

An underwater photograph showing various pieces of plastic waste floating in clear blue water. A green aluminum can is prominent in the center, with a black electronic device and a red strip nearby. Large, crumpled white plastic bags are visible on the right and left sides. The water is filled with small bits of debris and some seaweed.

Existing U.S. Federal Authorities to Address Plastic Pollution

A Synopsis for Decision Makers



ENVIRONMENTAL
LAW • INSTITUTE®



October 2024 Update Summary

EXISTING U.S. FEDERAL AUTHORITIES TO ADDRESS PLASTIC POLLUTION: A SYNOPSIS FOR DECISION MAKERS

October 2024 Update Summary

The report, [*Existing U.S. Federal Authorities to Address Plastic Pollution: A Synopsis for Decision Makers*](#), provides policymakers with a comprehensive analysis of how existing federal law may be utilized to address the plastic pollution crisis. The report summarizes federal statutes and regulations addressing plastic pollution and potential regulatory actions the government could consider based on its statutory authority. The report is a valuable resource for policymakers, industry representatives, and advocates looking to better understand the current plastic regulatory environment at the federal level and to anticipate its future development.

Since the completion of the report's first draft in March 2024, there have been several developments in federal plastic policy. Most notable of these was the July 2024 release of a report from the Interagency Policy Committee on Plastic Pollution and a Circular Economy, *Mobilizing Federal Action On Plastic Pollution: Progress, Principles, and Priorities* (hereinafter the "IPC Report"). The IPC Report details the plastic pollution mitigation actions federal agencies are currently taking. This update to ELI's plastics report incorporates the authorities and policies mentioned in the IPC Report and makes additional updates based on feedback from the first draft.

I. INTRODUCTION

B. U.S. Domestic Action on Plastic Pollution to Date

(Amendments to acknowledge developments in administrative law affecting the federal rulemaking process.)

1. Judicial Developments Impacting Federal Agency Regulatory Processes:

Starting in 2022, a series of Supreme Court decisions have significantly altered the regulatory processes for federal agencies. First, in 2022, the Court ruled in *West Virginia v. EPA* that the EPA had exceeded its authority under the Clean Air Act when it attempted to regulate greenhouse gas emissions (specifically carbon dioxide) from power plants in the Clean Power Plan.¹ In so doing, the Court applied the nascent "major questions doctrine." This doctrine states a federal agency must have *particularly clear* statutory authority from Congress before it may take a regulatory action of significant economic or political importance. The doctrine is meant to preserve the separation of powers and Congress's role as the sole legislative body of the federal government. In the decision, Chief Justice John Roberts justified the need for this doctrine by explaining: "There are extraordinary cases . . . in which the history and the breadth of the authority that [the agency] has asserted, and the economic and political significance of that assertion, provide a reason to hesitate before concluding that Congress meant to confer such authority."² The ruling creates a far-reaching

¹ *West Virginia v. EPA*, 597 U.S. (2022).

² *Id.* at 721.

precedent that could limit federal agencies' ability to issue regulations addressing major societal issues when the only authorizing statutory language is vague, dated, or had not clearly anticipated the policy at issue.

Second, in 2024, the Court issued a decision in *Loper Bright Enterprises v. Raimondo* that overturned the longstanding *Chevron* doctrine of federal agency deference.³ Established in 1984, the Supreme Court's *Chevron* doctrine afforded a federal agency's legal interpretation of its statutory authority significant weight—allowing the agency's interpretation of an ambiguous statutory passage to stand if it could be considered “a permissible construction of the statute.”⁴ “*Chevron* deference,” as the concept became known, was a crucial tool for federal agencies defending their authority to issue evolving regulations, especially regarding environmental policy. However, in *Loper Bright*, the Supreme Court overturned the *Chevron* decision. The majority opinion, also from Chief Justice Roberts, ruled that the Administrative Procedure Act (“APA”) (the federal law governing agencies' regulatory procedures) contradicts the *Chevron* doctrine. Rather than authorizing judicial deference to federal agencies, Chief Justice Roberts decided the APA “incorporates the traditional understanding of the judicial function, under which courts must exercise independent judgment in determining the meaning of statutory provisions.”⁵ Rather than defaulting to a federal agency's permissible construction of an ambiguous statute, under *Loper Bright* the Supreme Court has ruled judges must be the primary interpreter of all statutory language. Still, lower courts have yet to determine the precise effect of *Loper Bright* on agency rulemaking procedures. For example, some passages of the Chief Justice's opinion support other forms of agency deference, such as deference to agencies' factual determinations and to policy decisions Congress explicitly delegates to the executive branch.⁶

Taken together, however, the *West Virginia* and *Loper Bright* decisions could make it significantly more difficult for federal agencies to regulate against new societal issues based on their existing authority. Whether and how the major questions doctrine and the reversal of *Chevron* will impact plastics regulation remains uncertain. Nonetheless, this report's analysis incorporates lessons from the Court's evolving administrative law *jurisprudence* by firmly rooting its statutory analysis in plain meaning readings of each statute's text and focusing on statutes with clear and straightforward authorizations for agency action in the plastics sphere. In so doing, the report's analysis avoids many of the regulatory pitfalls the Court addressed in its recent decisions, such as overreliance on deference to an agency's legal interpretations and uses of old statutes to address problems outside an agency's traditional area of expertise.

...

³ *Loper Bright Enterprises v. Raimondo*, 603 U.S. (2024).

⁴ *Chevron U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 843 (1984).

⁵ *Loper Bright Enterprises v. Raimondo*, 603 U.S. 625 (2024).

⁶ See e.g., *id* at 620 (“In a case involving an agency, of course, the statute's meaning may well be that the agency is authorized to exercise a degree of discretion. Congress has often enacted such statutes. For example, some statutes “expressly delegate[]” to an agency the authority to give meaning to a particular statutory term”).

IV. EXISTING FEDERAL AUTHORITIES TO ADDRESS PLASTIC POLLUTION

A. Executive Office of the President

1. Office of Management and Budget

a. Federal Acquisition Regulation

(Amendments to acknowledges NASA's steps to implement EO 14057, consistent with the IPC Report.)

i. Executive Order 14057 on Federal Sustainability

"The National Aeronautics and Space Administration (NASA) is implementing EO 14057 with by "advancing internal waste prevention practices that protect natural resources and reduce pollution, waste toxicity, and costs, resulting in a waste diversion rate exceeding approximately 75% for the past five years."⁷

(Amendments to acknowledges NASA's steps to implement EO 14057, consistent with the IPC Report.)

"According to the Interagency Policy Committee on Plastic Pollution's 2024 report, other agencies that have taken steps to implement EO 14057 include the Department of Energy, the Department of Justice, the Department of Transportation, the Fish and Wildlife Service, the Food and Drug Administration, the Forest Service, the National Oceanic and Atmospheric Administration, and the State Department."⁸

(Amendments to Acknowledge the finalization of the Sustainable Products and Services Rule.)

"On April 22, 2024, the Biden-Harris Administration took a significant step in implementing EO 14057 by finalizing the Sustainable Products and Services Rule. The new rule amends the FAR to direct federal procurement agencies (namely the GSA, DOD, and NASA) to prioritize sustainable products and services "to the maximum extent practicable."⁹ The proposed rule specifically directs procuring agencies to follow the EPA's Recommendations for Specifications, Standards, and

⁷ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 12 (July 2024).

⁸ *See generally*, INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES (July 2024).

⁹ DOD, GSA, NASA, Final Rule, Federal Acquisition Regulation: Sustainable Procurement, 89 Fed. Reg. 30,212 (Apr. 22, 2024), <https://www.federalregister.gov/documents/2024/04/22/2024-07931/federal-acquisition-regulation-sustainable-procurement>.

Ecolabels for Federal Purchasing (explained in more detail below), which provides sustainability guidance for 34 different purchase categories.¹⁰

...

B. Environmental Protection Agency

1. Clean Air Act

...

b. New Source Performance Standards (NSPS)

(Amendments to acknowledge new EPA NSPS regulations to reduce air pollutants from plastic production facilities.)

“On April 9, 2024, EPA issued a final rule amending the NSPS regulations that apply to the synthetic organic chemical manufacturing industry (SOCMI).¹¹ The new rule significantly lowers the emission limitations for volatile organic compounds (VOCs) from SOCMI air oxidation unit processes, distillation operations, reactor processes, and equipment leaks. The EPA estimates that these changes will reduce VOC emissions from SOCMI sources by approximately 1,622 tpy.¹² The changes will apply to SOCMI facilities that are built or significantly modified after April 25, 2023.”

...

c. National Emission Standards for Hazardous Air Pollutants (NESHAP)

(Amendments to acknowledge new EPA NESHAP regulations to reduce air pollutants from plastic production facilities.)

“One exception, however, comes from the EPA’s April 2024 NESHAP rules. On April 9, 2024, EPA issued a final rule amending the NESHAP regulations to reduce emissions from facilities producing synthetic organic chemicals, polymers, and resins.¹³ The rule imposes its most stringent emission

¹⁰ *Id.* <https://www.whitehouse.gov/ceq/news-updates/2023/08/01/biden-harris-administration-announces-plan-to-maximize-purchases-of-sustainable-products-and-services-as-part-of-the-presidents-investing-in-america-agenda/#:~:text=The%20Sustainable%20Products%20and%20Services%20procurement%20rule%2C%20a,products%20and%20services%20to%20the%20maximum%20extent%20possible.>

¹¹ New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry and Group I & II Polymers and Resins Industry, 89 Fed. Reg. 42,932 (Apr. 9, 2024).

¹² *Regulatory Impact Analysis for the Final New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry and Group I & II Polymers and Resins Industry*, EPA-452/R-24-001, ENVTL. PROT. AGENCY, (March 2024) https://www.epa.gov/system/files/documents/2024-04/final-hon-ria-march-2024_0.pdf

¹³ New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry and Group I & II Polymers and Resins Industry, 89 Fed. Reg. 42,932 (Apr. 9, 2024).

limits on ethylene oxide and chloroprene, reducing emissions of the two pollutants by 80 percent among the covered facilities. However, it also covers benzene, 1,3-butadiene, ethylene dichloride, and vinyl chloride. The new NESHAP rule applies to 218 organic chemical and polymer manufacturing plants nationwide.

Fundamentally, the new NESHAP rule makes four changes:¹⁴

1. Imposes new MACT standards for process vents, storage vessels, equipment leaks, heat exchange systems, maintenance vents, and certain wastewater that will lower the emissions of the six targeted chemicals (ethylene oxide, chloroprene benzene, 1,3-butadiene, ethylene dichloride, and vinyl chloride).
2. Imposes new fence-line monitoring rules for most facilities that use, produce, store, or emit any of the six targeted chemicals. Fence-line monitoring refers to installing technology that can measure pollution levels in the air around the perimeter of a facility.
3. Removes exemptions from emissions control requirements when a regulated facility is starting up, shutting down, or malfunctioning. In 2008, the D.C. Circuit vacated portions of these exemptions, and the new rule eliminated the exemptions entirely.¹⁵
4. Issues new emissions limits for polychlorinated dibenzo-p-dioxins (dioxins) and polychlorinated dibenzofurans (furans)."

...

e. Section 138 and Environmental and Climate Justice Block Grants

The Inflation Reduction Act (IRA) amended the Clean Air Act to add a new Section 138 authorizing "Environmental and Climate Justice Block Grants."¹⁶ These block grants provide funding for financial and technical assistance to carry out environmental and climate justice activities. In the IRA, Congress appropriated \$2.8 billion for financial assistance along with \$200 million for technical assistance.¹⁷ The Interagency Policy Committee on Plastics Pollution's 2024 report notes that this funding may be used to provide local governments with funding for plastic pollution mitigation projects. According to the IPC Report, relevant policies and programs eligible for support through these grants include "identifying, measuring, monitoring, and sampling for contamination from plastic pollution, remediation of such contamination, or working through collaborative partnerships with government, community, academic, and/or industry partners on projects to reduce or

¹⁴ Karl Karg et. al, *EPA Finalizes Rule Requiring Ethylene Oxide (EtO) and Chloroprene Emissions Cuts at Chemical Plants*, LATHAN & WATKINS (Apr. 11, 2024) https://www.globalelr.com/2024/04/epa-finalizes-rule-requiring-ethylene-oxide-eto-and-chloroprene-emissions-cuts-at-chemical-plants/#_ednref1.

¹⁵ *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008)

¹⁶ 42 U.S.C. 7438.

¹⁷ *Environmental Justice Grants, Funding and Technical Assistance*, ENVIRONMENTAL PROTECTION AGENCY (2024) <https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance>.

eliminate plastic production from any stage throughout the plastic production, use, and disposal lifecycle.”¹⁸

...

3. Clean Water Act

...

c. Toxic Pollutants and Priority Pollutants

(Amendments to acknowledge the EPA’s final rule on CWA Hazardous Substance Facility Response Plans.)

Recently, EPA has also taken other action under other areas of its CWA authority that affect toxic pollutants. Most notably, in March 2024 EPA finalized new regulations mandating CWA-regulated facilities created response plan for potential worst-case discharges of their hazardous substances. The regulation mandates facilities handling hazardous substances, including some plastics facilities, prepare for the pollution impact of adverse weather conditions or severe equipment malfunctions.¹⁹

...

11. Save Our Seas 2.0 Act

(Amendments to acknowledge the 2023-published Congressionally mandated report on the use of recycled plastics in infrastructure.)

Similarly, Section 303 of the law mandated a report concerning the use of recycled plastics in infrastructure. This report, published by EPA, Department of Transportation, and NASEM in 2023, reviews the research and practice of using recycled plastics in asphalt pavements and other infrastructure applications and evaluates the barriers and opportunities for using more recycled plastics in infrastructure.²⁰

...

C. Department of Commerce

¹⁸ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 70 (July 2024).

¹⁹ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 12 (July 2024); *Final Rulemaking on Clean Water Act Hazardous Substance Facility Response Plans*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/hazardous-substance-spills-planning-regulations/final-rulemaking-clean-water-act-hazardous> (last visited Mar. 14, 2024).

²⁰ NAT’L ACADS. SCIS., ENG’G, & MED., RECYCLED PLASTICS IN INFRASTRUCTURE: CURRENT PRACTICES, UNDERSTANDING, AND OPPORTUNITIES 6 (The National Academies Press, 2023) <https://nap.nationalacademies.org/catalog/27172/recycled-plastics-in-infrastructure-current-practices-understanding-and-opportunities>

1. National Oceanic and Atmospheric Administration

...

b. Marine Debris Act

(Amendment to acknowledge the Marine Debris Program and NOAA Sea Grant's increased funding from the Bipartisan Infrastructure Law and the Inflation Reduction Act.)

The Bipartisan Infrastructure Law (IIJA) and the Inflation Reduction Act (IRA) substantially increased the funding available from the Marine Debris Program, enabling the Program to provide over \$70 million in federal funding over 15 projects in Fiscal Years 2022 and 2023. The new funding focuses on two priorities: removing large marine debris and using proven interception technologies to capture marine debris in coastal areas.²¹ NOAA's Sea Grant program issued \$27 million in federal grants in the same time frame, targeting innovative research that addresses the presentation and removal of marine debris over time. With the help of IIJA and IRA funding, NOAA's Marine Debris Program and Sea Grant will continue to administer a combined \$200 million through fiscal year 2026.²²

c. National Marine Sanctuary Act

(Amendment to include the National Marine Sanctuary Act.)

Another authority that allows NOAA to regulate plastic pollution in the ocean is the National Marine Sanctuaries Act (NMSA). First passed in 1972, NMSA authorizes the Secretary of Commerce (which acts through NOAA's Office of National Marine Sanctuaries) to designate and protect areas of the marine environment with special ecological, esthetic, or cultural importance significance. Most commonly, NOAA uses NMSA to protect marine resources such as coral reefs and sunken historical vessels. Today, there are 17 national marine sanctuaries encompassing more than 629,000 square miles of marine and Great Lakes waters.²³ The Chumash Heritage National Marine Sanctuary is the most recently designated sanctuary, established by NOAA through its NMSA authority on October 16, 2024.²⁴

NMSA authorizes the Secretary of Commerce to designate a national marine sanctuary when, in addition to an area's special ecological or cultural significance, "existing State and Federal authorities are inadequate or should be supplemented to ensure coordinated and comprehensive conservation and management of the area, including resource protection, scientific research, and public education."²⁵ NMSA further provides a list of 12 factors NOAA must consider when determining if the area meets the standards to become a National Marine Sanctuary. These factors

²¹ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 16 (July 2024).

²² *Id.*

²³ *Legislation: The National Marine Sanctuaries Act*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://sanctuaries.noaa.gov/about/legislation/> (last visited Mar. 14, 2024).

²⁴ Chumash Heritage National Marine Sanctuary, 89 Fed. Reg. 83,554 (Oct. 16, 2024).

²⁵ 16 U.S.C. § 1433 (a)(3).

include “the area’s natural resource and ecological qualities,” “the area’s historical, cultural, archaeological, or paleontological significance,” “the present and potential uses of the area that depend on maintenance of the area’s resources, including commercial and recreational activities,” “the negative impacts produced by management restrictions on income-generating activities,” and more.²⁶

Once sanctuaries are established, NMSA makes it unlawful for any person to “destroy, cause the loss of, or injure any sanctuary resource managed under law or regulations for that sanctuary.”²⁷ NMSA further provides NOAA with the authority to issue regulations that specify the types of activities that can and cannot occur within the sanctuary system.²⁸ While NMSA provides authority for NOAA to regulate the sanctuary system as a whole, NMSA is primarily enforced through sanctuary-specific prohibitions issued by regulation. Each sanctuary’s regulations are distinct, but they generally prohibit new oil and gas activity, most drilling and dredging activities, and the discharging of most types of waste at sea.²⁹ These prohibitions against the discharge of waste at sea are broadly construed and encompass most forms of plastic waste and other forms of marine debris.³⁰

NMSA does not disallow commercial and recreational fishing in national marine sanctuaries in every instance. Rather, NMSA directs Regional Fishery Management Councils to prepare draft fishing regulations based on the standards established in Section 301(a) of the Magnuson-Stevens Act (16 U.S.C. 1851) “to the extent that the standards are consistent and compatible with the goals and objectives of the proposed [sanctuary] designation.”³¹ The Secretary can reject these draft fishing regulations if they are inconsistent with the goals and objectives of the sanctuary.³²

NMSA also mandates that NOAA prepare management plans for each sanctuary. These management plans guide the day-to-day activities at each sanctuary and include the “proposed mechanisms to coordinate existing regulatory and management authorities within the area,” the “goals and objectives, management responsibilities, resource studies, and appropriate strategies for managing sanctuary resources of the proposed sanctuary,” and any “proposed regulations that may be necessary and reasonable” to maintain the sanctuary.”³³ Importantly, NMSA directs NOAA to review and update these management plans every five years to ensure progress toward the sanctuaries’ goals and to reprioritize the sanctuary’s management objectives.³⁴

²⁶ 16 U.S.C. § 1433(b).

²⁷ 16 U.S.C. § 1436 (1).

²⁸ 16 U.S.C. § 1439.

²⁹ *See generally*, 15 CFR § 922.132.

³⁰ *See, e.g.*, 15 CFR § 922.132 (a)(2) (Prohibited activities include “discharging or depositing from within or into the Sanctuary . . . any material or other matter, except: A) Fish, fish parts, chumming materials”)

³¹ 16 U.S.C. § 1434(a)(5).

³² *Id.*

³³ 16 U.S.C. § 1434.

³⁴ 16 U.S.C. § 1434(e).

How the National Marine Sanctuaries Act may be applied to Intervention 6, minimize ocean disposal through increased enforcement and reduction of at-sea abandonment or discard of fishing gear:

NOAA’s National Marine Sanctuaries Program has broad authority to enact regulations to prevent damage to sanctuary resources. This authority includes regulations prohibiting the discharge of many forms of waste at sea within a sanctuary’s boundaries, including plastic waste. Furthermore, NOAA has opportunities to revise a sanctuary’s management plan every five years and to reestablish its management objectives. In the future, NOAA could more explicitly prioritize the prevention of plastic pollution in marine sanctuaries in its national marine sanctuaries management plans.

...

L. Department of Agriculture

(Amendment to add an intro to the USDA section.)

The United States Department of Agriculture (USDA) plays a multifaceted role in shaping the nation’s agricultural policies, promoting rural development, and ensuring food safety. While its primary focus is on agriculture and food production, the USDA’s scope has gradually expanded to address broader environmental concerns, including some efforts relevant to plastic pollution. For example, the USDA’s Agricultural Research Service researches several plastic-related topics such as converting food waste into a commercially-viable family of bioplastic and producing environmentally friendly bioplastic from lactose. However, the USDA’s most direct activities related to plastics come from its actions through its Farm Bill authority.

1. Farm Bill

a. BioPreferred Program

(Amendment to acknowledge the BioPreferred Program’s research and development capabilities, consistent with the IPC report.)

“Third, through the BioPreferred Program, USDA conducts research into biopolymers, alternative feedstocks, and plastic pollution reduction to support the transition away from fossil fuel-based plastic.³⁵”

³⁵ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 12 (July 2024).

How USDA’s BioPreferred Program may support the interventions through research and development activities:

Through the BioPreferred Program, USDA conducts research into biopolymers, alternative feedstocks, and plastic pollution reduction to support the transition away from fossil fuel-based plastic.

M. Department of Energy

...

1. Department of Energy Organization Act; Energy Policy Act of 2005; and Energy Research and Innovation Act of 2018

...

b. National Laboratory Research

Amendments to acknowledge the relevant research and development activities taking place in DOE National Labs.

The Department of Energy Organization Act, Energy Policy Act of 2005, and Energy Research and Innovation Act of 2018 also authorize the DOE’s oversight of its network of national labs – some which conduct research into plastics. For example, DOE’s Advanced Materials and Manufacturing Technologies Office funds the Manufacturing Demonstration Facility at Oak Ridge National Laboratory. This project aims is to develop and aid the adoption of additive manufacturing and composite technologies and, according to the IPC Report, some of its activities address recycling of plastic and composite materials. Similarly, Oak Ridge National Laboratory’s Hub & Spoke Sustainable Materials & Manufacturing Alliance for Renewable Technologies (SM2ART) “is developing renewable, high-performance feedstocks to replace fossil fuel derived materials for advanced manufacturing applications.”³⁶ One of the more significant national lab initiatives related to plastics is the National Renewable Energy Laboratory’s Waterborne Plastics Assessment and Collection Technologies (WaterPACT) project. This project researches waterborne plastic debris in an effort to characterize, quantify, model the extent of waterborn plastic and leachates in the United States.³⁷

How the Department of Energy Organization Act and Energy Policy Acts of 2005 and 2018 may be applied to Intervention 4, improve waste management through disposal, collection, and recycling improvements:

DOE can continue to use its existing authority under the Department of Energy Organization Act and Energy Policy Acts of 2005 and 2018 to improve waste management (intervention 4) through disposal, collection, and recycling improvements. DOE can provide financial assistance for short-

³⁶ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 52 (July 2024).

³⁷ *Id.* at 53.

and long-term basic and applied research activities, such as the Energy Frontier Research Centers, or directly conduct relevant research activities through its network of national labs. Examples include the University of Delaware’s Center for Plastics Innovation, which currently works to improve plastic polymer waste upcycling strategies. This DOE-funded initiative aligns with interventions to improve plastic recycling.

...

3. America COMPETES Act and Advanced Research Projects – Energy

(Amendments to acknowledge the America COMPETES Act and ARPA-E’s research into alternative plastic uses, including as fuel.)

“The America COMPETES Act, originally passed in 2007 and reauthorized in 2022, created the Advanced Research Projects – Energy (ARPA-E), the federal agency responsible for advancing high-potential, high-impact energy technologies that are too early for private-sector investment.³⁸ ARPA-E’s goals include reducing United States dependence on foreign resources, reducing greenhouse gas emissions, and improving energy efficiency. While not its main focus, the agency has been involved in research and development for alternative uses of plastic. Specifically, ARPA-E has awarded several contracts through its Recycle Underutilized Solids to Energy (REUSE) program, an exploratory program to develop conversion technologies for unrecycled plastic and paper to fuel or chemicals.³⁹”

How the America COMPETES Act may support the interventions through research and development activities:

DOE’s APRA-E program can fund innovative research into conversion technologies for unrecycled plastic as sources of fuel or raw chemicals.

...

R. Department of Transportation

(Amendments to add a brief section on the Department of Transportation’s authorities to fund research into innovative uses of recycled materials and encourage reducing plastics in some transportation facilities and infrastructure.)

The U.S. Department of Transportation is the federal agency responsible for ensuring safe, efficient, and accessible transportation across the United States. Established in 1966, the DOT oversees and regulates various transportation systems, including aviation, highways, railroads, maritime, and public transit. DOT derives its statutory authority from dozens of federal laws such as Highway Safety Act, the Federal Aviation Act (and its subsequent reauthorizations), the Federal Railroad

³⁸ 42 U.S.C. § 16538.

³⁹ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 51 (July 2024).

Safety Act, the Pipeline Safety Act and Hazardous Materials Transportation Act, and the various acts creating transportation planning requirements and authorizing the funding of surface transportation projects (such as the Transportation Equity Act for the 21st Century, the Moving Ahead for Progress in the 21st Century Act, and the Fixing America's Surface Transportation Act).

DOT has limited statutory authority directly pertaining to plastic pollution, and plastic pollution has not been a primary focus of the agency so far. For example, in the Interagency Policy Committee on Plastic Pollution's report on mobilizing federal agencies to mitigate plastic pollution, DOT's summary of its existing actions to address plastic pollution was relatively sparse. DOT identified ongoing efforts at source reduction and waste management across its facilities and education initiatives such as a 'Lunch N' Learn' webinar on America Recycles Dan and the DOT's 'Sustainability Speaker Series' to celebrate Earth Month.⁴⁰

However, there are a few examples of how the DOT may be able to leverage its existing statutory authority to address plastic use and pollution in the transportation system. The reminder of this section highlights those opportunities.

1. Infrastructure Investment and Jobs Act

The DOT has broad statutory authority to fund research into emerging transportation technology. Most of the agency's authorities for these programs stem from the Infrastructure Investment and Jobs Act (IIJA), which reauthorized most of DOT's longstanding surface transportation programs. Among the transportation research programs the IIJA authorizes are:

- 1) The Advanced Research Projects Agency – Infrastructure (ARPA-I) to “fund high-risk, high-reward next-generation technologies that have the potential to revolutionize America's transportation infrastructure systems.”⁴¹
- 2) The Highway Research and Development Program, which allows the Federal Highway Administration to fund research that addresses current and emerging highway transportation needs.⁴² and
- 3) The Public Transportation Innovation Program – the Federal Transit Administration's program to fund research and development in new transit technologies.⁴³

These programs enable the DOT to fund research into emerging issues concerning transportation and plastics-related issues, the most pressing of which is likely the use of recycled plastics in asphalt pavements and other infrastructure applications. A 2023 National Academies of Sciences report on the topic concluded that that the EPA and DOT should significantly expand their research into the use of recycled plastics before facilitating their widespread adoption. Specifically, the report calls on

⁴⁰ INTERAGENCY POLICY COMMITTEE ON PLASTIC POLLUTION AND A CIRCULAR ECONOMY, MOBILIZING FEDERAL ACTION ON PLASTIC POLLUTION: PROGRESS, PRINCIPLES, AND PRIORITIES 29 (July 2024).

⁴¹ *Advanced Research Projects Agency – Infrastructure*, DEP'T OF TRANSPORTATION, <https://www.transportation.gov/arpa-i> (last visited Oct. 25, 2024); Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 859.

⁴² Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 447.

⁴³ Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 900.

DOT and the FHWA to 1) support multiyear field testing programs to assess the environmental and health impacts of plastics additives recycled for use in asphalt pavements, 2) identify research and field testing required for future development of standards, specifications, and design guidelines for use of recycled plastics in asphalt pavements and other infrastructure applications, and 3) sponsor research that inventories all current and prospective transportation applications of recycled plastics, assesses their likelihood of having a significant impact on plastics waste reduction, and identify the factors impeding their development.⁴⁴ DOT could use its statutory authority to fund research into emerging transportation technologies to support this emerging technology which, if feasible and environmentally friendly, may provide a significant market for recycled plastics.

How the Department of Transportation may support research and development:

The IIJA reauthorizes several of the DOT programs to fund research into emerging transportation and infrastructure technologies. The DOT could use this authority to research the use of recycled plastic material in asphalt and other infrastructure applications. This research could help determine if the use of recycled plastics in these materials could expand the market for recycled plastic, be environmentally safe and beneficial, and commercially viable.

2. FAA Modernization and Reform Act of 2012

The Federal Aviation Administration (FAA) can place a renewed emphasis on plastic reduction as part of its Airport Improvement Program (AIP) – DOT’s primary source of grant funding for airport maintenance and planning projects. The FAA Modernization and Reform Act of 2012 provided explicit legislative authority for incorporating recycling, reuse, and waste reduction into airport planning processes and the AIP⁴⁵ – saying that “airport planning” necessarily includes “developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of waste audit.”⁴⁶ Furthermore, the law mandated that airport “master plans,” long-range planning documents that airports submit to the FAA, must address “issues relating to solid waste recycling at the airport, including– (A) the feasibility of solid waste recycling at the airport; (B) minimizing the generation of solid waste at the airport; (C) operation and maintenance requirements; (D) the review of waste management contracts; and (E) the potential for cost savings or the generation of revenue.”⁴⁷ With over \$3.4 billion in grants awarded in FY2024, there is significant potential in utilizing a small portion of AIP funding to improve airports’ sustainability.⁴⁸

⁴⁴ NAT’L ACADS. SCIS., ENG’G, & MED., RECYCLED PLASTICS IN INFRASTRUCTURE: CURRENT PRACTICES, UNDERSTANDING, AND OPPORTUNITIES 8 (The National Academies Press, 2023), <https://nap.nationalacademies.org/catalog/27172/recycled-plastics-in-infrastructure-current-practices-understanding-and-opportunities>.

⁴⁵ *Airport Recycling, Reuse, and Waste Reduction*, FED AVIATION ADMIN., https://www.faa.gov/airports/environmental/airport_recycling (last visited Mar. 14, 2024).

⁴⁶ 49 U.S.C. § 47102(5)

⁴⁷ 49 U.S.C. § 47106(a).

⁴⁸ *2024 Airport Improvement Program*, FED AVIATION ADMIN., https://www.faa.gov/airports/aip/2024_aip_grants (last visited Mar. 14, 2024).

How DOT’s Airport Improvement Program may be applied to Intervention 4, capturing waste through disposal, collection, and recycling improvements:

As directed by the FAA Modernization and Reform Act of 2012, the FAA can use its grant authority under the Airport Improvement Program to support airports’ sustainability initiatives, specifically in regard to improving recycling and minimizing the generation of solid waste at airports, including from plastics.

...

S. Department of Education

(Amendments to add a brief section on the Department of Education’s education and outreach initiatives concerning sustainability.)

1. Department of Education Organization Act

The Department of Education has a limited role in plastics policy. However, the Department has launched several education and outreach initiatives concerning sustainability efforts in schools. These initiatives are authorized by the Department’s organic act, the Department of Education Organization Act.⁴⁹ For example, the Department’s Infrastructure and Sustainability initiative highlights the sustainability work of schools, districts, and institutions of higher education, including waste and recycling practices. This effort includes developing and managing the U.S. Department of Education Green Ribbon Schools recognition award, which features a waste management component, as well as overseeing the school infrastructure and sustainability commitments, the Green Strides Tour, and the monthly ED Infrastructure and Sustainability Newsletter.⁵⁰

How the Department of Education may support the interventions through education and outreach:

The Department of Education can continue to highlight the efforts of education administrators to enact sustainability measures in their schools that lower plastic pollution.

⁴⁹ See, e.g., *Legislation, Regulations, and Guidance - U.S. Department of Education Green Ribbon Schools*, U.S. DEP’T OF EDUCATION, <https://www.ed.gov/grants-and-programs/recognition-programs/green-ribbon-schools/legislation-regulations-and-guidance--us-department-of-education-green-ribbon-schools#:~:text=ED%20is%20responsible%20for%20administering%20U.S.%20Department%20of,Organization%20Act%2C%2020%20U.S.C.%203402%20%282%29%20and%20%283%29> (last visited Oct. 29, 2024).

⁵⁰ IPC Policy Report, *supra* note 15, at 50.