suppliers could allow buyers to give feedback to sellers about the types and qualities of materials they need.

Next Steps: Implement the Actions Identified in the *National Recycling Strategy* and Develop Subsequent Strategies

EPA will develop an implementation plan that will provide more specificity about the actions and their organizational leads. EPA will integrate equity and environmental justice principles and priorities into all aspects of implementing the *National Recycling Strategy*, as well as considering these principles in developing future strategies. The implementation plan will identify the resources and investments needed, balancing the risk reductions with costs; clarify the roles and responsibilities of participating entities; and articulate EPA's role in implementing the *National Recycling Strategy* and integrating new activities into the Agency's existing programs and activities. EPA will help facilitate the implementation of actions in this strategy and provide routine status updates to interested stakeholders.

The National Recycling Goal and Strategy Nexus

The National Recycling Goal and the *National Recycling Strategy* are integrated and support the ultimate goal of improving recycling and increasing circularity within the United States. The methodology to measure the recycling goal and its key metrics is under development and expected to be finalized later this year. In the development of the implementation plan, EPA will bring the recycling goal and *National Recycling Strategy* together into a comprehensive plan. As EPA moves beyond recycling to develop additional strategies, EPA also will develop a new goal to reduce the climate impacts from materials production, consumption, use and disposal that will complement the focus on a circular economy approach. This new goal will complement the National Recycling Goal, as well as the U.S. goal to halve food loss and waste by 2030.

Stakeholder Involvement

Successful implementation of the *National Recycling Strategy* is highly dependent upon commitment and involvement from stakeholders across the recycling chain – haulers, waste management companies, non-profit organizations, governments, academia, industry, community members and others. All interested parties are welcome to participate. During the public comment period, some organizations signaled their interest in being involved in the implementation of the *National Recycling Strategy*. EPA will follow up with those organizations and reach out to others to start work on implementing the actions. EPA, in coordination with others, intends to develop and release an implementation plan for the *National Recycling Strategy* that summarizes these initial commitments in 2021. Appendix C summarizes ongoing recycling work across the federal government that could be leveraged to implement the *National Recycling Strategy*.

Develop Additional Strategies to Reflect Further Actions Necessary for a Comprehensive Circular Economy Approach in the United States

As EPA begins implementing the *National Recycling Strategy*, EPA will also start developing strategies that go beyond the recycling of MSW. Other areas of consideration are sustainable product design, waste generation reduction and materials reuse activities critical to a circular economy approach. Activities will be expanded to include other materials, such as electronics, industrial waste, cement and concrete, and food. EPA will ensure communities have a seat at the table and are involved in future strategies.

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Appendix A: Examples of Existing National Efforts for Specific Materials

EPA's SMM program has broadly covered materials use in the United States, and EPA's activities have been covered in the [EPA Sustainable Materials Management Program Strategic Plan for Fiscal Years 2017 – 2022](#). EPA has several long-standing programs and efforts underway to advance SMM, including the sustainable management of food, advancing SMM in the built environment (our nation's roads, bridges and infrastructure), and electronics management. These programs will be leveraged, as necessary, to move activities under the *2021 Strategy* forward.

Sustainable Management of Food

Food not used for its intended purpose is managed in a variety of ways, such as being donated to feed people, creating animal feed, composting, anaerobic digestion, or being sent to landfills or combustion facilities. The following are examples of national efforts to reduce wasted food:

- The U.S. Department of Agriculture (USDA), EPA, and the U.S. Food and Drug Administration (FDA) established an [interagency agreement](#) in October 2018 and renewed the agreement – affirming their shared commitment to work towards the national goal of reducing food loss and waste by 50 percent by the year 2030 – in December 2020. The agencies agreed to coordinate food loss and waste actions such as education and outreach, research, community investments, voluntary programs, public-private partnerships, tool development, technical assistance, event participation, and policy discussion on the impacts and importance of reducing food loss and waste. The agencies also developed a federal interagency strategy to prioritize and coordinate their efforts in six action areas.
- The [2018 Wasted Food Report](#) describes an enhanced measurement methodology used to calculate national wasted food estimates and provides detailed estimates of generation and management by sector. The report includes estimates for the commercial, residential and institutional sectors, as well as the industrial sector (i.e., food and beverage manufacturing and processing). Improved data and measurement ensure the efficiency and effectiveness of sustainable management of food approaches and allow EPA to better focus support of state, municipal and tribal efforts.
- The ReFED [Insights Engine](#) is a data and solutions hub for food loss and waste, designed to provide anyone interested in food waste reduction with the information and insights they need to take meaningful action to address the problem. The ReFED Insights Engine provides an analysis of a range of potential solutions based on their impact potential (amount of food waste diverted, GHG

emissions reduced, meals recovered, jobs created and net economic benefit); the investment required and the potential return on investment; and potential barriers. ReFED has also created a framework for implementing the solutions in the Insights Engine in its new [Roadmap to 2030: Reducing U.S. Food Waste](#), which looks at the entire food supply chain and identifies seven key action areas for the food system to focus its food waste reduction efforts over the next 10 years.

SMM in the Built Environment

The built environment is a part of nearly every aspect of our lives – from the homes we live in to the buildings we work in and the factories and businesses that are the engine of the American economy. According to the International Resource Panel (IRP), globally, the greatest increases in consumption of materials is construction minerals, ores and industrial minerals. As construction increases, new solutions are necessary to maximize the use of available resources, minimize negative environmental impacts and avoid unnecessary costs. However, there is not an unlimited source of these essential materials, so it is critical to consider all available resources to continue to grow and prosper. Byproducts generated by industrial processes such as road and building construction and demolition, iron and steel production, metal casting, and electricity production can be recovered, reused and recycled, further reducing GHG emissions and creating jobs. For example:

- According to EPA's estimates, 600 million tons of construction and demolition (C&D) debris were generated in the United States in 2018, which is more than twice the amount of generated municipal solid waste. Over 455 million tons of C&D debris were directed to next use, and just under 145 million tons were sent to landfills.
- The C&D materials recycling and reuse sector accounts for the greatest share of jobs created in EPA's [Recycling Economic Information](#) report.

EPA collaborates with a wide range of stakeholders to find innovative solutions to address infrastructure needs while generating jobs and increasing competitiveness. EPA provides data and technical assistance to support decision-making about materials use and recovery. For example, EPA released a [life-cycle assessment of single-family residential construction in the U.S.](#), which identified the most impactful areas associated with the life cycle of single-family homes and identified materials management strategies that could be undertaken to reduce those impacts. In addition, EPA's [Methodology for Evaluating Beneficial Uses of Industrial Non-Hazardous Secondary Materials](#) presents EPA's approach for evaluating a wide range of industrial non-hazardous secondary materials and their associated beneficial uses.

Electronic Waste

Electronic waste is a growing part of the waste stream as electronics become more integrated into our daily lives. Recycling these products once they reach the end of their life both protects the environment and allows us to recover valuable materials for reuse in new products. EPA promotes responsible electronics recycling through its voluntary [SMM Electronics Challenge](#). The challenge focuses on electronics manufacturers, brand owners and retailers, encouraging them to send used electronics (collected from the public, businesses and within their own organizations) to third-party certified electronics refurbishers and recyclers. The program also recognizes significant achievements to incorporate sustainability and life-cycle thinking into products, programs and services. The challenge aims to:

- Increase rates of responsible electronics recycling and reuse.
- Promote data transparency and accountability by making data publicly available.
- Reduce negative environmental effects across the life cycle of electronics.

In 2020, challenge participants reused or recycled 176,494 tons of electronics and avoided the equivalent of nearly 500,000 metric tons of carbon dioxide emissions.