Recommendations for reducing the burden of plastic waste in the United States

Informed by an analysis conducted by The Pew Charitable Trusts, with support from ICF, focusing on plastic packaging from municipal solid waste and microplastics from tires and textiles

Plastic has proliferated across every sector of the world economy due to its low cost, light weight, durability, and other attractive properties. While there are essential, lifesaving uses for plastic, such as in medical devices and engineering equipment, the growing production of this material is putting people and the environment at risk. Plastic has been found at the highest peaks on earth and in the deepest ocean trenches, in drinking water and in human bodies. The urgent need to address the impacts of plastic across the value chain, from production through end-of-life management, is widely recognized.

Municipal solid waste (MSW) consists of everyday items thrown away by homes, schools, hospitals, and businesses. It excludes construction debris, industrial waste, and hazardous materials. The United States (U.S.) is among the world's largest generators of plastic MSW.[i,ii] The amount of aquatic and terrestrial leakage to the environment is considerable, placing the U.S. among the countries causing the highest levels of ocean plastic pollution.[iii] By 2060, plastic use in the U.S. is projected to be more than double that of 2019[iv]--pushing plastic waste generation and pollution to higher levels--unless action is taken. There are several federal strategies and policies targeting plastic pollution from MSW and microplastics. Additionally, many states are considering various public policy approaches to address different parts of the plastic packaging and microplastics value chains. These efforts are essential and growing, but they are not yet sufficient to tackle the plastic waste problem and protect America's environment and the wellbeing of its communities from related harm.

A white paper commissioned by The Pew Charitable Trusts titled *"Modeling policy options for reducing plastic packaging waste and microplastics in the United States"* was published in February 2026. The research provides a data-driven understanding of the current scale in the U.S. of three leading causes of plastic pollution – plastic packaging from MSW and microplastics from textiles and tires – and assesses the potential impact of the wider adoption of select existing policies at regional and national levels through 2040.[v] The results provide findings specific to the impact of policy on plastic flows, waste management, pollution, waste management costs, jobs, and greenhouse gas emissions (GHG). Impacts on human health are not evaluated due to limitations on data availability.

The following are key findings from this research:

- **Unless action is taken, the amount of plastic in MSW will grow significantly by 2040, costing taxpayers[vi] nearly $37 billion annually to manage.** Between 2025 and 2040, an additional 1 billion tons of plastic MSW will be generated in the U.S., resulting in 30 million tons of additional plastic polluting the nation's waters and lands, and a 30% increase in total annual MSW management costs.
- **Packaging makes up over half of all plastic in MSW and is projected to increase by more than 30% by 2040.** This analysis shows that under business as usual, flexible packaging - which is particularly challenging to recycle - makes up 50% of this packaging waste by mass and over one-quarter of all plastic MSW.

- **Reuse mandates, such as a reuse requirement for 30% market share for beverage bottles and 10% market share for all other packaging, will reduce plastic packaging waste by up to 11% and pollution by 12% by 2040 relative to business-as-usual.** Currently, reuse systems for plastic packaging are very limited in the U.S.; a shift toward reuse at scale represents a departure from business-as-usual. Shifting 13% of single-use plastic packaging to reusable plastic, metal, or glass packaging reduces annual costs to taxpayers associated with packaging waste management by more than $1 billion. While jobs in the waste management sector decrease by 4% under a reuse scenario due to less waste being managed, this is offset by the creation of jobs in the reuse sector that are safer than waste management and recycling jobs.[vii] Additionally, under a reuse policy scenario with such moderate targets, GHG emissions decline by up to 3%.

- **Quadrupling collection rates and limiting sorting losses of plastic packaging waste to 10% will increase the national plastic MSW recycling rate from 6% to 19% by 2040, while reducing landfilling by 17% and incineration by 18%.** These improvements will require more than $21 billion in capital and operating expenses over the next 15 years and increase employment in the recycling sector by more than 17,000 jobs. While these interventions increase the quantity of material sent to recycling and increase GHG emissions from the waste management sector by 7%, this is offset by the GHG emissions avoided from primary plastic production by using recycled material.

- **Combining upstream and downstream policies across the plastics value chain will lead to more efficient outcomes and reduce plastic packaging waste generation by 29% and pollution by 35%.** Combining policies results in greater impacts than implementing individual policies alone. Upstream policies, such as eliminating certain types of plastic, reducing plastic use, and implementing reuse measures, support downstream policies by decreasing the material that needs to be managed. Downstream policies around collecting and sorting recyclable materials and deposit return schemes improve recycling rates, reduce waste management burden, and increase circularity of the plastics value chain. Overall, the combined scenario reduces the costs for waste disposal via landfill and incineration, while directing investments to recycling and reuse facilities and systems. Together, upstream and downstream policies reduce annual costs to taxpayers[viii] associated with packaging waste management by over $4 billion, reduce GHG emissions by 7%, and increase jobs by 2% before accounting for job creation in the reuse sector outside of waste management.

- **Unless action is taken, microplastic pollution from textiles and tires will be on par with that generated from plastic packaging MSW in 2040.** The majority of microplastics generated from textiles and tires enter the environment. For textiles, a combination of policies that reduce microfiber shedding by 49%, require filters in most washing machines, and ban biosolids application to agricultural land will reduce microfiber pollution by 70%. For tires, a combination of policies that reduce passenger vehicle miles traveled by 2%, reduce tire abrasion between 9% to 18%, and ban biosolids application to agricultural land will reduce microplastics pollution from tires by 15%. Altogether, these policies reduce microplastic pollution from textiles and tires by 15% by mass.

We, as signatories of this statement, recognize the challenge plastic packaging waste and microplastics pose in the U.S., and that government at all levels and many businesses are actively exploring a range of policies in response to that challenge. However, more action is urgently needed if the economic and environmental impacts of plastic waste and pollution are to be minimized. The above findings are based on select existing policies that could be adopted more widely in the U.S. and highlight the potential of current policy action, but also the need to take further comprehensive action to address the remaining plastic pollution. We, therefore, urge policy makers to implement the following evidence-based recommendations, rooted in the key findings of the report, so that the U.S. can stem the economic and environmental consequences of plastic pollution:

- **Develop policies that combine upstream and downstream interventions, such as comprehensive Extended Producer Responsibility (EPR).** A comprehensive approach across the plastics value chain is needed to reduce the growing burden that plastic waste is placing on communities and governments. Reducing the amount of plastic use and waste generated will be a critical first step while ensuring that all waste generated is properly disposed, preventing pollution. Dedicated investments in collection, reuse, deposit return schemes, recycling, and waste treatment facilities will be needed to support these approaches. EPR laws can generate the required funding and shift the costs of managing packaging waste from taxpayers to producers to support recycling infrastructure, incentivize greater recycling, encourage better product and packaging design, and incentivize reuse.

- **Set ambitious and data-driven targets to reduce plastic packaging waste generation and increase recycling.** Establishing a baseline enables informed policymaking, while targets signal the need to invest in systems that reduce, reuse, and recycle plastic packaging. Setting source reduction targets can help reduce waste generation, reuse targets can improve circularity and further cut waste generation, and recycling targets can drive waste diversion from landfills and incineration. Together, these measures create benchmarks to track progress, evaluate policy impacts, and enable municipalities, counties, and states to lower waste management costs and plan for future landfill and incineration capacity needs. Policymakers can establish targets independently or as part of EPR, balancing ambition with achievability.

- **Invest in and scale up effective reuse systems.** By replacing single-use plastics, reuse systems can increase material circularity and reduce waste generation and pollution. While bringing these initiatives to scale will require investment in infrastructure**,** annual capital expenditure and operating costs, these investments can benefit communities by spurring job creation to operate the reuse return infrastructure, transport containers, and ensure they are cleaned correctly.

- **Develop and implement a comprehensive strategy to address the extensive pollution associated with microplastics.** Most microplastics ultimately end up in the environment where they are nearly impossible to remove, and efforts so far to address this pollution remain limited. A comprehensive strategy that prevents microplastics from entering the environment in the first place, both through reducing their creation and improving their capture, is, therefore, essential. Key actions include developing statewide monitoring programs; creating source emissions

inventories to quantify microplastic sources; and developing evidence-based policy recommendations (e.g., product design standards to limit tire abrasion, effluent limit guidelines for wastewater treatment).

- **Develop common reporting metrics for plastic across the value chain to support policy development and implementation and regional collaboration.** Currently, there is no comprehensive, publicly reported data on polymer or additive production and sale in the U.S., which limits understanding of the lifecycle of plastics in the U.S. Additionally, there is no uniformity in the metrics municipalities, counties, and states use to document waste composition and management. For example, there is no common definition in the U.S. of "recycling rate" or standardized protocol for waste categories to track in waste composition studies, nor common points of measurement. Increasing data transparency and harmonizing metrics and their definitions will help states and regions speak the same language and collaborate to understand and manage the waste stream.

By implementing the evidence-based recommendations above, policymakers can curb the growth in plastic waste and pollution, relieve the burden they place on taxpayers, and improve the well-being of communities throughout the U.S.

Signatories

The Pew Charitable Trusts

Jenna Jambeck and Kathryn Youngblood, University of Georgia

Monterey Bay Aquarium

The Recycling Partnership

U.S. Plastics Pact

Upstream

World Wildlife Fund

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[i] Law, K. L., Starr, N., Siegler, T. R., Jambeck, J. R., Mallos, N. J., & Leonard, G. H. (2020). The United States' contribution of plastic waste to land and ocean. Science Advances, 6(44), eabd0288. doi:10.1126/sciadv.abd0288

[ii] Kaza, S., Yao, L. C., Bhada-Tata, P., & Van Woerden, F. (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050.

[iii] Ibid.

[iv] Organisation for Economic Co-operation and Development. (2022). Projections of the environmental impacts of the plastics lifecycle to 2060. In Global Plastics Outlook: Policy Scenarios to 2060: OECD.

[v] The report models plastic packaging from MSW under five scenarios: (1) phase out of polyvinyl chloride (PVC) and polystyrene (PS) and expanded polystyrene (EPS) paired with optimization of material use, (2) reuse, (3) increase collection for recycling and improve sorting efficiency, (4) implementation of a deposit return scheme (DRS), and (5) all scenarios combined. For tires, the report evaluates policies to increase public transportation, reduce tire abrasion rates, and ban application of biosolids on agricultural land; for textiles, the report evaluates policies to reduce textile shedding rates through design changes; install washing machine filters, and ban application of biosolids on agricultural land.

[vi] Costs to taxpayers as reported here reflect the costs of formal collection, sorting, incineration, and landfilling.

[vii] U.S. Bureau of Labor Statistics, 2025. Graphics for Economic News Releases: Civilian occupations with high fatal work injury rates, 2023.

[viii] Costs to taxpayers as reported here reflect the costs of formal collection, sorting, incineration, and landfilling.