

# WASTE MANAGEMENT AND RECYCLING: CHALLENGES, ACTIONS, AND TRENDS



DEPARTMENT OF LEGISLATIVE SERVICES 2024

---

# **Waste Management and Recycling: Challenges, Actions, and Trends**

---

**Department of Legislative Services  
Office of Policy Analysis  
Annapolis, Maryland**

**December 2024**

## **Contributing staff**

### ***Writers***

Cristen C. Flynn  
David C. Morgan  
Scott Kennedy

### ***Reviewers***

Crystal L. Lemieux  
Ryane M. Necessary

## **For further information concerning this document contact:**

Library and Information Services  
Office of Policy Analysis  
Department of Legislative Services  
90 State Circle Annapolis, Maryland 21401

Baltimore Area: 410-946-5400 • Washington Area: 301-970-5400

Other Areas: 1-800-492-7122, Extension 5400

TTY: 410-946-5401 • 301-970-5401

TTY users may also use the Maryland Relay Service  
to contact the General Assembly

Email: [libr@mlis.state.md.us](mailto:libr@mlis.state.md.us)

Home Page: <http://mgaleg.maryland.gov>

The Department of Legislative Services does not discriminate on the basis age, ancestry, color, disability, gender identity, genetic information, marital status, national origin, pregnancy, race, religion, sex, and sexual orientation in the admission or access to its programs, services, or activities. The Department's Information Officer has been designated to coordinate compliance with the nondiscrimination requirements contained in Section 35.107 of the Department of Justice Regulations. Requests for assistance should be directed to the Information Officer at the telephone numbers shown above.

# Contents

---

<b>Executive Summary</b> .....	v
<b>Chapter 1. Highlights on Waste Management and Recycling in Maryland</b> .....	1
<b>Chapter 2. Challenges to Waste Management and Recycling</b> .....	3
<b>Methane Emissions from Municipal Solid Waste Landfills</b> .....	3
U.S. Methane Emissions .....	3
Maryland Methane Emissions.....	4
Regulation of Methane Emissions .....	6
<b>Diminishing Landfill Capacity</b> .....	7
<b>Environmental Justice Concerns Regarding Waste Management</b> .....	8
<b>Challenges with Recycling System</b> .....	8
Market Fluctuations for Recyclable Materials.....	8
Dated or Inadequate Infrastructure .....	9
Consumer Confusion .....	9
Contamination in the Recycling Stream .....	9
<b>Chapter 3. What is Being Done at the Federal Level?</b> .....	11
<b>Federal Action – Strategies and Goals</b> .....	11
America Recycles and National Framework for Advancing Recycling .....	11
Draft National Recycling Strategy and National Recycling Goal .....	11
2021 National Recycling Strategy .....	12
Draft National Strategy to Prevent Plastic Pollution .....	13
<b>Federal Action – Legislation</b> .....	16
Legislation Enacted at the Federal Level.....	17
Legislation Proposed at the Federal Level.....	18
<b>Chapter 4. What is Being Done in Maryland?</b> .....	21
<b>Maryland Action – Study, Policy, and Outreach</b> .....	21
Waste Characterization Study .....	21
Waste Reduction and Resource Recovery Policy .....	23
Outreach to Reduce Contamination in Recycling Stream .....	26

<b>Maryland Action – Legislation</b> .....	26
Legislation Enacted in Maryland .....	27
Legislation Proposed in Maryland .....	34
<b>Chapter 5. Recent Trends in Other States</b> .....	39
<b>Chapter 6. Policy Considerations</b> .....	49

# Executive Summary

---

Maryland is a densely populated state facing a waste disposal predicament. While the State's population increased nearly 7% from 2010 to 2022, the State's waste generation also increased with almost 15 million tons of solid waste generated in 2022, an increase of 7.6% over the previous year. In light of the State's fairly steady population growth, the amount of waste generated in the State will likely continue to increase. However, the remaining capacity of municipal landfills statewide is an estimated 21 years at current disposal rates. Additionally, municipal solid waste (MSW) landfills in the State are the largest source of methane emissions, a potent greenhouse gas, accounting for 40% of methane emissions statewide.

This report provides an overview of the challenges facing waste management and recycling and examines what is being done to address these challenges.

**Chapter 1** provides a summary of the solid waste generated, collected, managed, and disposed of in the State in 2022, which is the most recent data available. Approximately 53.9% of this solid waste was recycled, while the remaining 46.1% was landfilled, incinerated, or stored. Additionally, in 2022, nearly half (46.6%) of the State's solid waste was handled by facilities that primarily manage only recyclable materials and are not required to be permitted by the State.

**Chapter 2** discusses challenges to waste management and recycling. Although recycling provides a number of environmental and economic benefits, the current system faces numerous obstacles, such as challenges relating to methane emissions from MSW landfills, diminishing MSW landfill capacity,

environmental justice concerns, market fluctuations, outdated and inadequate infrastructure, confusion on product recyclability, and contaminated recycling streams.

**Chapter 3** describes recent waste management and recycling actions being taken at the federal level, including the *National Framework for Advancing the U.S. Recycling System*, the *National Recycling Strategy*, the national recycling goal, the *National Strategy to Prevent Plastic Pollution*, the *National Strategy for Reducing Food Loss and Waste and Recycling Organics*, and recently enacted and proposed federal legislation. Since 2021, legislation has been introduced on topics ranging from infrastructure and accountability to producer responsibility and single-use products.

**Chapter 4** discusses recent waste management and recycling actions being taken in Maryland, including a waste characterization study, the State's waste reduction and resource recovery policy, and recently enacted and proposed State legislation. Most recently, the legislature has considered bills related to, among other things, composting; product stewardship and producer responsibility; single-use products; and labeling, marketing, and advertising of plastic products and packaging.

**Chapter 6** provides a summary of recent waste management and recycling legislation enacted in other states. Legislation ranges from extended producer responsibility and right to repair laws to bans on certain products and labeling and public education requirements

Finally, **Chapter 7** concludes the report with policy issues for consideration.



# Chapter 1. Highlights on Waste Management and Recycling in Maryland

---

Although Maryland has taken a number of steps to ensure that the State’s solid waste is disposed of in an environmentally acceptable manner, including through the use of disposal methods that support waste diversion activities like recycling, the predicament of waste disposal is ongoing. In 2022, Maryland generated almost 15 million tons of solid waste, a 7.6% increase over the almost 14 million tons generated in 2021. **Exhibit 1.1** details how Maryland’s solid waste was managed in 2022. Of the solid waste generated in, imported into, and managed in the State, approximately 53.9% was recycled. The remaining 46.1% was landfilled, incinerated, or stored. Of note, in 2022 almost 7 million tons, or 46.6%, of Maryland’s solid waste was handled by facilities that primarily manage only recyclable materials and are not required to be permitted by the State.

---

## Exhibit 1.1 Maryland Solid Waste Recycled vs. Not Recycled Calendar 2022 Measured in Tons

<b><u>Input</u></b>	<b><u>Total</u></b>
Generated in Maryland	14,986,353
Imported into Maryland	410,701
Adjustment for tons of material managed (e.g. ash, back-end scrap metal, bypass, etc.) but not included in material generated	1,094,908
Waste sent directly out-of-state, bypassing Maryland permitted facilities	(113,434)
<b>Total</b>	<b>16,378,528</b>
<b><u>Output</u></b>	<b><u>Total</u></b>
<b><i>Recycled (includes composted)</i></b>	
Recycled through facilities not permitted in Maryland	6,988,190
Recycled through Maryland permitted facilities (in State)	1,629,941
Exported and recycled through Maryland permitted facilities	203,000
<b><i>Subtotal Recycled</i></b>	<b><i>8,821,131</i></b>



***Not Recycled***

Landfilled in a Maryland permitted facility	3,220,376
Exported through a Maryland permitted facility (for disposal)	2,451,353
Incinerated in a Maryland permitted facility	1,110,006
Stored in a Maryland permitted facility	775,662

***Subtotal Not Recycled*** **7,557,397**

**Total** **16,378,528**

Source: Maryland Department of the Environment

---

With Maryland's population continuing to grow by at least 7% each decade, the amount of waste generated will likely also continue to increase, thus necessitating improvements in the way the State manages and recycles waste into the future.

To better understand the current state of waste management and recycling, this report provides an overview of challenges facing waste management and recycling and examines what is being done to address these challenges, including recent actions taken at the federal level and in Maryland and other states.

## Chapter 2. Challenges to Waste Management and Recycling

---

The waste management and recycling sector is facing a number of challenges, including challenges relating to methane emissions from municipal solid waste (MSW) landfills, diminishing MSW landfill capacity, environmental justice concerns, and challenges relating to the recycling system. An overview of these challenges is discussed below.

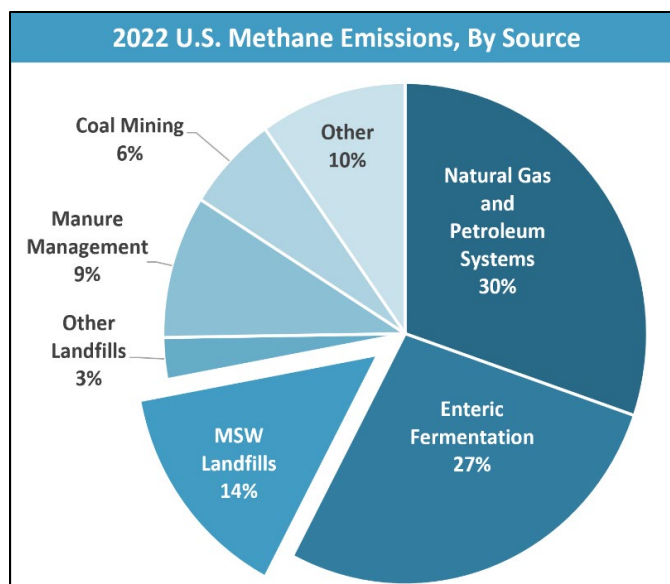
### Methane Emissions from Municipal Solid Waste Landfills

An MSW landfill is a parcel of land that accepts garbage or nonhazardous residential and commercial wastes. As the waste decomposes, it produces landfill gas that is composed of several greenhouse gases, including methane. Methane is a short-lived but significant greenhouse gas with a global warming potential more than 28 times that of carbon dioxide.

#### U.S. Methane Emissions

According to the U.S. Environmental Protection Agency (EPA) and as shown below in **Exhibit 2.1**, landfills are the third largest human-related source of methane emissions in the United States, accounting for approximately 14.4% of these emissions in 2022. Of the MSW landfill methane emissions, EPA estimates that approximately 58% comes from food waste despite food waste comprising only 20% of the MSW disposed of in landfills.

**Exhibit 2.1**  
**U.S. Methane Emissions, By Source – 2022**



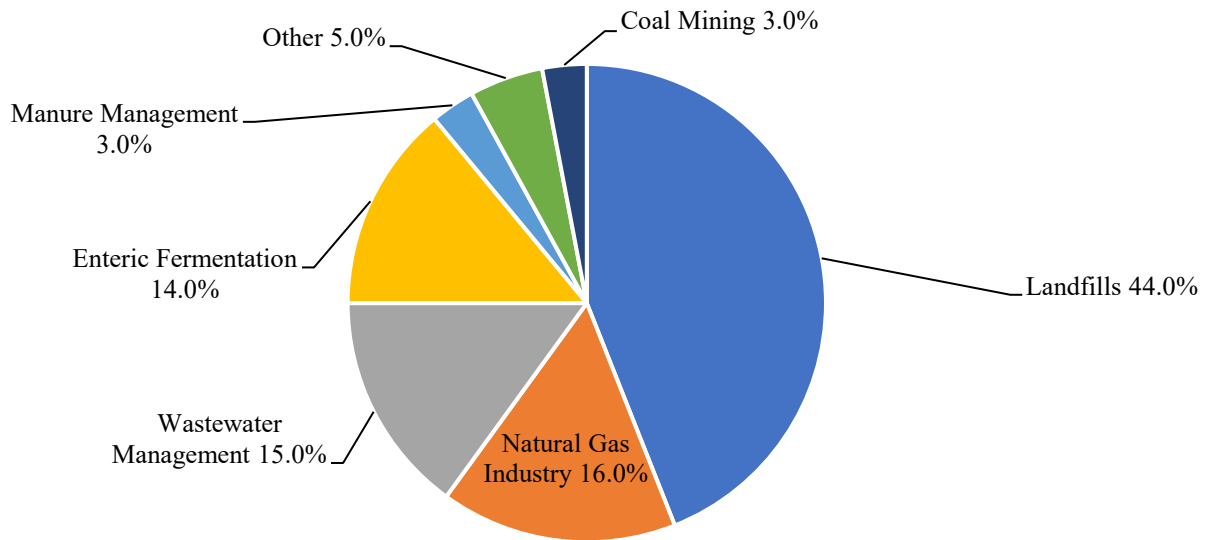
Note: Enteric fermentation is a digestive process in ruminant animals that produces methane as a byproduct of digesting food and fibers.

Source: U.S. Environmental Protection Agency

## Maryland Methane Emissions

In June 2021, the Environmental Integrity Project issued a report on greenhouse gas emissions from landfills located in Maryland and found that the State had substantially underreported greenhouse gas emissions from its landfills in 2017, including methane emissions. The report found that MSW landfills were the single largest source of the State's methane emissions, prompting the Maryland Department of the Environment (MDE) to come up with a revised estimate of 58,000 tons of methane that came from landfills in 2017, over four times higher than MDE's initial estimate of approximately 12,500 tons. **Exhibit 2.2** shows the 2017 statewide methane emissions by source as updated in 2021.

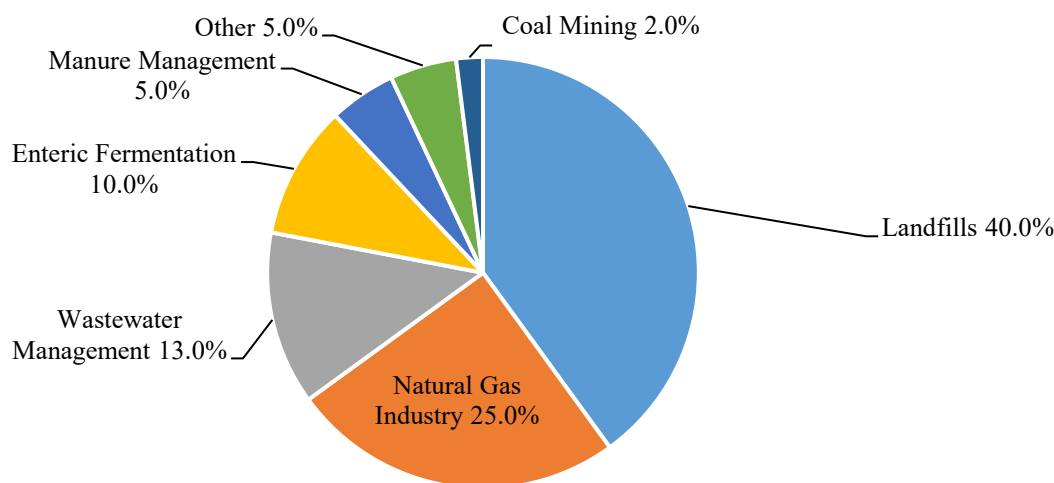
**Exhibit 2.2**  
**2017 Maryland Methane Emissions, By Source**  
**2021 Update**



Source: Maryland Department of the Environment

In 2022, MDE published the 2020 greenhouse gas inventory, indicating Maryland MSW landfills remain the largest source of methane emissions in the State, accounting for 40% of methane emissions statewide, as shown in **Exhibit 2.3**.

**Exhibit 2.3**  
**2020 Maryland Methane Emissions, By Source**



Source: Maryland Department of the Environment

## Regulation of Methane Emissions

In accordance with the Clean Air Act, EPA regulates MSW landfill methane emissions through New Source Performance Standards (NSPS) and emissions guidelines. States may also establish additional or more stringent regulations for landfill methane emissions in accordance with a state implementation plan. In August 2016, EPA updated its NSPS to reduce landfill gas emissions and its components, including methane emissions from MSW landfills built, modified, or reconstructed after July 17, 2014. In a separate action, EPA also published emissions guidelines for reducing emissions from MSW landfills built, modified, or reconstructed on or before July 17, 2024. Among other things, the federal regulations include methane emissions, monitoring and recordkeeping and reporting requirements for owners and operators of MSW landfills. The federal regulations also require certain landfill owners and operators to install and operate gas collection and control systems.

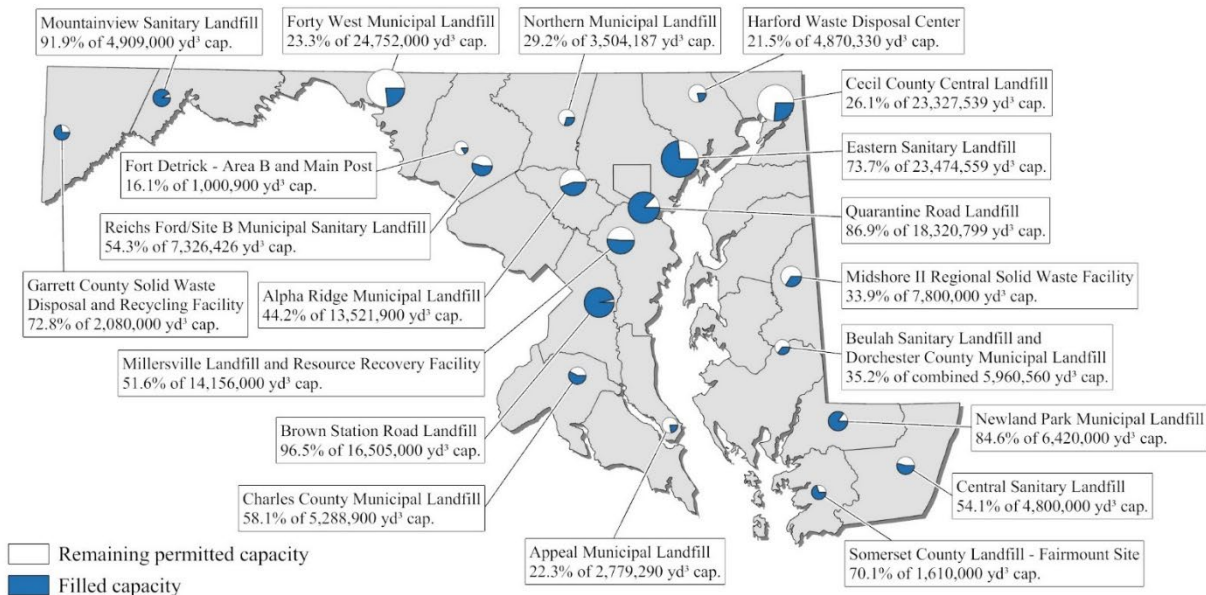
In 2017, MDE initiated the process for developing more stringent methane control regulations for MSW landfills, with new requirements for controlling these emissions ultimately adopted in June 2023. The regulations repealed COMAR 26.11.19.20, Control of Landfill Gas Emissions from Municipal Solid Waste Landfills and established new requirements for controlling these emissions under COMAR 26.11.42, Control of Methane Emissions from Municipal Solid

Waste Landfills. COMAR 26.11.42 meets federal standards and includes additional requirements regarding surface testing, performance testing, gas collection and control systems, and reporting and record keeping. Several other states have also adopted rules to address methane emissions from MSW landfills, including Arizona, California, Delaware, New Mexico, New York, Oregon, South Dakota, Virginia, and West Virginia.

### Diminishing Landfill Capacity

**Exhibit 2.4** depicts MSW landfills in Maryland and the associated capacity used. According to MDE, MSW landfills in the State had a total capacity of over 49 million tons in 2022, a 0.76% increase in capacity from 2021 but a 5.5% decrease in capacity from 2020. MDE estimates the number of years of remaining landfill capacity to be over 21 years at the current disposal rate of approximately 2.3 million tons per year. However, this estimate does not account for population changes, waste generation or disposal rate changes, the closure of older facilities, or the future opening of new facilities for which permits may already have been issued. In addition, the estimate does not account for the remaining capacity of other types of facilities, including construction and demolition landfills (11 years), industrial landfills (103 years), and land clearing debris landfills (76 years).

**Exhibit 2.4**  
**Maryland Municipal Solid Waste Landfills in Operation and**  
**Percentage Filled**  
**December 2022**



Source: Maryland Department of the Environment; Department of Legislative Services

## **Environmental Justice Concerns Regarding Waste Management**

Environmental justice issues arise when waste management facilities, such as landfills and incinerators, are disproportionately located in overburdened and underserved communities. These facilities can have a negative effect on human health, property values, and quality of life. In August 2020, the President of the Senate of Maryland appointed a Senate workgroup to address issues related to equity and inclusion, including environmental justice. In its January 2021 final report, the workgroup acknowledged that certain waste management facilities in Maryland, such as trash incinerators and landfills, are disproportionately located in low-income, Black, and Latinx communities, noting that the majority Black neighborhood of Curtis Bay in Baltimore City is home to both the Wheelabrator trash incinerator and the Quarantine Road landfill. The report further indicated that although the precise health impact of these facilities is disputed, it is likely significant. Finally, the report noted the need to examine State and local procedures and policies, such as permitting, land use, and zoning, to ensure that they do not perpetuate inequitable land use decisions.

On May 28, 2024, the South Baltimore Community Land Trust, represented by the Chesapeake Bay Foundation and the Environmental Integrity Project, filed a Title VI administration complaint with EPA, requesting that EPA investigate Baltimore City and its agency, Baltimore City Department of Public Works, for their adoption and implementation of Baltimore City's 10-Year Solid Waste Management Plan (Plan). The civil rights complaint alleges that, among other things, the Plan fails to adequately plan for a transition away from the Baltimore Refuse Energy Company (BRESCO) municipal waste incinerator (formerly known as Wheelabrator) and that the continued reliance on and operation of BRESCO disparately impacts residents of the predominantly Black and Hispanic communities of Cherry Hill, Mt. Winans, Brooklyn, Lakeland, Westport, and Curtis Bay (impacted communities). The civil rights complaint further acknowledges that the impacted communities face a variety of other pollution sources, including from the nearby Quarantine Road landfill, that combine to create a significant cumulative pollution burden. On July 12, 2024, EPA indicated its intent to accept and investigate the civil rights complaint.

## **Challenges with Recycling System**

Although recycling provides a number of environmental and economic benefits, including diverting material from landfills, saving energy, conserving natural resources, reducing greenhouse gas emissions, and creating jobs, the current system faces several challenges discussed below.

### **Market Fluctuations for Recyclable Materials**

For over two decades, China served as one of the largest recycling processors in the world. However, in 2018 China initiated policies to reduce the import of solid waste from other countries,

including banning the import of mixed paper and scrap plastics and imposing strict quality standards to prohibit contaminated materials. These changes, along with similar changes in other overseas markets, led to decreased markets for certain recyclable materials resulting in significantly increased net costs for recycling programs and storage capacity issues. In the years since, U.S. recycling processors have made significant investments to improve domestic processing capacity for various reasons, including to address international policy changes.

The COVID-19 pandemic further impacted various recyclable materials. For instance, there was a rise in demand for recyclable corrugated cardboard and mixed paper, whereas the demand for recycled plastics and certain metals decreased. Although the demand for most materials has bounced back since the height of the pandemic, creating robust and resilient recycling markets continues to be a key focus for policymakers and stakeholders.

### **Dated or Inadequate Infrastructure**

The U.S. recycling stream has changed faster than the infrastructure needed to process the materials. In addition, many rural or more remote areas and multifamily dwellings may lack access to recycling facilities.

### **Consumer Confusion**

Inconsistent recycling policies across communities can lead to consumer confusion on what can and cannot be recycled. In addition, consumers often assume that the chasing arrows symbol means that a product is recyclable, which is often not the case.

### **Contamination in the Recycling Stream**

Clean recyclable materials are industrial raw materials from one product that can be used to produce new materials or products. If collected recyclable materials are contaminated, the value of the baled recyclables is reduced and can result in the materials being rejected by end markets. Contamination may result from nonrecyclable items, like plastic bags, Styrofoam, and garden hoses, being placed in the recycling stream. Contamination can also occur when materials are not properly cleaned or are mixed with hazardous wastes. In addition to impacting the marketability of materials, contamination can impact the recycling process by (1) disrupting processing activities resulting in idle laborers; (2) requiring expensive equipment repairs; and (3) causing a back log of recyclable materials on the tipping floor.





## Chapter 3. What is Being Done at the Federal Level?

---

Although the waste management and recycling sector is facing various challenges, a number of actions aimed at addressing these challenges are underway. Several recent initiatives and legislative efforts taken at both the federal level are discussed below.

### Federal Action – Strategies and Goals

#### **America Recycles and National Framework for Advancing Recycling**

In 2018, the U.S. Environmental Protection Agency (EPA) initiated efforts to address international policy changes and other challenges impacting recycling in the United States, including holding its first America Recycles Day Summit. The summit brought together stakeholders from the U.S. recycling system to discuss recycling-related challenges and opportunities and culminated in key stakeholders signing the America Recycles Pledge. Signatories of the pledge agreed to work collaboratively to identify solutions to address critical issues facing the nation's recycling system. Since 2018, more than 380 organizations have signed the pledge, including federal, state, and local governments, industry associations, recyclers, manufacturers, and product brands. The Maryland Environmental Service and Allegany and Montgomery counties are among the signatories to the pledge.

Following the 2018 America Recycles Day Summit, EPA, in conjunction with pledge signatories, created four workgroups aligned with the following critical action areas: (1) promote education and outreach; (2) enhance materials management infrastructure; (3) strengthen secondary material markets; and (4) enhance measurements. In November 2019, EPA published the *National Framework for Advancing the U.S. Recycling System*. The framework summarized workgroup and EPA priority actions to improve the U.S. recycling system based on the critical action areas and included anticipated timeframes for implementing the listed actions.

#### **Draft National Recycling Strategy and National Recycling Goal**

Building on the *National Framework for Advancing the U.S. Recycling System* and other EPA recycling-related resources, in October 2020, EPA published the draft *National Recycling Strategy*. The draft strategy set forth the following objectives and related actions for (1) reducing contamination in the recycling stream; (2) increasing processing efficiency; and (3) improving recycling markets. Through the public comment process, EPA received considerable input that the draft strategy was too narrow in scope and that it should be broadened to embrace a circular economy approach – an approach that reduces the use of materials by keeping the materials in circulation as long as possible. A circular economy approach redesigns materials to be less resource intensive and recaptures waste as a resource that can serve as feedstock to manufacture new materials and products.

According to EPA, the U.S. recycling rate in 2018 was 32%. In November 2020, EPA announced the overall national recycling goal of increasing the U.S. recycling rate to 50% by 2030. The measures identified as supporting this goal largely mirror the objectives under the draft *National Recycling Strategy*.

## **2021 National Recycling Strategy**

Broadening its objectives for improving the U.S. recycling system, including embracing a circular economy approach, EPA published the *National Recycling Strategy: Part One of a Series on Building a Circular Economy for All* in November 2021. The strategy recognizes recycling as a critical first step in achieving circularity because it facilitates the return of materials to the supply chain. The strategy identifies specific objectives and actions for strengthening the U.S. municipal solid waste (MSW) recycling system and is intended to align with and support implementation of the national recycling goal to increase the U.S. recycling rate to 50% by 2030. In addition, the strategy seeks to incorporate principles of equity and environmental justice and includes a commitment to address the climate impacts associated with the production, use, consumption, and disposal of materials. Although the strategy focuses mainly on MSW, EPA indicates actions related to other materials, such as food waste, electronics, industrial waste, cement, and concrete, are also needed to achieve a circular economy. In addition, other circular economy mechanisms, such as sustainable product design, waste generation reduction, and materials reuse, may receive greater attention in future strategies.

### **Main Objectives**

The 2021 *National Recycling Strategy* has five main objectives: (1) improve markets for recycled commodities; (2) increase collection and improve materials management infrastructure; (3) reduce contamination in the recycled materials stream; (4) enhance policies and programs to support circularity; and (5) standardize measurements and increase data collection. These objectives are discussed in more detail below.

***Improve Markets for Recycled Commodities:*** The first objective is to improve markets for recyclable materials and recyclable products and better integrate recycled materials into product and packaging designs. The strategy sets forth a number of actions to improve recycling markets, including (1) promoting market development; (2) analyzing end markets; (3) increasing manufacturing use of recycled material; and (4) supporting research and development of technologies and products. This objective also includes actions to ensure that markets for recyclables do not further harm the environment or place additional burdens on communities near manufacturing, processing, or recycling facilities. Implementing this objective is anticipated to (1) facilitate local job creation; (2) add resiliency to market disruptions; (3) provide cost savings to local governments from improved and more robust recycling markets; (4) increase opportunities for consumers to “buy recycled” and support recycling markets; (5) create new markets for less-often-recycled materials; and (6) reduce environmental impacts over the life cycle of a product.

***Increase Collection and Improve Materials Management Infrastructure:*** Another objective is to increase collection of recyclable materials and improve recycling infrastructure. A variety of actions are listed to advance this objective, including (1) conducting a recycling infrastructure needs assessment; (2) increasing awareness of public and private funding; (3) funding research and development of new recycling technologies; (4) promoting sustainable product design; and (5) optimizing processing efficiencies at materials recovery facilities. Infrastructure investment is anticipated to spark the adoption of innovative technologies for processing equipment and increase the materials available to manufactures. It may also provide economic and job opportunities resulting from expanding recycling capacity, particularly in underserved and rural communities.

***Reduce Contamination in the Recycled Materials Stream:*** The third objective is to reduce contamination in the recycled materials stream through enhancing and providing outreach and education resources to the public on the value of proper recycling. Reducing contamination in the recycling stream enables more material to be recycled and increases the value and quality of recycled materials and feedstock. Improved quality in the recycling stream is expected to increase the available supply of recycled materials and support the strengthening of markets for recycled materials.

***Enhance Policies and Programs to Support Circularity:*** Another objective is to enhance policies and programs to increase circularity, thus leading to an increase in recycling. This strategy may be achieved through, among other things (1) strengthening federal coordination, including developing a common policy statement supporting the national recycling goal; (2) analyzing different policies that could address recycling challenges; (3) studying environmental and social costs in product pricing; and (4) sharing best practices. The 2021 *National Recycling Strategy* lists a number of policy examples for inclusion in an analysis of policies that could address recycling challenges, including extended producer responsibility (EPR), landfill bans, and packaging fees.

***Standardize Measurements and Increase Data Collection:*** The fifth and final objective is to standardize measurement practices and increase data collection. Several actions are identified to advance this objective, including (1) developing standardized definitions, measurement methodologies, targets, and performance indicators; (2) increasing data availability and transparency about materials generation and demand; and (3) exploring national post-consumer content measures and third-party specification programs. Among other things, improving measurement practices and data collection facilitates the clear tracking of progress toward meeting recycling goals.

## **Draft National Strategy to Prevent Plastic Pollution**

As the second part of its series on building a circular economy for all, EPA released a draft *National Strategy to Prevent Plastic Pollution* on April 21, 2023. The stated goal of the draft strategy is to identify actions needed to eliminate, by 2040, the release of plastic waste from land-based sources into the environment. The draft strategy identifies objectives and voluntary

actions where EPA can work collaboratively with U.S. stakeholders to prevent plastic pollution through initiatives that reduce, reuse, collect, and capture plastic and other waste from land-based sources. The public comment period for the draft strategy closed July 31, 2023, and as of July 2024, EPA was in the process of reviewing the comments received.

### **Main Objectives**

The draft *National Strategy to Prevent Plastic Pollution* has three main objectives: (1) reduce pollution during plastic production; (2) improve post-use materials management; and (3) prevent trash and micro- and nano-plastics from entering waterways and remove escaped trash from the environment. These objectives are discussed in more detail below.

***Reduce Pollution During Plastic Production:*** The draft strategy proposes various policy approaches for reducing the production and use of single-use, unrecyclable, or frequently littered plastic products, including (1) identifying and communicating the types of products that have adverse environmental impacts; (2) promoting and encouraging the development of alternative products; and (3) identifying effective policy tools and approaches to reduce plastic products with adverse environmental impacts. The strategy also includes actions for minimizing pollution across the life cycle of plastic products, including (1) increasing the availability of data and improving understanding regarding the impacts of plastic products and their alternatives and (2) reviewing, developing, and updating sustainability standards, ecolabels certifications, and design guidelines that decrease the environmental impacts of plastic products. In addition, the strategy includes several proposed actions for reducing pollution from production facilities within the plastic sector, including evaluating whether production facilities are in compliance with applicable laws and regulations.

***Improve Post-Use Materials Management:*** The draft strategy proposes a number of actions to improve post-use materials management, including (1) studying the effectiveness of existing public policies and incentives on the reuse, collection, recycling, and conservation of materials; (2) developing or expanding capacity to maximize the reuse of materials; (3) facilitating more effective composting and degradation of certified compostable products; (4) increasing solid waste collection and ensuring that solid waste management does not adversely impact communities, including those overburdened by pollution; and (5) increasing public understanding of the impact of plastic mismanagement and how to appropriately manage plastic products and other waste.

***Prevention and Removal of Trash and Micro- and Nano-plastics from Waterways and the Environment:*** The draft strategy proposes several actions to prevent trash and micro- and nano-plastics from entering waterways and to remove escaped trash from the environment, including (1) identifying and implementing policies, programs, technical assistance, and compliance assurance actions that effectively prevent trash and micro- and nano-plastics from getting into waterways or remove such waste from waterways once it is there; (2) improving water management to increase trash and micro- and nano-plastic capture in waterways and stormwater

and wastewater systems; (3) increasing and improving measurement of trash loadings into waterways to inform management interventions; (4) increasing public awareness of the impacts of plastic products and other types of trash in waterways; and (5) increasing and coordinating research on micro-and nano-plastics in waterways and oceans.

On June 12, 2024, the Administration of President Joseph R. Biden, Jr., in conjunction with EPA, the U.S. Department of Agriculture (USDA), and the U.S. Food and Drug Administration (FDA), released the *National Strategy for Reducing Food Loss and Waste and Recycling Organics*, the third part in the series of strategies for achieving pollution reduction and circular economy goals. The strategy seeks to prevent the loss and waste of food and increase recycling of food and other organic materials, reduce greenhouse gas emissions, save households and businesses money, and build cleaner, healthier communities. The actions detailed in the strategy are intended to support national goals and priorities, including those relating to (1) the National Food Loss and Waste Reduction Goal to reduce food loss by 50% from 2016 levels by 2030; (2) the National Recycling Goal to achieve a 50% recycling rate by 2030; (3) addressing methane emissions from landfills, food waste, and agriculture; and (4) addressing environmental justice and equity. Of note, the strategy details several key challenges for achieving the National Food Loss and Waste Reduction Goal and the National Recycling Goal, including limited outreach and education, limited research funding, need for collaboration, obstacles facing underserved communities, and insufficient organics recycling infrastructure.

### **Main Objective**

The *National Strategy for Reducing Food Loss and Waste and Recycling Organics* has four main objectives: (1) prevent food loss; (2) prevent food waste; (3) increase the recycling rate for all organic waste; and (4) support policies that incentivize and encourage the prevention of food loss and waste and organics recycling. For these objectives the strategy sets forth actions that EPA, USDA, and FDA could take to address key challenges, as well as actions that build on collaborative stakeholder efforts already underway or planned by EPA, USDA, and FDA to achieve national goals. The main objectives are discussed in more detail below.

***Prevent Food Loss:*** The strategy details various actions that USDA and FDA can take that support the reduction of food loss at the production and distribution stages of the food supply chain. It identifies opportunities for optimizing the harvest or collection of raw commodities and foods through, among other things, stakeholder collaboration, market development, improved on-farm storage, on-farm food rescue, equitable distribution of surplus food, and incorporating food loss innovations, such as improvements in demand forecasting, cultivars, and machinery and technologies. The strategy also identifies opportunities for reducing food loss in food manufacturing and processing, storage, and distribution by (1) optimizing handling, routing, and storage; (2) improving transportation, inventory, and supply chain management through the use of best practices and technologies; and (3) when economically feasible, upcycling food products and byproducts into new foods for humans or other animals.

***Prevent Food Waste:*** The strategy sets forth several policy approaches to address the prevention of food waste from consumers and consumer-related businesses like retail and food service. Among other actions, these policy approaches include (1) initiating a national consumer education and behavior change campaign to raise awareness about the environmental and economic impacts of food waste and to share food waste prevention tactics; (2) educating children and youth on food loss and waste reduction strategies to facilitate the development of food waste-reducing behavior at an early age; (3) partnering with retailers, food service businesses, food manufacturers, and food advocates to find solutions to consumer food waste, such as addressing consumer confusion through changes in packaging design, portion sizes, and food date labeling; (4) facilitating and incentivizing food donations and improving access to healthy and affordable food; (5) engaging in research activities to identify the causes and effects of food loss and waste, as well as to identify incentives and strategies to address food loss and waste; and (6) investing in behavioral science expertise and research to determine the most effective strategies to change household behaviors relating to food waste.

***Increase Recycling Rate for Organic Waste:*** The strategy details a number of actions aimed at increasing the recycling rate for all organic waste such as food, yard and tree trimmings, and other organic (carbon-based) materials in the waste stream. The listed actions are intended to (1) support the development of additional organics recycling operations through grants and other assistance, with priority for underserved communities; (2) expand the market for products made from recycled organic waste through various research, education, and outreach activities; (3) establish and maintain tools and data to aid decision-making regarding infrastructure investments, waste management policies, and waste management pathways such as composting, anaerobic digestion, and landfilling; and (4) address contamination in the organic waste recycling stream.

***Support Policies on the Prevention of Food Loss and Waste and Organics Recycling:*** The strategy includes various actions where EPA and USDA can be supportive of policies at all levels of government that incentivize and encourage the prevention of food loss and waste, the redistribution of surplus wholesome food, the development of additional organics recycling infrastructure, and the expansion of markets for products made from recycled organics.

## **Federal Action – Legislation**

Each year, Congress introduces and debates recycling and waste management legislation. Most recently, the Save Our Seas 2.0 Act (2020) and the Infrastructure Investment and Jobs Act (IIJA) (2021) passed in response to concern over polluted oceans and aging infrastructure. While few recycling and waste management bills pass each year, the number and complexity of the bills introduced has increased, with topics ranging from recycling infrastructure and accountability to producer responsibility and single-use plastics. This section provides an overview of some of the recently enacted and introduced legislation at the federal level.

## **Legislation Enacted at the Federal Level**

### **Save Our Seas 2.0 Act**

The federal Save Our Seas 2.0 Act was signed into law on December 18, 2020, and focuses on preventing, reducing, and recycling marine debris, including plastics. The Act defines the term “circular economy” as an economy that uses a systems-focused approach and involves industrial processes and economic activities that (1) are restorative or regenerative by design; (2) enable resources used in such processes and activities to maintain their highest values for as long as possible; and (3) aim for the elimination of waste through the superior design of materials, products, and systems (including business models). In addition, the Act requires EPA, among other things, to develop a strategy to improve postconsumer materials management and infrastructure for the purpose of reducing plastic waste and other postconsumer materials in waterways and oceans. According to EPA, the *National Recycling Strategy* and the draft *National Strategy to Prevent Plastic Pollution* are intended to satisfy the aforementioned requirement.

### **Infrastructure Investment and Jobs Act**

The federal IJA was signed into law on November 15, 2021, and provides \$350 million for solid waste and recycling grants. Of the \$350 million, \$75 million is allocated from fiscal 2022 to 2026 (\$15 million each fiscal year) for a new EPA grant program to improve the effectiveness of residential and community recycling programs through public education and outreach. The remaining \$275 million is allocated from fiscal 2022 to 2026 (\$55 million each fiscal year) for Solid Waste Infrastructure Recycling grants authorized by the federal Save Our Seas 2.0 Act. These grants may be used to support improvements to postconsumer materials management and municipal recycling programs.

In accordance with the IJA, EPA has developed a model recycling program toolkit – an interactive collection of materials that can assist state and local governments and other entities, such as schools, nonprofit organizations, and businesses, in creating effective programs for recycling, composting, anaerobic digestion, reuse, repair, and waste reduction. The toolkit features a number of materials intended to improve recycling rates and decrease contamination in the recycling stream, including (1) case studies from communities that have created effective recycling, composting, anaerobic digestion, reuse, and repair programs; (2) examples of effective recycling education campaigns and strategies that drive behavior change; (3) examples of educational materials for consumers on best practices for waste disposal and recycling; (4) a standardized set of terms with examples that describe materials that may be accepted by residential recycling programs; and (5) a reference guide for evaluating progress and reporting achievements for projects receiving grants under the IJA.



## **Legislation Proposed at the Federal Level**

### **Recycling Infrastructure and Accessibility Act**

The federal Recycling Infrastructure and Accessibility Act was most recently introduced in the U.S. Senate on April 19, 2023, and passed the Senate on March 12, 2024. The bill establishes a pilot program to award grants on a competitive basis to eligible entities to improve recycling accessibility in underserved communities, giving priority to entities that propose a project in a community that does not have more than one materials recycling facility within a 75-radius of that community. Grant funding may be used for projects that (1) increase the number of transfer stations in a community; (2) expand curbside recycling collection programs, as appropriate; and (3) leverage public-private partnerships to reduce the costs associated with collecting and transporting recyclable materials in underserved communities.

### **Recycling and Composting Accountability Act**

The federal Recycling and Composting Accountability Act was most recently introduced in the U.S. Senate on April 19, 2023, and passed the Senate on March 12, 2024. Among other things, the bill requires EPA to (1) report on the capability of implementing a national composting strategy for compostable materials for the purpose of reducing contamination rates for recycling; (2) collect data on recycling and composting at federal agencies; (3) create an inventory of the number of materials recovery facilities (MRF) in each unit of local government in each state, including a description of the materials that each MRF can process; and (4) determine the percentage of recyclable materials being diverted from a circular market.

### **Break Free From Plastic Pollution Act**

The federal Break Free From Plastic Pollution Act, most recently introduced in the U.S. Senate and U.S. House of Representatives on October 25, 2023, mandates EPR programs for specified packaging as well as a nationwide beverage container deposit program with a minimum refund value of 10 cents. In addition, among other things, the bill (1) prohibits specified establishments from providing single-use plastic bags, plastic utensils, expanded polystyrene food service containers, food service ware made of black plastic, and small, plastic personal care products; (2) creates mandatory postconsumer recycled content minimums for single-use plastic products and beverage containers, which increase steadily over time; and (3) establishes a temporary moratorium on the issuance of specified permits for plastics production facilities and chemical recycling plants until certain environmental justice and health protections are put in place.

### **CLEAN Future Act**

The federal Climate Leadership and Environmental Action for our Nation's (CLEAN) Future Act, introduced in the U.S. House of Representatives on March 2, 2021, establishes

requirements and incentives to reduce greenhouse gas emissions and includes many provisions similar to those in the Break Free From Plastic Pollution Act. The bill also requires EPA to develop grants for-zero-waste initiatives, recycling and waste reduction education, and composting or anaerobic digestion food waste-to-energy projects. In addition, the bill requires the National Academy of Sciences to study the effects of bans on single-use products. Lastly, while the bill seeks to pause permitting for certain production facilities like the Break Free From Plastic Pollution Act, the CLEAN Future Act would also require any permits to address environmental justice impacts of new facilities.



## Chapter 4. What is Being Done in Maryland?

---

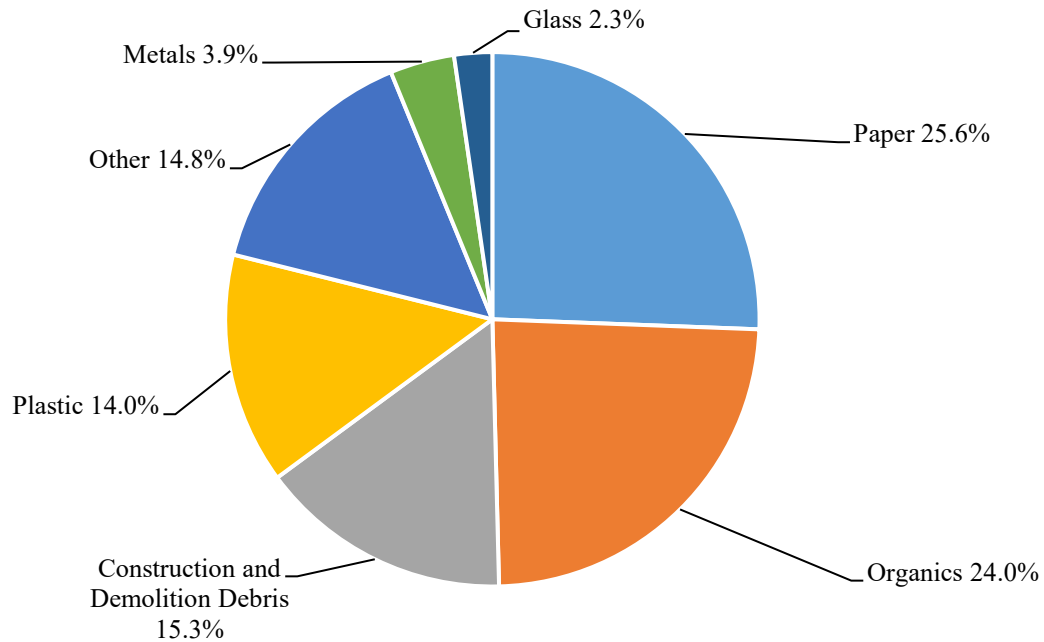
Similar to efforts being made at the federal level, Maryland continues to take action to address the challenges facing the waste management and recycling sector. Recent studies, policies, and legislative actions ranging from waste reduction and composting to product stewardship, labeling, and single-use products are discussed in more detail below.

### Maryland Action – Study, Policy, and Outreach

#### Waste Characterization Study

Although Maryland receives reports of material-specific recycling volumes, it does not receive a similar breakdown for waste disposal. As a result, the Maryland Department of the Environment (MDE) must extrapolate from the U.S. Environmental Protection Agency's (EPA) waste generation information for the entire country to draw conclusions about specific materials in Maryland. The main disadvantage in using this method is that it assumes Maryland's waste stream is identical to the waste stream in the country as a whole. In 2016, MDE commissioned a waste characterization study to identify the types and volume of materials that are disposed of in the State and provide for a material-specific breakdown of wastes disposed of in the State. According to the 2016 study and as shown in **Exhibit 4.1**, the disposed municipal solid waste (MSW) was comprised of, by weight, approximately 25.6% paper, 24% organics, 15.3% construction and demolition debris, 14% plastics, 14.8% other materials (*i.e.*, textiles, diapers, bulky items, tires, electronics, and household hazardous waste), 3.9% metals, and 2.3% glass.

**Exhibit 4.1**  
**Maryland Municipal Solid Waste by Material**  
**2016 Waste Sort**

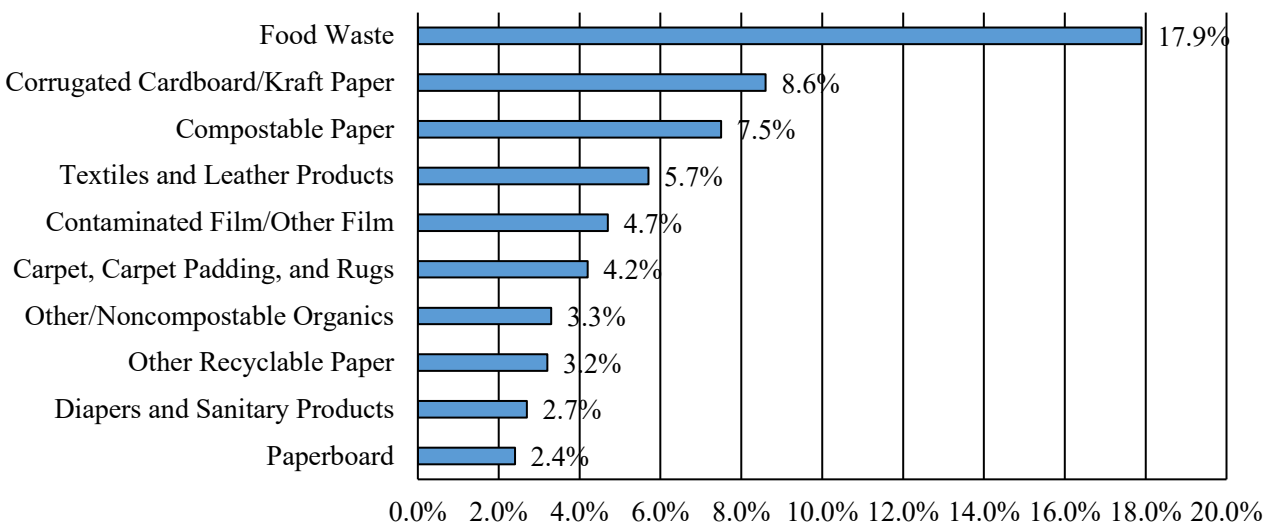


Note: Total may not sum due to rounding.

Source: 2016 Maryland Waste Characterization Study

Among other data, the 2016 waste characterization study provides a detailed statistical profile of disposed materials in the MSW stream, including a breakdown of the top 10 most prevalent materials disposed of in the State. As shown in **Exhibit 4.2**, food waste was the most prevalent material, representing almost 18% of Maryland's disposed MSW.

**Exhibit 4.2**  
**Top 10 Most Prevalent Materials Disposed in Maryland**  
**2016 Waste Sort**



Source: 2016 Maryland Waste Characterization Study

### Waste Reduction and Resource Recovery Policy

In January 2017, Governor Lawrence J. Hogan, Jr. issued Executive Order 01.01.2017.13 to address waste reduction and resource recovery in Maryland and rescind Executive Order 01.01.2015.01, issued by Governor Martin J. O'Malley, which established a "Zero Waste Plan" in the State.<sup>1</sup> Among other things, Governor Hogan's executive order established that it is Maryland's policy that solid waste and recycling planning should, to the extent practicable, (1) minimize the environmental impacts of materials management over the entire life cycle of the material, including from product design to production, consumption, and end-of-life management; (2) conserve and extend existing in-state disposal capacity through source reduction, reuse, and recycling; (3) capture and make optimal use of recovered resources, including raw materials, water, energy, and nutrients; and (4) work toward a system of materials management that is both environmentally and economically sustainable in the long term.

<sup>1</sup> Zero waste, as described by MDE, is a comprehensive strategy comprised of short- and long-term measures designed to nearly eliminate the need for waste disposal facilities by 2030 by reducing the generation of waste and increasing reuse and recycling. In 2015, Governor Martin J. O'Malley issued Executive Order 01.01.2015.01, titled *Zero Waste Plan for Maryland*. Broadly, the Zero Waste Plan established goals of 85% waste diversion and 80% recycling in the State by 2040.

In addition, the executive order required MDE to consult with stakeholders and recommend to the governor, among other things, voluntary statewide goals to encourage continuous improvement in sustainable materials management. In 2019, MDE published its final recommendations, including recommendations to establish voluntary goals to reduce per capita waste generation, reduce statewide greenhouse gas emissions and energy use related to materials management, and establish material-specific recycling rates. Of note, MDE indicated that greenhouse gas emissions and energy use reduction goals can be met by achieving both the stated per capita waste generation reduction goals and material-specific recycling rates. In addition, MDE set the material-specific recycling rates in a manner intended to achieve the overall statewide recycling goal of 55%. **Exhibit 4.3** shows Maryland’s sustainable materials management goals, which are to be achieved by 2035, and the State’s status in meeting the goals.

---

**Exhibit 4.3**  
**Sustainable Materials Management Goals and Status**

<u>SMM Goals</u>	<u>2035 Target</u>	<u>Status (2022)</u>
Waste Generation Per Capita	5.5 pounds/person/day	6.9 pounds/person/day
GHG Emissions Reduction	Annual reduction of 1.2 million MTCO <sub>2e</sub> compared to 2016	Increase of 2.0 million MTCO <sub>2e</sub> compared to 2016
Reduction in Energy Use	Annual reduction of 5.1 trillion BTUs compared to 2016	Increase of 12.9 trillion BTUs compared to 2016
Material-specific Recycling Rates	Food scraps – 60% Glass – 55% Metal – 75% Paper Products – 65% Plastic – 25% Yard Trimmings – 85%	Food scraps – 24% Glass – 58% Metal – 71% Paper Products – 41% Plastic – 12% Yard Trimmings – 85%
Overall Statewide Recycling and Waste Diversion Rate	Recycling – 55% Waste Diversion – 60%	Recycling – 39% Waste Diversion – 43%

BTU: British thermal unit  
GHG: Greenhouse gases

MTCO<sub>2e</sub>: Metric tons carbon dioxide equivalent  
SMM: Sustainable Materials Management

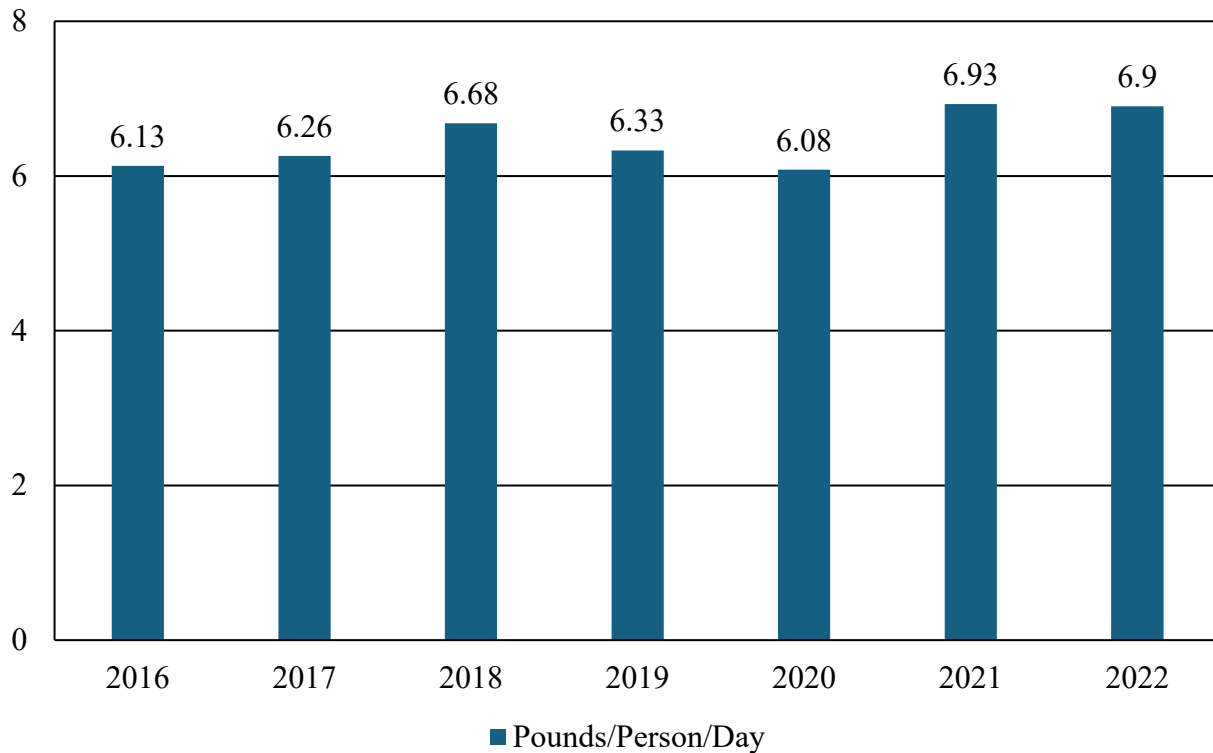
Source: Maryland Department of the Environment

---

While the State’s sustainable materials management goals are long term, Maryland will likely need to make improvements to achieve these goals. For example, in recent years, Maryland’s

per capita waste generation rate has been above 6 pounds per person per day, reaching almost 7 pounds per person per day in both 2021 and 2022 and trending well above the 2035 target of 5 pounds per person per day. In addition, there is room for improvement with regard to recycling certain materials, including food scraps, paper products, and plastic. To further illustrate recent trends, **Exhibit 4.4** details the per capita waste generation rate in Maryland between 2016 and 2022 and **Exhibit 4.5** details progress in material-specific recycling rates since 2017.

**Exhibit 4.4**  
**Waste Generation Per Capita**  
**2016–2022**



Source: Maryland Department of the Environment



**Exhibit 4.5**  
**Material-Specific Recycling Rates**  
**2017–2022 and 2035 Target**

<u>Material</u>	<u>2017 Rate</u>	<u>2018 Rate</u>	<u>2019 Rate</u>	<u>2020 Rate</u>	<u>2021 Rate</u>	<u>2022 Rate</u>	<u>2035 Target</u>
Food Scraps	20.4%	18.8%	15.5%	17.8%	22.7%	24.4%	60%
Glass	57.2%	66.9%	59.5%	55.8%	53.6%	58.0%	55%
Metal	76.0%	75.2%	74.8%	71.9%	73.5%	71.0%	75%
Paper							
Products	47.9%	44.7%	38.7%	37.0%	51.8%	41.3%	65%
Plastic	13.9%	22.9%	14.3%	9.9%	9.9%	12.0%	25%
Yard							
Trimblings	84.5%	84.1%	83.9%	84.8%	84.4%	85.0%	85%

Source: Maryland Department of the Environment

### **Outreach to Reduce Contamination in Recycling Stream**

In an effort to reduce contaminants in the recycling stream and improve the value of recyclables, MDE, along with many local governments, are engaged in outreach to consumers to recycle correctly. For example, in 2020, Carroll County took steps to reduce recycling contamination by educating the public, including sending out notices, speaking to residents by telephone, communicating with waste haulers, and rejecting loads with too many nonrecyclable materials. In a matter of months, Carroll County reduced the county’s recycling contamination rate from 21% to 10.5%.

### **Maryland Action – Legislation**

The General Assembly has passed numerous acts to address waste management and recycling in the State. This section provides an overview of some of the recently enacted legislation that covers, among other things, expanded polystyrene food service products, organic waste, recycling market development, and product stewardship, including expanded producer responsibility. This section also provides a summary of waste management and recycling legislation introduced in the State since 2020, including legislation on single-use plastics; product stewardship; postconsumer recycled content; solid waste disposal surcharges; and labeling, marketing, and advertising of plastic products and packaging.

## **Legislation Enacted in Maryland**

### **Expanded Polystyrene Food Service Products**

Expanded polystyrene (EPS) foam is an inexpensive and readily available material often used in food product packaging. However, the material may have a significant impact on the health of humans and marine life because it never fully degrades, and, when littered, bioaccumulates in the environment. Across the country, states and other jurisdictions have introduced legislation to ban or partially ban the use of expanded polystyrene foam, including Anne Arundel, Montgomery, and Prince George's counties in Maryland; Washington, DC; Portland, Oregon; Los Angeles County and the City of San Francisco in California; and New York state.

Beginning July 1, 2020, Chapters 579 and 580 of 2019 (EPS law) prohibit (1) a person from selling or offering for sale in the State an "expanded polystyrene food service product" and (2) a "food service business," which includes specified businesses and institutional cafeterias, or school from selling or providing food or beverages in an expanded polystyrene food service product. The Acts also require MDE to conduct specified public education and outreach campaigns and authorize MDE to adopt regulations to implement the requirements.

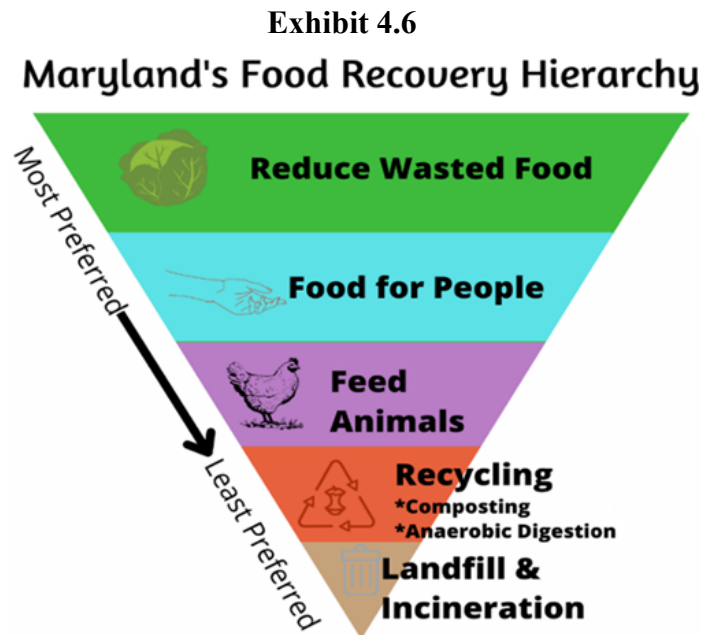
The Acts define "expanded polystyrene food service product" as a product made of "expanded polystyrene" that is (1) used for selling or providing food or beverages and (2) is either intended by the manufacturer to be used once for eating or drinking or is generally recognized by the public as an item to be discarded after one use. While EPS food service products generally include food containers, plates, hot and cold beverage cups, trays, and cartons for food, under the EPS law, EPS food service products do not include (1) egg cartons shipped into the State for packaging or cartons of eggs that have been packaged within the State for sale within the State; (2) food or beverages that have been packaged in EPS containers before receipt by a food service business; (3) a product made of EPS that is used to package raw, uncooked, or butchered meat, fish, poultry, or seafood; or (4) non-foam polystyrene food service products.

The county departments of health or environmental protection oversee the enforcement of the EPS law and have the authority to assess fines for noncompliance. Counties report to MDE on a quarterly basis regarding any violations found during inspections, any fines assessed, and any corrective action taken by violators. According to MDE, in fiscal 2023 counties reported a total of 67 violations of the EPS law, with 4 violations receiving fines of \$200 each and 1 violation receiving a \$100 fine. Most violations were either corrected on-site at the time of inspection and received no fine or were given 30 days to come into compliance without a fine.

## **Organic Waste**

***Food Residuals:*** Food recovery efforts can reduce the amount of greenhouse gases emitted from landfills, provide food for people and animals, and improve soil health. According to MDE, Maryland generated approximately 1,060,014 tons of food waste in 2021. Of that amount, 819,846 tons, or 77.3%, were disposed of in landfills and incinerators, while only 240,168 tons, or 22.7%, were recycled at organic recycling facilities or diverted for use as animal feed.

Chapters 439 and 440 of 2021 require certain generators of large quantities of “food residuals” to separate the food residuals from other solid waste and ensure that the food residuals are diverted from final disposal in a refuse disposal system. The food residual diversion requirements apply only to a person that (1) meets specified threshold amounts of food residuals generated and (2) generates the food residuals at a location that is within a 30-mile radius of an organics recycling facility that has the capacity to, and is willing to, accept and process all of the person’s food residuals for recycling, and is willing to enter into a contract to accept and process the person’s food residuals. The diversion requirements apply (1) beginning January 1, 2023, for a person that generates at least two tons of food residuals each week and (2) beginning January 1, 2024, for a person that generates at least one ton of food residuals each week. Consistent with Maryland’s Food Recovery Hierarchy, shown in **Exhibit 4.6**, diversion from final disposal may be accomplished through any combination of the following waste diversion activities: (1) reducing the amount of food residuals generated; (2) donating servable food; (3) managing the food residuals in an on-site organics recycling system; or (4) providing for the collection and transportation of the food residuals for agricultural use (including for use as animal feed) or for processing in an organics recycling facility. A person that is subject to the food residuals diversion requirements may apply to MDE for a waiver from these requirements if the person demonstrates undue hardship. The Acts define “food residuals” as material derived from the processing or discarding of food, including pre- and post-consumer vegetables, fruits, grains, dairy products, and meats. MDE has taken several actions to facilitate the Acts, including adopting regulations in December 2022 and creating a detailed compliance guide.



Source: Maryland Department of the Environment

***Yard Waste, Food Residuals, and Other Organic Materials Diversion and Infrastructure Study Group:*** Chapters 383 and 384 of 2017 required MDE to study and make recommendations regarding the diversion of yard waste, food residuals, and other organic materials from refuse disposal facilities in the State, including ways to encourage investment in infrastructure and expand capacity for yard waste, food residuals, and other organic materials diversion. The required report, published in July 2019, set forth a number of legislative, regulatory, and programmatic recommendations. Legislative recommendations include (1) expanding liability protections in Maryland’s “Good Samaritan” food donation law to include donations provided to persons at a reduced cost and donations provided directly to an end recipient and (2) expanding the Farm Food Donation Tax Credit Pilot program.<sup>2</sup>

***Organic Waste Diversion:*** Chapter 366 of 2019 prohibits an owner or operator of a refuse disposal system from accepting loads of separately collected yard waste or food waste for final disposal unless the owner or operator provides for the organics recycling of the yard or food waste.

<sup>2</sup> Chapters 232 and 233 of 2017 created a tax credit against the State income tax for eligible food donations made by a qualified farm located in Anne Arundel, Calvert, Charles, Montgomery, Prince George’s, or St. Mary’s counties. Chapter 361 of 2019 extended the tax credit to all counties and extended the program through tax year 2021, and Chapters 170 and 171 of 2021 extended the program through tax year 2023. Chapter 454 of 2023 permanently extended the program and increased the value of the credit from 50% to 100% of the value of eligible food donations and from 75% to 100% of the value of donated certified organic produce (subject to an existing \$5,000 limit).

“Organics recycling” means any process in which organic materials are collected, separated, or processed and returned to the marketplace in the form of raw materials or products and includes anaerobic digestion and composting.

***Grant Program to Reduce and Compost School Waste:*** Chapter 205 of 2022 establishes a grant program to award grants to county boards of education and public schools to develop and implement programs for reducing food waste and to establish composting of pre- and post-consumer waste. The Maryland Association for Environmental and Outdoor Education must review grant applications and select recipients to be awarded grants by the Maryland State Department of Education (MSDE), which administers the program. Grant recipients must report to MSDE on program outcomes, and MSDE must annually report to the General Assembly on the program beginning December 1, 2023. In addition, MSDE must coordinate with MDE to identify and apply for federal funding that may be used to support the program. Chapter 205 terminates June 30, 2027.

The fiscal 2024 budget included \$250,000 in general funds for the Grant Program to Reduce and Compost School Waste in MSDE. As of February 2024, the grant program had received 38 applications, seeking a total of nearly \$130,000 in grant funding, from schools and local education agencies.

***On-Farm Composting:*** MDE’s composting regulations generally prohibit a person from operating an on-farm composting facility without a permit issued by MDE, subject to several exemptions. Chapters 520 and 521 of 2023 expand opportunities for on-farm composting by requiring MDE to establish an exemption, by regulation, from the permitting requirements under MDE’s composting regulations for an operator of an on-farm composting facility that uses 10,000 square feet of area or less for active food scrap composting, subject to specified conditions. The exemption applies only to a facility that composts only one or more of a specified list of feedstocks. The Acts also require new composting facilities to be constructed and operated in accordance with specified requirements, including requirements related to nutrient management plans, soil conservation and water quality plans, and agricultural waste management system plans, as appropriate.

***State Purchase Preferences:*** A State or local agency responsible for the maintenance of public lands must, to the maximum extent practicable, give consideration and preference to the use of compost in any land maintenance activity paid for with public funds. Chapters 169 and 170 of 2023 require the Maryland Green Purchasing Committee to establish, and each unit of State government to include in certain procurement specifications, specifications for purchasing compost, mulch, or other soil amendments or aggregate produced from MSW, food waste, dredged material, construction waste, yard waste, clean wood waste, or other recycled or organic materials.

### **Recycling Market Development**

Chapters 289 and 290 of 2021 require MDE's Office of Recycling to promote the development of markets for recycled materials and recycled products in the State. Among other things, the Office of Recycling must (1) evaluate the availability of local, national, and international markets for recycled materials and products; (2) identify the recyclable materials representing the largest portion of the recycling waste stream; (3) identify businesses in the State that use recycled materials and opportunities for businesses in the State to increase their use of recycled materials; (4) establish and promote the "Maryland is Open for Recycling Business" campaign to attract new businesses to the State; and (5) provide advisory and technical services to support the development of markets for recycled materials and recycled products in the State. The office must coordinate its activities with the Department of Commerce, the Department of General Services, the Maryland Department of Transportation, the Maryland Environmental Service, the Northeast Maryland Waste Disposal Authority, local governments, and private organizations. In addition, MDE has indicated that it will seek input from all interested parties to develop a comprehensive understanding of the programs, tools, training guides, and technologies available to promote the development of markets for recycled materials and products in the State. For example, in 2022, MDE held regional meetings with recycling coordinators, hosted online workshops, and met with Maryland businesses to determine how the State can support recycling markets and businesses.

### **Product Stewardship and Extended Producer Responsibility**

According to the Product Stewardship Institute, "product stewardship" is a voluntary or mandatory action that minimizes the health, safety, environmental, and social impacts of products and packaging throughout all lifecycle stages of the products and packaging while maximizing the economic benefits. Generally, the producer of a product has the greatest ability to minimize adverse impacts, but other stakeholders, such as suppliers, retailers, and consumers, also play a role. Extended producer responsibility is a type of mandatory product stewardship that requires producers to be responsible for ensuring that their products are responsibly collected and disposed of or recycled.

***Statewide Recycling Needs Assessment and Producer Responsibility for Packaging Materials:*** Chapter 465 of 2023 lays the foundation for establishing a producer responsibility program in the State for packaging materials. Chapter 465 requires MDE's Office of Recycling to hire an independent consultant to conduct a statewide recycling needs assessment and report the results of the assessment to the Governor and General Assembly by July 30, 2024. The assessment must include (1) an analysis of the State's current solid waste and recycling streams, as specified; (2) an evaluation of the current infrastructure and capacity related to, need for, and costs associated with specified items and related processes; (3) an evaluation of comingled recycling processing facility worker conditions, wages, and benefits; (4) an evaluation of opportunities in the recycling system for women and minority individuals; (5) an evaluation of local government requirements related to multifamily and commercial recycling services and their implementation; (6) the sufficiency of recycling education programs relative to desired equity outcomes; (7) an evaluation

of the economic opportunities in the State's recycling system, as specified; (8) recommendations for improving equity and equitable outcomes for underserved populations in the State's recycling system; (9) an analysis of the costs and benefits of implementing an extended responsibility program, as specified; (10) an analysis of the potential environmental impact of an extended producer responsibility program, as specified; and (11) recommendations on the best practices to follow from successful extended producer responsibility programs in other states and countries. In February 2024, MDE issued a request for proposal (RFP) for the recycling needs assessment required under Chapter 465. Among other deliverables, the RFP states that a draft recycling needs assessment report is due to MDE by October 1, 2024, and a final report is due by October 31, 2024. In August 2024, MDE selected a contractor to conduct the needs assessment.

Chapter 465 requires MDE, by October 1, 2023, to approve a producer responsibility organization to represent producers' interests in the development of the producer responsibility program. Accordingly, in October 2023, MDE announced that Circular Action Alliance would act as the single packaging producer responsibility organization in the State.

Finally, the producer responsibility advisory council established under Chapter 465 must provide advice and make recommendations regarding establishing and implementing a producer responsibility program in the State for packaging materials. The advisory council must report its findings and recommendations to the Governor and specified committees of the General Assembly by December 1, 2024.

***Paint Stewardship:*** Legislation to create a paint stewardship program in Maryland has been introduced multiple times since 2016 and ultimately passed in 2024. Chapters 587 and 588 of 2024 require a producer of architectural paint sold at retail in the State, or a representative organization acting on behalf of a producer, to (1) submit, by July 1, 2025, a plan for the establishment of a Paint Stewardship Program to MDE for approval; (2) pay a plan review fee to MDE; (3) implement the program within six months after plan approval; (4) submit annual reports for MDE review; and (5) pay annual report review fees to MDE. The Acts define "architectural paint" as interior or exterior architectural coating sold in containers of 5 gallons or less and excludes industrial coatings, original equipment coatings, or specialty coatings from the definition.

The Acts also (1) require a plan developed under the Act to establish a uniform paint stewardship assessment for architectural paint sold in the State to cover program costs and (2) establish a prohibition on the sale of architectural paint unless the producer or its representative organization is implementing an approved paint stewardship program. Similar programs in other states are generally carried out by a single representative organization (PaintCare) under a single program plan.

***Artificial Turf:*** Synthetic turf fields are typically composed of plastic blades of grass and an infill material that can be made of various materials, including crumb rubber from recycled tires. According to MDE, depending on the materials used, synthetic turf and turf infill often constitute nonhazardous solid waste that can be managed similarly to other municipal wastes,

including by reusing, recycling, or proper disposal. However, concerns have been raised on the lack of information regarding how much synthetic turf and turf infill are reused, repurposed, recycled, and disposed of in the State. According to the Sierra Club, several Maryland county waste facilities do not accept the volume, weight, and mixture of synthetic turf being disposed of in the State.

To address transparency and accountability in the disposal of synthetic turf and turf infill, Chapter 567 of 2024 requires a producer or seller of synthetic turf to disclose to a customer before the sale of synthetic turf the maintenance that is typically performed throughout the lifespan of synthetic turf, as well as the typical costs for removing, replacing, and disposing of synthetic turf. Additionally, MDE, in consultation with specified stakeholders, must conduct a study on synthetic turf, existing synthetic turf fields in the State, and the synthetic turf industry in the State. MDE must report its findings to specified committees of the General Assembly by July 1, 2026.

### **Other Waste Management and Recycling Legislation**

In addition to the enacted legislation discussed above, several other measures relating to waste management and recycling have also been enacted within the past five years and are summarized below in **Exhibit 4.7**.

---

#### **Exhibit 4.7**

### **Waste Management and Recycling Legislation Enacted Within the Past Five Years**

<u>Year</u>	<u>Chapter(s)</u>	<u>Summary</u>
2019	Chapter 500	Requires each county recycling plan to address the collection and recycling of recyclable materials from specified large office buildings by October 1, 2020; generally, requires the owner of an office building that has at least 150,000 square feet of office space to provide recycling receptacles for the collection of recyclable materials and the recycling of specified materials by October 1, 2021; and authorizes local governments to conduct inspections to enforce provisions.
2019	Chapter 725	Authorizes Howard County to impose a fee of up to 5 cents for each disposable bag used as part of a retail sale of products.
2021	Chapters 610 and 611	Generally, prohibits a person from (1) knowingly and intentionally releasing, or causing to be released, a balloon into the atmosphere or (2) organizing or participating in a mass balloon release; and establishes specified penalties for violations.



<u>Year</u>	<u>Chapter(s)</u>	<u>Summary</u>
2021	Chapter 631	Repeals a county's authority to use one or more resource recovery facilities to achieve a 5% reduction in its solid waste stream for the purposes of meeting required solid waste reductions and mandatory recycling rates under the MRA; excludes incinerator ash from the definition of "recyclable materials" and repeals the definition of "resource recovery facility" for purposes of the MRA.
2022	Chapter 38	Requires the Maryland Commission on Climate Change to establish a Solar Photovoltaic Systems Recovery, Reuse, and Recycling Working Group to review, identify, assess, and analyze a number of issues and topics related to solar photovoltaic systems, the materials used in those systems, and the recycling, disposal, and decommissioning of the systems.
2024	Chapters 949 and 950	Establishes the Commission to Advance Lithium-Ion Battery Safety in Maryland and requires the commission to report its interim progress and status to the Legislative Policy Committee by December 1, 2024, and report its final findings and recommendations to the Governor and the General Assembly by December 1, 2025.

MRA: Maryland Recycling Act

Source: Department of Legislative Services

## **Legislation Proposed in Maryland**

Other waste management and recycling legislation has been introduced in the past few years but has not passed. **Exhibit 4.8** highlights some of the recent legislation that would have addressed a number of waste management and recycling categories, including single-use plastics, product stewardship, postconsumer recycled content, labeling and marketing requirements, advanced recycling, funding for organics recycling infrastructure, as well as proposals to review the Maryland Recycling Act and study recycling and waste systems in the State. In some cases, bills related to these topics have been, and continue to be, introduced for several years in a row.

**Exhibit 4.8**  
**Recent Waste Management and Recycling**  
**Legislation Introduced in Maryland**

<b>Single-use Plastics</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2021	SB 223/HB 314	Among other things, would have (1) prohibited retail establishments from providing customers with “plastic carryout bags” on or after July 1, 2022; (2) established a civil penalty for violations and enforcement procedures; and (3) established that only the State could enact a law or take any other action to prohibit, restrict, or regulate the use of certain plastic bags by retail establishments.
2021	HB 69	Subject to specified circumstances, would have prohibited an owner, an operator, or a manager of a lodging establishment from providing a personal cleansing product in certain plastic bottles (1) to a guest staying at the establishment; (2) in any part of a room used for lodging or sleeping purposes, including the bathroom; or (3) in a bathroom that is shared by guests staying at the establishment or members of the public.
2022	HB 135	Would have (1) generally prohibited a food service business from providing specified single-use food and beverage products to customers who were ordering carryout or delivery from, or dining inside, the food service business unless the customer requested the product or accepted an offer for the product, subject to specified exceptions; (2) required every food service business to maintain a limited stock of specified single-use plastic straws to accommodate the physical or medical needs of an individual in compliance with federal, State, and local laws and regulations; and (3) established a civil penalty for violations and an option for food service businesses to request a waiver from the prohibition.

<b>Product Stewardship</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2020	SB 891	Would have (1) required MDE, by July 1, 2021, to develop and adopt guidelines for solar panel stewardship programs to guide manufacturers in developing, preparing, and implementing a self-directed program for taking back and recycling out-of-service solar panels and their component materials in a certain manner; (2) by January 1, 2022, prohibited solar panel manufacturers from selling or offering for sale a solar panel in the State unless the manufacturer had an approved stewardship plan and operated the stewardship program in accordance with the plan; and (3) established a civil penalty for violations and reporting requirements.
2023	HB 284	Among other things, would have (1) established a framework for producers of packaging materials to create and implement producer responsibility plans for “packaging materials,” as defined in the bill and (2) prohibited a producer, on or after a date established in regulations adopted by MDE, from selling, offering for sale, distributing, or importing for sale or distribution packaging materials for use in the State unless the producer had or was part of an approved producer responsibility plan on file with MDE.
2024	SB 642/HB 735	Among other things, would have (1) established the Maryland Beverage Container Recycling Fund and Litter Reduction Program within MDE to increase the reuse and recycling of beverage containers in the State; (2) established labeling requirements for “redeemable beverage containers,” as defined in the bills; (3) established a framework for producers of redeemable beverage containers, or a representative organization, to develop and implement beverage container stewardship plans; (4) established a related grant program, provisions for redemption facilities and retailers, an advisory council, and enforcement provisions; and (5) required that a portion of revenues collected under the Maryland Beverage Container Recycling Refund and Litter Reduction Program be used to compensate local governments through a specified period of time.
2024	SB 686/HB 830	Among other things, would have (1) modified, and in some cases repealed, existing State law provisions relating to the collection and recycling of CEDs and instead would have established a Covered Electronic Device Recycling Program within MDE to facilitate the collection and recycling, refurbishing, or reuse of CEDs in the State and (2) established a consumer fee to be imposed on purchases of new CEDs in the State beginning on January 1, 2028, and

		disbursement of the fee revenues to authorized collectors and recyclers would have begun January 1, 2029.
2024	HB 1355	Among other things, would have (1) required a producer of mattresses sold at retail in the State, or a representative organization acting on behalf of a producer, to establish a plan for a mattress stewardship program in the State; (2) prohibited the sale of mattresses unless the producer or retailer was implementing an approved mattress stewardship program; and (3) prohibited the disposal of mattresses in landfills or incinerators beginning January 1, 2029.
<b>Postconsumer Recycled Content Program</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2024	HB 168	Among other things, would have (1) established the Postconsumer Recycled Content Program to be administered by MDE's Office of Recycling; (2) prohibited producers of "covered products," as defined in the bill, from selling, offering for sale, or distributing the product unless certain postconsumer content and registration requirements were met; and (3) established waiver requirements and enforcement provisions.
<b>Labeling, Marketing, and Advertising for Plastic Products and Packaging</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2023	HB 31	Among other things, would have (1) established public policy for the State regarding "environmental marketing claims," as defined in the bill; (2) established standards for environmental marketing claims made with respect to products and packaging; (3) established requirements that a product or packaging must meet to be considered recyclable; (4) established prohibitions regarding making an untruthful, deceptive, or misleading environmental marketing claim and the sale, distribution, or importation of any product or packaging labeled with or depicting an untruthful, deceptive, or misleading environmental marketing claim regarding recyclability; and (5) prohibited a container from displaying a chasing arrows symbol unless the container is considered recyclable in accordance with recyclability standards established under the bill.

<b>Advanced Recycling</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2021	HB 21	Would have (1) excluded specified chemical conversion processes from the definition of “recycling” and (2) prohibited a person from building a facility in the State that converts plastic to fuel or feedstock through those same chemical conversion processes.
<b>Statewide Solid Waste Disposal Surcharge and Organics Recycling Projects and Infrastructure</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2024	HB 1318	Among other things, would have (1) established a statewide solid waste disposal surcharge of \$2 per ton that would have applied to solid waste processed by a refuse disposal system in the State for final disposal, subject to a specified exemption and (2) used the surcharge revenue to fund specified composting and food waste reduction, diversion, and recycling grant programs.
<b>Recycling Policy and Recycling and Waste Systems</b>		
<b><u>Year</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2023	HB 109	Would have established the Task Force on Recycling Policy and Recycling and Waste Systems in Maryland to review the Maryland Recycling Act and study the recycling and waste systems in Maryland.

CED: Covered electronic device

MDE: Maryland Department of the Environment

Source: Department of Legislative Services

---

## Chapter 5. Recent Trends in Other States

---

Solid waste and recycling laws vary among states. While Maryland is consistent with other states in its work to reduce certain types of waste and address composting and product stewardship and producer responsibility, Maryland falls short in comparison to some states in terms of legislation passed to address single-use plastics, labeling requirements, postconsumer recycled content, educating the public, and right-to-repair laws. **Exhibit 5.1** highlights recent waste management and recycling legislation enacted in other states, including trending topics related to extended producer responsibility, electronics, batteries, single-use plastics, truth in labeling, postconsumer content, and contamination and education.

---

### Exhibit 5.1 Recent Waste Management and Recycling Legislation Enacted in Other States

<b>EPR – Packaging</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2021	California	SB 54	Covers certain single-use packaging and single-use food service plastic ware and would require producers, through a producer responsibility organization, to (1) source-reduce plastic covered material; (2) ensure covered material sold, offered for sale, distributed, or imported within or into the state after January 1, 2032, is recyclable or compostable; and (3) ensure that plastic covered material offered for sale, distributed, or imported within or into the state reaches a 30% recycling rate by 2028, increasing to 65% by 2032.
2021	Maine	LD 1541	Directs the state Department of Environmental Protection to select and contract with a stewardship organization to operate a packaging stewardship program that will reimburse and assist municipalities in providing recycling services throughout the state. Brand owners selling packaged goods must pay fees on all packaging materials to the stewardship organization to fund the system based on the quantity and type of packaging.
2021	Oregon	SB 582	Requires producers of packaging, paper products, and food service ware to join a nonprofit producer responsibility organization that will ensure improved and expanded recycling services to rural areas and apartments. Cost to producers will be based on what materials they use and how much they sell into the state. Producer fees will be higher for non-recyclable products and those creating more environmental pollution. Creates one

			statewide list of what can be recycled. Requires large producers to periodically conduct an evaluation of life cycle impacts of at least 1% of covered products sold or distributed in the state.
2022	Colorado	HB 1355	Directs the state Department of Public Health and Environment to designate a nonprofit organization to implement and manage a statewide program that provides recycling services to covered entities in the state, which are defined as residences, businesses, schools, hospitality locations, government buildings, and public places. The program is funded by annual dues paid by producers of products that use covered materials. Covered materials are defined as packaging materials and paper products.
2024	Minnesota	HF 3911	Requires producers of packaging and paper products to appoint a producer responsibility organization for purposes of implementing and financing a statewide program to reduce the environmental and health impacts of packaging through redesign, waste reduction, reuse, and composting. Requires the state Pollution Control Agency to conduct a needs assessment to (1) evaluate the state's solid waste management efforts for packaging and paper products; (2) develop performance targets for recycling and other waste management practices; (3) inventory infrastructure, capacity, and funding sources for the existing waste system; and (4) estimate costs to improve recycling, composting, and reuse. Requires the creation of a list of packaging and paper products that are recyclable or compostable as well as a list of materials that can be recycled through alternative methods.
<b>EPR – Carpet and Mattresses</b>			
<b><u>Year</u></b>	<b><u>State</u></b>	<b><u>Legislation</u></b>	<b><u>Summary</u></b>
2017	California	AB 1158	Creates an advisory committee to make recommendations to manufacturers and carpet stewardship organizations on carpet stewardship plans. Requires a carpet stewardship plan to include a process by which the manufacturer or carpet stewardship organization receives and responds to plan recommendations from the advisory committee.
2019	California	AB 729	Replaces the carpet stewardship assessment with differential assessments that take into account the financial burden that a particular carpet material has on the program and the amount of postconsumer recycled content contained in a carpet.

2019	California	AB 187	Requires a mattress recycling organization to review their plan for the recovery and recycling of used mattresses and determine whether amendments are necessary at regular intervals. Prohibits the organization's financial reserve from exceeding a specified percentage of its annual operating expenses.
2019	Maine	LD 710	Requires the state Department of Environmental Protection to study the establishment of a new mattress stewardship program in the state and include recommended legislation to implement its recommendations.
2022	New York	S05027-C/ A09279A	Establishes an EPR program, including certain recycling metrics, for carpet. Requires carpet to meet certain postconsumer content requirements and prohibits the sale of carpet that contains or has been treated with PFAS. Requires free and convenient locations for New York residents to drop off and dispose of old carpet.
2022	Oregon	SB 1576	Establishes a program to collect and manage discarded mattresses. The program is run by a stewardship organization with oversight from the state Department of Environmental Quality. Requires the department to approve a fee that will be charged by mattress retailers when a mattress is sold and then transmitted to the stewardship organization to cover the costs of the program. Also establishes an annual fee that will be paid by the stewardship organization to cover administration and enforcement costs.

**EPR – Electronics and Batteries**

<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2023	Oregon	HB 3220	Makes changes to the state's electronics recycling program, including (1) expanding the list of items covered under the program to include, among other things, DVD players, VCRs, music players, video game consoles, digital converter boxes, cable receivers, scanners, small servers, and routers and (2) requiring local jurisdictions to offer a minimum number of collection sites, based on population size, and ensure services are accessible to rural areas and minority, lower-income, and other historically underserved populations.
2023	Washington	SB 5144	Requires battery manufacturers to fund and participate in a stewardship organization to manage the collection, transportation, and recycling of batteries. Establishes labeling requirements for batteries sold in the state. Intended, in part, to



			reduce fire danger that exists when batteries are improperly disposed of at waste facilities.
2024	Illinois	SB 3686	Requires entities that sell or distribute small-to-medium portable batteries, including lithium-ion and lithium metal batteries, to join a stewardship organization for purposes of funding battery management programs. The stewardship organization must pay \$100,000 a year to the state Environmental Protection Agency to fund programs that improve battery collection, transportation, recycling, and safe disposal practices.
2024	Vermont	S 254	Expands existing household battery stewardship program to include rechargeable batteries and electronic products that contain primary or rechargeable batteries that are easily removeable or are packaged with rechargeable or primary batteries. Increases the size of covered primary batteries under the program from a maximum of 4.4 pounds to a maximum of 25 pounds. Requires the state Department of Environmental Conservation to assess the opportunities, challenges, and feasibility of mandatory end-of-life management programs for batteries used in hybrid and electric vehicles, battery energy storage systems, and batteries that are not easily removable from the products they power.
<b>Right to Repair</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2022	New York	S4104A/ A7006B	Requires original equipment manufacturers to make repair information and tools for certain electronic devices, such as cell phones and laptops, available to both consumers and independent repair providers.
2023	California	SB 244	Requires manufacturers of specified electronic and appliance products, including televisions, radios, and home appliances, to provide replacement parts, diagnostic information, and service manuals to consumers and third-party repair businesses.
2024	Colorado	HB 1121	Expands the scope of the state's right-to-repair law to include certain digital electronic equipment but excluding, among other things, marine vessels, aviation equipment, motor vehicles, medical devices (other than powered wheelchairs), certain safety and security equipment, certain construction- and energy-related equipment, and video game consoles. Prohibits a manufacturer from using parts pairing in a manner that (1) prevents an independent repair provider or owner from installing or enabling

			replacement parts; (2) reduces the functionality or performance of the digital electronic equipment; or (3) causes digital electronic equipment to display misleading alerts or warnings about unidentified parts.
2024	Oregon	SB 1596	Requires original equipment manufacturers to make repair information, tools, and parts for consumer electronic equipment available to both consumers and independent repair providers. Prohibits use of parts pairing in a manner similar to HB 1121, as passed by the Colorado General Assembly, as previously described.
<b>Disposal Bans – Electronics and Batteries</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2024	New Hampshire	HB 1386	Prohibits the disposal of wet-cell batteries, lithium-ion batteries, and specified electronic devices, such as printers, wireless telephones, copiers, and fax machines, in a solid waste landfill facility or incinerator; requires solid waste facility and incinerator operators to post information about the prohibitions; and requires educational materials on the safe handling and recycling of wet-cell batteries, lithium-ion batteries, and electronic devices.
<b>Single-use Plastic – Bag Bans and Fees</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2019	Connecticut	HB 7424	Imposes a 10-cent fee on single-use plastic bags provided at the point of sale until June 30, 2021, and bans them beginning July 1, 2021.
2019	Delaware	HB 130	Prohibits a store from providing any single-use plastic bag to a customer at the point of sale. Allows a store to make paper bags available at no cost or to charge any price at their discretion. Exempts specific types of bags. Provides that stores that have adopted practices to eliminate the need for plastic bags do not need to participate in an at-store recycling program.
2019	Maine	HB 1115	Prohibits a retail establishment from using single-use carry out bags to bag products at the point of sale or otherwise making single-use carry out bags available to customers, with exemptions for certain types and uses of plastic and paper bags. Allows retail establishments to provide recyclable paper bags to bag products at the point of sale for a fee, with exceptions to the fee requirement for certain types of retail establishments.

2019	New York	SB 1508A	Prohibits grocery stores and other retailers from providing most single-use plastic bags to customers. Bags distributed at the meat/deli counter and bulk food area are exempt, as well as newspaper bags, trash bags, garment bags, bags provided by a pharmacy for prescription drugs, and restaurant takeout bags. Allows individual counties the option of placing a 5-cent fee on paper bags, with 2 cents going to local governments and 3 cents to the state's Environmental Protection Fund.
2019	Oregon	HB 2509	Prohibits retail establishments from providing single-use, paper, or fabric checkout bags to customers unless they charge a minimum of 5 cents per bag. Reusable fabric checkout bags may be provided at no cost on 12 or fewer days in a calendar year. Restaurants are not allowed to provide plastic bags to customers unless they charge a minimum of 5 cents per bag. Restaurants are allowed to provide recycled paper bags at no cost to any customer. Contains exceptions for customers in the Women, Infants and Children Program and customers using an electronic benefits transfer card issued by the state Department of Human Services. Allows cities, counties, and other local governments to amend existing or adopt identical or additional restrictions.
2019	Vermont	SB 113	Prohibits a store or food service establishment from providing a single-use plastic bag to a customer. Allows a store or food service establishment to offer a recyclable paper bag at the point of sale for a minimum of 10 cents per bag. All funds collected are retained by the store or food service establishment.
2019	Washington	SB 5323	Prohibits retail establishments from providing single-use plastic bags. Exempts food banks and food assistance programs. Allows retailers to provide the following types of carryout bags to customers: (1) recycled content paper carryout bags that contain at least 40% post-consumer recycled content that are capable of composting and display certain information on the exterior; and (2) reusable carryout bags that have a minimum lifetime of 125 uses, are machine washable, and made of a durable material that can be cleaned or disinfected. Allows for reusable carryout bags made of film plastic of at least 40% post-consumer recycled content material. Exempts bags used to (1) package bulk items; (2) contain or wrap items where dampness or sanitation may be a problem; (3) contain unwrapped prepared foods or bakery items; (4) contain prescription drugs; or (5) protect an item from damaging other items when placed inside a carryout bag. Requires retail establishments to collect a pass-through charge

			of 8 cents for each paper carryout bag and reusable carryout bag made of film plastic. Places restrictions on the identification of bags as compostable.
2020	Virginia	SB 11 HB 534	Authorizes any locality to impose a tax per bag on disposable plastic bags provided to consumers by certain retailers, with certain bags being exempt from the tax. Provides that revenues from the local tax would be collected by the tax commissioner, distributed monthly to the locality imposing the tax, and used by such locality for, among other things, the mitigation of pollution and litter.
2022	California	SB 1046	Building on the state's existing plastic bag ban, prohibits "pre-checkout bags" that fail to meet compostability standards and recycling requirements. "Pre-checkout bags" include bags for items like loose produce, meat or fish, nuts, grains, candy, and bakery goods. Prohibits stores from using bags that purport to be compostable but do not meet the required standards.
2022	Rhode Island	HB 7065	Prohibits the use of single-use plastic bags at grocery stores, drugstores, and other retail businesses in an effort to curb plastic pollution in waterways, ease contamination in recycling loads, and increase consistency throughout the state (a number of municipalities in Rhode Island already had plastic bans in place).

#### **Single-use Plastic – Other Products**

<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2018	California	AB 1884	Prohibits a full-service restaurant from providing single use plastic straws to consumers unless requested by the consumer.
2019	Oregon	SB 90	Prohibits a restaurant from providing a single-use plastic straw to a consumer unless the consumer requests a straw.
2019	Vermont	SB 113	Prohibits a food service establishment from providing a single-use plastic straw to a customer except at the request of the customer. Does not apply to a hospital, nursing home, residential care home, assisted living residence, home for the terminally ill, therapeutic community, or independent living facility. Prohibits a food service establishment from providing a single-use plastic stirrer to a customer.

2020	New Jersey	SB 864	Prohibits a full-service restaurant from providing single use plastic straws to consumers unless requested by the consumer. Allows a store to provide other types of straws, such as paper or reusable metal straws, without limitation.
2021	Rhode Island	SB 155 HB 5131	Prohibits a full-service restaurant from providing single use plastic straws to consumers unless requested by the consumer.
2021	Washington	SB 5022	Prohibits a full-service restaurant from providing certain single-use food service products to consumers unless requested by the consumer. Applies to utensils, straws, condiment packaging, and beverage cup lids. Lists exceptions.
2023	Washington	HB 1085	Addresses single-use plastics by (1) prohibiting lodging establishments from providing personal health and beauty products (like shampoo, soap, and lotion) in small containers, plastic wrappers, or other single-use plastic packaging unless specifically requested by the guest; (2) prohibiting the sale, distribution, and installation of overwater structures containing expanded or extruded plastic foam, unless the foam is fully enclosed and contained in a certain manner; and (3) altering state construction standards by requiring construction projects in which a drinking fountain is required to also require, for each drinking fountain, a water bottle filling station.

**Truth in Labeling**

<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2019	Washington	HB 1569	Relates to marketing the degradability of products. Authorizes the state's attorney general and local governments to pursue false or misleading environmental claims and greenwashing for plastic products claiming to be compostable or biodegradable when they are not.
2021	California	SB 343	Declares that it is the policy of the state that claims related to the recyclability of a product or packaging be truthful and that consumers deserve accurate and useful information related to how to properly handle the end of life of a product or packaging. Requires the state Department of Resources Recycling and Recovery to update certain regulations to include the types and forms of plastic products and packaging for which a claim of recyclability may be made.

2021	Oregon	SB 582	Establishes the Truth in Labeling Task Force to study and evaluate misleading or confusing claims made about the recyclability of a product or product packaging. The study must include consideration of issues affecting accessibility for diverse audiences.
<b>Postconsumer Recycled Content</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2019	California	AB 793	Requires plastic beverage containers subject to the California Refund Value to contain specified percentages of postconsumer recycled plastic annually, beginning at 15% on January 1, 2022, and increasing to 50% by January 1, 2030. Specifies that the requirements do not apply to refillable plastic beverage containers and certain beverage manufacturers whose projected processing fees are less than a specified amount.
2020	New Jersey	SB 2515	Establishes postconsumer recycled content requirements for rigid plastic containers, plastic beverage containers, glass containers, paper and plastic carryout bags, and plastic trash bags. Specifies certain exceptions and an option for a waiver. Requires manufacturers of covered products to register with the state Department of Environmental Protection and pay an annual registration fee of \$1,000 unless gross revenue is below a certain amount. Requires manufacturers to maintain records and report certain information to the agency.
2021	Maine	LD 1467	Provides that, beginning January 1, 2026, a manufacturer of beverages in plastic beverage containers may not sell, offer for sale, or distribute for sale in the state a plastic beverage container unless the total number of plastic beverage containers sold, offered for sale, or distributed for sale in the state by that manufacturer contains, on average and in the aggregate, at least 25% postconsumer recycled plastic.
2021	Washington	SB 5022	Requires producers to meet minimum postconsumer recycled content requirements as soon as January 1, 2023, for certain products in plastic containers, including beverages, household cleaning and personal care products, and plastic trash bags. Phases in postconsumer recycling content percentages, beginning at 15% and going up to 50%. Requires producers of covered products to register and produce an annual report detailing the amount in pounds of virgin plastic and postconsumer recycling content by resin type used. Allows for exceptions. Sets penalties. Convenes a stakeholder advisory committee to make recommendations to

			the legislature on the development of postconsumer recycled content requirements for other types of plastic packaging. Directs a study of plastic resin markets.
<b>Contamination and Public Education</b>			
<u>Year</u>	<u>State</u>	<u>Legislation</u>	<u>Summary</u>
2019	District of Columbia	B 506	Requires private waste collectors to alert their customers when they see contamination in waste containers and to describe the waste contamination in annual reports. Authorizes the district Department of Public Works to impose a surcharge on recycling disposed at one of its transfer stations if the load exceeds a predetermined contamination threshold. Any contamination surcharges collected are deposited into the Solid Waste Diversion Fund to support increased solid waste diversion efforts.
2019	Texas	SB 649	Requires the Commission on Environmental Quality to develop a public education campaign around the economic benefits of recycling and the detrimental effects of contamination.
2020	Florida	HB 73	Holds local governments responsible for proper recycling and allows haulers and materials recovery facilities to refuse contaminated materials that violate the definition of acceptable recyclables as stated in their contracts.
2021	Oregon	SB 582	Requires the state Department of Environment Quality to establish statewide contamination reduction goals and evaluate different programs and methods to reduce contamination. Prohibits a person from establishing or operating a commingled recycling processing facility in the state unless the person obtains a disposal site permit. The permit requires the facility to sort all materials collected from the public so that materials do not become contaminants in other waste streams, evaluate and report on inbound material quality and contamination, and accurately report outbound contamination levels. Requires producer responsibility organizations to pay a contamination management fee to commingled recycling processing facilities to compensate for the costs of removing and disposing of covered products that are contaminated.

ERP: extended producer responsibility

PFAS: per- and polyfluoroalkyl substances

Source: National Conference of State Legislatures; Department of Legislative Services

## Chapter 6. Policy Considerations

---

As Maryland continues to navigate its solid waste management and recycling challenges, the General Assembly may want to consider the following:

- ***Evaluate Whether and to What Extent Initiatives Support Existing Sustainable Materials Management Policy:*** Maryland’s sustainable materials management (SMM) policy seeks to, among other things, reduce the environmental impacts of materials throughout their entire lifecycles, from manufacturing to end-of-life management, and promote source reduction, reuse, recycling, and resource recovery activities. Ensuring that solid waste management and recycling initiatives align with Maryland’s stated policy will help the State focus efforts and meet policy goals.
- ***Reduce Maryland’s Per Capita Waste Generation:*** In recent years, Maryland’s per capita waste generation rate has been above six pounds per person per day, reaching almost seven pounds per person per day in both 2021 and 2022 and trending well above the 2035 SMM target of five pounds per person per day.
- ***Material-specific Recycling Rates:*** Evaluate whether there is room for improvement with regard to recycling certain materials. For example, recent progress toward achieving SMM goals show opportunities exist to improve the recycling of food scraps, paper products, and plastic.
- ***Monitor Results of the Statewide Recycling Needs Assessment:*** The results of the statewide recycling needs assessment will provide a comprehensive analysis of Maryland’s solid waste and recycling stream and infrastructure, as well as information on other topics such as worker conditions, equity, consumer education, and recommendations for establishing and implementing an extended producer responsibility (EPR) program in the State for packaging materials. Regularly mandated needs assessments may be necessary to inform waste management and recycling-related decision making into the future.
- ***Learn from Recent Activities at the Federal Level and in Other States:*** The State can look at recent actions at the federal level for insight on supporting a circular economy, including through stakeholder collaboration, improvements to recycling systems, sustainable product design, waste reduction, materials reuse, consumer education, and incorporating principles of equity and environmental justice. Maryland can also look to other states for innovative solid waste management and recycling practices, as there is momentum for addressing challenges at the state level through EPR programs, improving recycling markets and transitioning to a circular economy, and increasing waste reduction activities.