

FY 2022-2026 EPA Strategic Plan

Draft

October 1, 2021

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Administrator Regan’s Message (Placeholder)

[Placeholder]

Introduction

EPA’s FY 2022-2026 Strategic Plan communicates the Agency’s priorities and provides the roadmap for achieving its mission to protect human health and the environment. In this Strategic Plan, the Agency renews its commitment to the three principles articulated by William Ruckelshaus, who served as the EPA’s first Administrator (1970 – 1973, and then again from 1983 – 1985), to: follow the science, follow the law, and be transparent. The Agency also adds a fourth foundational principle: advance justice and equity. We add this principle to infuse the consistent and systematic fair, just, and impartial treatment of all individuals into all EPA policies, practices, and programs. These principles form the basis of the Agency’s culture and will guide our operations and decision making now and into the future.

Building on work already begun under President Biden’s Executive Orders (E.O.s) 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* and 14008: *Tackling the Climate Crisis at Home and Abroad*,¹ and in alignment with the Administration’s whole-of-government approach, we are charting a course in this Strategic Plan where tackling climate change and advancing environmental justice and civil rights are integral to all we do in carrying out EPA’s mission. In accordance with these priorities, we have established new strategic goals on addressing climate change and environmental justice to signal the importance of these issues. We will embed this focus into the work we do to carry out our five programmatic strategic goals for enforcement and compliance, air quality, water quality, land revitalization, and chemical safety.

Our four cross-agency strategies describe the essential ways EPA will carry out our mission. These strategies include reinforcing science as foundational to

EPA Mission

To Protect Human Health and the Environment

Principles

Follow the Science
Follow the Law
Be Transparent
Advance Justice and Equity

Strategic Goals

- Goal 1:** Tackle the Climate Crisis
- Goal 2:** Take Decisive Action to Advance Environmental Justice and Civil Rights
- Goal 3:** Enforce Environmental Laws and Ensure Compliance
- Goal 4:** Ensure Clean and Healthy Air for All Communities
- Goal 5:** Ensure Clean and Safe Water for All Communities
- Goal 6:** Safeguard and Revitalize Communities
- Goal 7:** Ensure Safety of Chemicals for People and the Environment

Cross-Agency Strategies

- Strategy 1:** Ensure Scientific Integrity and Science-Based Decision Making
- Strategy 2:** Consider the Health of Children at All Life Stages and Other Vulnerable Populations
- Strategy 3:** Advance EPA’s Organizational Excellence and Workforce Equity
- Strategy 4:** Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

¹ Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (January 20, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.
Executive Order 14008: Tackling the Climate Crisis at Home and Abroad (January 27, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>.

Agency decision making; protecting children’s environmental health; building back EPA’s workforce with particular attention to equity and enhancing mission-support functions to achieve organizational excellence; and renewing our commitment to EPA’s trust responsibility to Tribal nations² and our engagement with Tribal, state, and local government partners, stakeholders, the regulated community, and the public.

EPA’s Strategic Plan includes a suite of long-term performance goals (LTPGs) that reflect the quantifiable outcomes we will achieve for each strategic objective and cross-agency strategy by 2026. LTPGs will help us understand, monitor, and tell the story of progress we are making to partners and external stakeholders, Agency employees, and the public.

In addition, we have identified three FY 2022-2023 Agency Priority Goals (APGs), which are intended to jumpstart actions and showcase progress toward Administrator Regan’s priorities:

- Phase down the production and consumption of hydrofluorocarbons;
- Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities; and
- HUD and EPA will reduce exposure to lead to protect families, particularly children, in overburdened and underserved communities.

For the first time, EPA’s Strategic Plan incorporates a Learning Agenda and Capacity Assessment, consistent with the requirements of the Foundations for Evidence-Based Policymaking Act of 2018.³ Our goal is to achieve a culture of evidence-building, continuous learning, and evaluation in our operations and decisions. The Learning Agenda will address key questions across priority areas by leveraging high-quality data. The Capacity Assessment will guide our efforts to develop the skills, expertise, and infrastructure that support routine, rigorous use of data. We also identified emerging issues and external factors for consideration in developing strategies to carry out the Plan. This included strategic foresight horizon scanning, which involved literature reviews and interviews with experts to identify emerging issues on selected topics.

Engaging with our Tribal, federal, state, and local government partners and our many stakeholders is an integral part of strategic planning. For the first time, we conducted early outreach prior to issuance of the *Draft Plan*. Through this engagement, we sought to understand what matters most to our Tribal and state partners and stakeholders as we work to achieve EPA’s mission and find ways we can work together to achieve our goals. We issued a *Federal Register* notice and used www.regulations.gov to encourage and share feedback on the *Draft Plan*. We sent notification of the availability of the *Draft Plan* for review to over ## organizations and individuals. We also initiated consultation with our Tribal partners and Congress.

² In this Strategic Plan, the term “Tribe” and “Tribal nation” is referring to federally recognized Indian Tribes. Federally recognized Indian Tribes are those Tribes that have met criteria established by the Department of the Interior or are designated by law as eligible to receive federal benefits, federal services and federal protections. The special relationship federally recognized Tribes have with the United States is known as the government-to-government relationship.

³ Full-text of the Foundations for Evidence-Based Policymaking Act of 2018: <https://www.congress.gov/bill/115th-congress/house-bill/4174/text>.

Strategic Goals and Objectives

Goal 1: Tackle the Climate Crisis

- Objective 1.1: Reduce Emissions that Cause Climate Change
- Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
- Objective 1.3: Advance International and Subnational Climate Efforts

Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

- Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels
- Objective 2.2: Embed Environmental Justice and Civil Rights into EPA's Programs, Policies, and Activities
- Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns

Goal 3: Enforce Environmental Laws and Ensure Compliance

- Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable
- Objective 3.2: Detect Violations and Promote Compliance

Goal 4: Ensure Clean and Healthy Air for All Communities

- Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
- Objective 4.2: Reduce Exposure to Radiation and Improve Indoor Air

Goal 5: Ensure Clean and Safe Water for All Communities

- Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure
- Objective 5.2: Protect and Restore Waterbodies and Watersheds

Goal 6: Safeguard and Revitalize Communities

- Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities
- Objective 6.2: Reduce Waste and Prevent Environmental Contamination
- Objective 6.3: Prepare for and Respond to Environmental Emergencies

Goal 7: Ensure Safety of Chemicals for People and the Environment

- Objective 7.1: Ensure Chemical and Pesticide Safety
- Objective 7.2: Promote Pollution Prevention

Goal 1: Tackle the Climate Crisis

Cut pollution that causes climate change and increase the adaptive capacity of Tribes, states, territories, and communities.

Introduction

The impacts of climate change affect people in every region of the country, threatening lives and livelihoods and damaging infrastructure, ecosystems, and social systems. Global annually-averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016), making this period the warmest in the history of modern civilization. The last few years have seen record-breaking, climate-related weather extremes; increased droughts, flooding, and wildfires; increasing surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor.

Climate change also exacerbates existing pollution problems and environmental stressors impacting the nation’s land, air, and water and the people who depend on them. Overburdened and underserved communities and individuals are particularly vulnerable to these impacts, including low-income communities and communities of color, children, the elderly, Tribes, and Indigenous people. In addition, climate-driven famine, property loss, mass migrations, human conflict, species extinctions, and ecosystem failures have significant humanitarian and national security implications.

EPA will take bold steps and align its actions to respond decisively to the climate crisis. As part of a whole-of-government approach, EPA must aggressively tackle the climate crisis by helping the nation reduce greenhouse gas (GHG) emissions and anticipate, prepare for, and adapt to or recover from the impacts of climate change. Policies to tackle climate change must address the disproportionate vulnerability of low-income communities and communities of color while also dealing with the legacy pollution those communities continue to endure.

Climate change is a global issue and domestic action must go hand in hand with international leadership. EPA will continue to share its expertise internationally, while learning from the expertise of others. EPA’s programs will not only drive emissions reductions and resilience across the country but will help the U.S. to lead by example on the global stage and provide the foundation for science-based national and international climate mitigation and adaptation goals.

Definitions

Climate change refers to changes in global or regional climate patterns attributed largely to human-caused increased levels of atmospheric greenhouse gases.

Climate change adaptation or climate adaptation means taking action to prepare for and adjust to both the current and projected impacts of climate change.

Climate change mitigation refers to actions limiting the magnitude and rate of future climate change by reducing greenhouse gas emissions and/or advancing nature-based solutions.

Adaptive capacity is the ability of a human or natural system to adjust to climate change (including climate variability and extremes) by moderating potential damages, taking advantage of opportunities, or coping with the consequences.

Climate resilience can be generally defined as the capacity of a system to maintain function in the face of stresses imposed by climate change and to adapt the system to be better prepared for future climate impacts.

Objective 1.1: Reduce Emissions that Cause Climate Change

Aggressively reduce the emissions of greenhouse gases from all sectors while increasing energy and resource efficiency and the use of renewable energy.

Introduction

Greenhouse gases from human activities are the most significant driver of observed climate change since the mid-20th century.⁴ As GHG emissions from human activities increase, they build up in the atmosphere and warm the climate, leading to increasingly destructive changes around the world—in the atmosphere, on land, and in the oceans. Steep and swift reductions in GHG emissions are essential to avoid the most catastrophic consequences of climate change.

With its regulatory authority, technical and programmatic expertise, and mission to protect human health and the environment, EPA can drive significant emissions reductions to mitigate climate change. EPA will cut emissions by exercising its authorities to regulate GHG pollutants, including carbon dioxide (CO₂), methane, and hydrofluorocarbons (HFCs), across key sectors. As a complement, EPA will accelerate private and public sector mitigation with partnership programs that address market barriers, encourage leadership, and support Tribal, state, and local governments' efforts to drive down emissions. Tackling the climate crisis will require deep gains in energy efficiency and deep decarbonization of buildings, transportation, and the power and industrial sectors. EPA will collaborate closely with stakeholders to drive energy efficiency, grid decarbonization, and zero emissions mobility.

EPA will publish GHG emissions data and apply tools such as the social cost of greenhouse gases (SC-GHGs), multipollutant analysis, reviews of environmental impact statements, permitting, and technical assistance. EPA also will increase recycling and decrease the use of resources. Together, these approaches will produce measurable reductions in GHG emissions.

Deep emission reductions will require significant transitions in technologies and energy systems that must be informed by community-level engagement, input, and analysis. Climate change is a crisis for the United States and the world, and EPA must respond accordingly and make the transition to a less carbon-intensive existence. EPA will take all measures within its authorities to speed this transition and will do so in a just, equitable, and inclusive manner.

Long-Term Performance Goals

- By September 30, 2026, promulgate final rules to reduce GHG emissions from light duty, medium-duty, and heavy-duty vehicles; electric utility generating units; and the oil and gas industry.
- By September 30, 2026, EPA's climate partnership programs will reduce expected annual greenhouse gas emissions by 533 million metric tons of carbon dioxide equivalent (MMTCO₂e).

⁴ IPCC (Intergovernmental Panel on Climate Change). 2013. Climate change 2013: The physical science basis. Working Group I contribution to the IPCC Fifth Assessment Report. Cambridge, United Kingdom: Cambridge University Press. www.ipcc.ch/report/ar5/wg1.

FY 2022-2023 Agency Priority Goal (APG)

- **Phase down the production and consumption of Hydrofluorocarbons (HFCs).** By September 30, 2023, annual U.S. consumption of hydrofluorocarbons (HFCs) will be 10% below the baseline,⁵ consistent with the HFC phasedown schedule implemented under the American Innovation and Manufacturing (AIM) Act. The current U.S. consumption limit for 2023 is less than 273.5 million metric tons of carbon dioxide equivalent (MMTCO₂e).

Strategies

As part of the Administration’s comprehensive approach to tackling the climate crisis, EPA will act boldly to drive down GHG emissions and reduce future climate change impacts. EPA will ensure a robust process of engagement with communities that have historically experienced disproportionate exposure to pollution to ensure policy solutions begin to repair this harmful legacy.

Regulatory Approaches: EPA regulations will reduce the emissions of GHGs from mobile and stationary sources. Under the American Innovation and Manufacturing (AIM) Act of 2020,⁶ EPA will phase down the production and import of hydrofluorocarbons (HFCs), which are highly potent GHGs commonly used in refrigerators, air conditioners, and many other applications. The AIM Act directs EPA to sharply reduce production and consumption of these harmful GHG pollutants by using an allowance allocation and trading program. EPA’s implementation of the AIM Act will decrease the production and import of HFCs in the United States by 85 percent over the next 15 years. A global HFC phasedown is expected to avoid up to 0.5°C of global warming by 2100. EPA will also consider complementary regulations consistent with the AIM Act to require sector-based transitions away from high-Global Warming Potential (GWP) HFCs and establish additional HFC management requirements to further reduce use and emissions of HFCs.

The transportation sector is the largest source of GHG emissions in the United States. EPA will reduce GHGs from the two largest sources of GHG emissions in the transportation sector: light-duty and heavy-duty vehicles. EPA will set robust federal GHG emissions standards for passenger cars and light trucks to secure pollution reductions through Model Year (MY) 2026. EPA also will set standards for MY 2027 and beyond to speed the transition of the light-duty vehicle fleet toward a zero emissions future and will update air pollution standards for heavy-duty vehicles. The regulations will set the U.S. on a course to achieve aggressive reductions in GHG and other harmful pollutant emissions from highway transportation. EPA will drive GHG reductions while protecting fair competition in the marketplace by

⁵ EPA’s final rule, “[Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the AIM Act](#)” establishes the HFC production and consumption baselines from which the phasedown steps are measured. Using the equation provided in the AIM Act, and based on the data available to the Agency through the Greenhouse Gas Reporting Program (GHGRP) and outreach conducted for this rulemaking, EPA determines that the production baseline is 382.6 Million Metric Tons of Exchange Value Equivalent (MMTEVe) and the consumption baseline is 303.9 MMTEVe. EPA has determined that the exchange values included in subsection (c) of the AIM Act are identical to the GWPs included in IPCC (2007). EPA uses the terms “global warming potential” and “exchange value” interchangeably. One MMTEVe is therefore equivalent to one MMTCO₂e.

⁶ For more information about the American Innovation and Manufacturing Act, please visit: <https://www.epa.gov/climate-hfcs-reduction/aim-act#:~:text=The%20AIM%20Act%20directs%20EPA,transition%20to%20next%2Dgeneration%20technologies.>

testing motor vehicles, heavy-duty engines, nonroad engines, and fuels that enter the U.S. market to certify they comply with federal clean air, GHG, and fuel economy standards. This will pave the way for faster adoption of zero-emission technologies and substantial improvements in air quality, particularly in communities living near heavily traveled corridors.

Electricity production generates the second largest share of greenhouse gas emissions. Approximately 62 percent of U.S. electricity comes from burning fossil fuels, mostly coal and natural gas.⁷ Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*⁸ directs EPA to revise and address, as appropriate, the regulation of greenhouse gases from power plants under Section 111 of the Clean Air Act. Section 111(d) specifically provides states with a central role in developing plans to implement and enforce limits on pollution from existing sources, subject to emission guidelines issued by EPA. EPA will issue rules to reduce greenhouse gas pollution from fossil-fuel fired power plants and work closely with Tribes, states, and local agencies to implement them.

As part of the Administration's comprehensive approach to tackling the climate crisis, EPA will issue rules to reduce methane from oil and gas facilities. The oil and natural gas industry is the largest industrial source of U.S. emissions of methane, a potent greenhouse gas, and its facilities and operations also emit smog-forming volatile organic compounds and toxic air pollutants such as benzene. EPA will issue rules to reduce methane and other harmful pollutants from new and existing sources in the oil and natural gas industry. These actions meet the requirements of President Biden's Executive Order 13990 and are key steps toward EPA's commitment to deliver public health protections from methane pollution for communities across America.

Congress created the Renewable Fuel Standard (RFS) program to reduce GHG emissions and expand the nation's renewable fuels sector while reducing reliance on imported oil. The RFS program requires a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil, or jet fuel. EPA will continue to implement the RFS program, including the attendant credit trading systems. Separately, EPA will also continue work with partners on programs to control emissions from marine and aircraft engines.

EPA will facilitate net emission and air quality analyses of increased electric vehicle (EV) use.

Science and Disclosure: EPA will improve models of climate change impacts, including how risks and economic impacts can be reduced under mitigation and adaptation scenarios. The Agency will advance the scientific literature on climate impacts through the Climate Impacts and Risk Analysis (CIRA) project, quantifying and monetizing the risk of climate change on socially vulnerable populations and by making EPA's Climate Change Indicators website, which compiles key indicators related to the causes and effects of climate change, more accessible. EPA will also continue its role as a key contributor along with technical experts across the Federal Government to update estimates of the

⁷ Electricity Explained – Electricity in the United States: <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php>.

⁸ Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (January 20, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/>.

social cost of greenhouse gases to reflect the best available climate science and economics. This metric—a range of estimates, in dollars, of the long-term damage imposed by one ton of greenhouse gas emissions—combines climate science and economics to help policy makers and the public understand the benefits of reducing greenhouse gas emissions and account for those benefits in decision-making.

Under the National Environmental Policy Act (NEPA) and Clean Air Act Section 309, EPA will promote robust consideration of climate change mitigation, adaptation, and resilience in the reviews of proposed actions, such as federal land management actions, transportation projects, and publicly owned facility construction, as applicable. EPA fulfills its NEPA and Section 309 responsibilities, in part, by annually reviewing approximately 280 Environmental Impact Statements developed by other federal agencies. EPA will review the adequacy and acceptability of environmental impacts, including those related to climate change, and will identify and recommend appropriate measures to avoid and mitigate significant environmental impacts associated with each proposal.

EPA will continue to implement the U.S. Greenhouse Gas Reporting Program. Under this Clean Air Act regulatory program, EPA annually collects data from over 8,100 facilities from 41 large industrial source categories in the U.S. to support federal and state-level policy development; support regulatory development; and to share GHG emissions and supply data with stakeholders, including industry, state and local governments, academia, the research community, and the public in general.

EPA will continue compiling and publishing the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*⁹ to fulfill U.S. treaty obligations, under Article 4 of the 1992 Framework Convention on Climate Change. The *Inventory* provides information on total annual U.S. emissions and removals by source, economic sector, and GHG. The *Inventory* is used to inform U.S. policy and for tracking progress towards the U.S. Nationally Determined Contribution under the Paris Agreement. EPA will continue to improve and refine inventory methodologies in areas such as oil and gas, land-use, and waste, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines, and to meet upcoming Paris reporting requirements.

Market Drivers and Incentives: EPA's partnership programs will help the transition to a clean energy economy. These programs overcome market barriers, support state and local partners in the public and private sectors, and channel marketplace ingenuity towards climate action. Climate partnership programs will improve delivery of energy efficiency, transportation efficiency, clean energy, and heat mitigation solutions to communities. For example, EPA's domestic methane partnership programs will focus on advancing methane reductions from agriculture, coal mines, landfills, oil and gas systems, and municipal wastewater. ENERGY STAR will achieve significant and growing GHG reductions by promoting the adoption of cost-effective, energy-efficient technologies and practices and by working with state and local governments to improve efficiency in the residential, commercial, and industrial sectors. ENERGY STAR also supports equitable energy solutions that can deliver significant cost savings for low-income families and other underserved populations, prioritizing

⁹ Inventory of U.S. Greenhouse Gas Emissions and Sinks: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>.

outreach to low-income populations on products that have the greatest potential to save energy and dollars. EPA will continue to provide tools, data, and technical expertise to help subnational governments implement clean energy policies and programs that reduce emissions, maximize co-benefits, and prioritize overburdened and underserved communities.

EPA will also continue to drive down emissions of black carbon. This component of particulate matter contributes the most to global warming when deposited on snow or ice, so it is important to prioritize emission sources that impact the Arctic. Domestically, our regulatory and voluntary programs will continue to reduce emissions from residential wood-burning appliances and diesel vehicles. New GHG regulations on light-duty and heavy-duty vehicles, described above, will further lower emissions of particles and black carbon. Also, implementation of the PM_{2.5} National Ambient Air Quality Standards will result in particulate matter and black carbon emission reductions in many areas designated as not attaining standards. Relative to 2013, EPA programs will lead to a 50% reduction in black carbon emissions by 2028. Globally, emissions from household energy/cookstoves are the largest controllable source of black carbon (>50%). Cookstove emissions also include methane and CO₂. More than 3 billion low-income people around the world, including 600,000 low-income Americans, cook their food and/or heat their homes with open fires or with rudimentary stoves. EPA will work with domestic and international partners to reduce these exposures and address these inequities—for example, by supporting cookstove design and performance standards and providing technical assistance to foster adoption of improved fuels and stoves. Domestically and globally, these regulations and programs will deliver both public health benefits by reduced exposure to particulate matter and climate change mitigation benefits.

EPA will reduce GHG emissions by promoting a circular economy, which minimizes extraction of finite resources, reduces waste and pollution, keeps products and materials in use, and regenerates natural systems. Extraction and processing of natural resources, including fossil fuels, biomass, minerals, and metals, comprise approximately 50 percent of global GHG emissions.¹⁰ For example, more than one-third of all available food in the United States goes uneaten, ends up in landfills, and produces methane. Investing in domestic recycling, as well as solid waste and food waste infrastructure, that supports a circular economy will help resources maintain their highest and best use and reduce GHG emissions. Through its National Recycling Strategy,¹¹ EPA is working to develop a stronger, more resilient, and cost-effective U.S. municipal solid waste recycling system, a key component of a circular economy. By moving towards a system that designs out waste while being restorative to the environment, the United States will be positioned to find more productive and sustainable ways to extract, use, and manage materials and generate measurable GHG reductions. For more information about EPA efforts to reduce the environmental impacts of materials across their lifecycle, see Objective 6.2.

¹⁰ International Resource Panel's *Global Resources Outlook 2019*: <https://www.resourcepanel.org/reports/global-resources-outlook>.

¹¹ The National Recycling Strategy is currently in draft and expected to be finalized during FY 2021. For more information, please visit: <https://www.epa.gov/amicarecycles/national-recycling-strategy-and-framework-advancing-us-recycling-system>.

External Factors and Emerging Issues

Future GHG emissions levels and resulting impacts depend on many economic, political, and demographic factors as well as other emerging issues, some of which are described below.

- **Transformation to Advanced Technology:** There is an unprecedented transformation taking place in many highly-emitting GHG sectors, including more widespread adoption of electrified vehicles and other advanced technologies. To prepare for this change, EPA is investing in technologies to support anticipated future test requirements for light-duty and heavy-duty electric vehicles and is preparing for testing of hydrogen fuel cell technologies.
- **Multi-Environmental Media Analytics:** The interaction of rising temperatures due to climate change, more heat waves, and the heat island effect will be increasingly harmful to people's health and the air and water quality in communities. A rapid transition to low-carbon energy and transportation systems and the deployment of heat mitigation strategies will have cross-media impacts, and EPA will need to advance analytical efforts to better identify and evaluate these effects.
- **Leveraging EPA Emission Expertise Internationally:** High-level diplomatic efforts to increase climate mitigation may result in additional requests for EPA expertise related to quantifying current and projected future emissions, assessing mitigation options in other countries, and implementing programs and regulations. EPA is uniquely positioned to contribute to this effort given both its sectoral expertise and emission quantification and modeling tools.

Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts

Deliver targeted assistance to increase the resilience of Tribes, states, territories, and communities to the impacts of climate change.

Introduction

EPA is committed to taking necessary actions to anticipate, prepare for, adapt to, and recover from the impacts of climate change while advancing the climate resilience of Tribes, states, territories, and communities across the nation.

Climate change poses significant risks to EPA's ability to fulfill its mission and affects how it designs and implements its programs. EPA will ensure its programs, policies, rulemaking processes, enforcement and compliance assurance activities, and operations consider the current and future impacts of climate change and how those impacts will disproportionately affect overburdened and underserved communities. Through adaptation planning and implementation activities, EPA will continue to protect human health and the environment even as the climate changes.

EPA will provide targeted assistance to Tribes and Indigenous peoples, states, territories, local governments, communities, and businesses to transform their environmental programs, strengthen their adaptive capacity, and increase the resilience of the nation, with a particular focus on advancing environmental justice. This includes preparing for and responding to climate-related impacts and disasters (e.g., wildfires, extreme heat, droughts, floods, sea level rise and storm surge, and melting permafrost) and ensuring that infrastructure investments increase resilience to climate change.

EPA's commitments are part of a whole-of-government approach to pursue actions at home and abroad to avoid the most catastrophic impacts of climate change.

Long-Term Performance Goals

- By September 30, 2026, implement all priority actions in EPA's Climate Adaptation Action Plan and the 19 National Program and Regional Climate Adaptation Implementation Plans to account for the impacts of the changing climate on human health and the environment.
- By September 30, 2026, assist XX federally recognized Tribes to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.
- By September 30, 2026, provide assistance to XX states, territories, local governments, and communities with environmental justice concerns to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.

Strategies

In 2021, EPA issued a Policy Statement signed by Administrator Regan and a Climate Adaptation Action Plan, which advance Executive Order (E.O.) 14008: *Tackling the Climate Crisis at Home and Abroad*. EPA's Climate Adaptation Action Plan accelerates and focuses attention on five priority actions the Agency will take over the next four years to increase human and ecosystem resilience as the climate changes and disruptive impacts increase:

1. Integrate climate adaptation into EPA programs, policies, rulemaking processes, and enforcement activities.
2. Consult and partner with Tribes, states, territories, local governments, environmental justice organizations, community groups, businesses, and other federal agencies to strengthen adaptive capacity and increase the resilience of the nation, with a particular focus on advancing environmental justice.
3. Implement measures to protect the Agency's workforce, facilities, critical infrastructure, supply chains, and procurement processes from the risks posed by climate change.
4. Measure and evaluate performance.
5. Identify and address climate adaptation science needs.

EPA will closely coordinate with other federal agencies on climate change adaptation challenges that cut across Agency jurisdictions to improve the efficiency and effectiveness of the combined federal effort.

Integrating Climate Adaptation into EPA Programs, Policies, and Operations: EPA will implement 19 Climate Adaptation Implementation Plans developed by EPA programs and regions to align with and advance the five priorities in the 2021 EPA Adaptation Action Plan. Program and regional plans will build on progress to date and identify actions that integrate climate adaptation into remedies, permits, infrastructure investments, enforcement and compliance assistance, grants, loans, technical assistance, and operations. In addition, programs and regions will identify climate adaptation strategies, informed by the best available science, that deliver co-benefits for mitigation of GHG and other pollution, public health, economic growth and job creation, national security, and environmental justice—all of which will be central to building a more resilient future.

Increasing Resilience of Tribes, States, and Communities: EPA will ensure its grants, loans, and technical assistance consider climate change to the greatest extent possible and help to empower communities across the nation and Tribes to anticipate, prepare for, adapt to, and recover from the impacts of climate change. Of particular concern is that the impacts of climate change across the U.S. and the world will not be distributed equally. Certain communities and individuals are particularly vulnerable to the impacts of climate change, including low-income communities, children, the elderly, communities of color, Tribal communities, and Indigenous people. EPA will actively engage with organizations representing overburdened and underserved communities, such as the National Environmental Justice Advisory Council and the Local Government Advisory Committee, with the goal of attaining a more equitable, just, and climate-resilient future.

EPA will work with Tribes and Indigenous communities, states, territories, local governments, environmental justice organizations, community groups, businesses, other federal agencies, and other partners to leverage existing efforts and provide targeted support to build adaptive capacity and resilience. For example, EPA will work with the Federal Emergency Management Agency (FEMA) to assist and support communities with disaster mitigation and recovery planning. In addition, EPA will collaborate with, support, and learn from international partners on climate adaptation and capacity building.

Climate Adaptation Literacy and Science: EPA will increase the climate literacy of EPA employees and Tribal, state, local, and community partners. EPA will equip staff and partners with an understanding of projected climate-related impacts and how to use climate adaptation tools to incorporate climate adaptation into decision making. EPA will develop, update, and expand its existing climate adaptation training modules to prioritize two primary goals: (1) to increase awareness about the importance of climate adaptation and encourage all EPA staff and partners to consider the changing climate in the normal course of business; and (2) to introduce specific methods and tools for integrating climate adaptation into decision-making processes.

EPA will support an Agencywide approach to identify and update priority climate adaptation research needs. EPA will advance a rigorous exploratory and applied climate adaptation science program by conducting climate-related research in its labs and centers, supporting research through its grants program, conducting policy-relevant assessments, communicating research and assessment results, and delivering innovative and sustainable solutions. EPA will coordinate and collaborate with other agencies and the scientific community to provide access to the best available science, technologies, and practices.

EPA will establish a central repository of information and tools related to climate adaptation to facilitate the ongoing sharing of information. EPA programs and regions will contribute to the repository by documenting adaptation integration methods that may also be applicable to others within the Agency or its partners. EPA will collaborate with other federal agencies to develop and maintain a means to ensure access to climate adaptation data by all staff and partners.

External Factors and Emerging Issues

Communities across the country are already feeling the impacts of climate change. More frequent and intense extreme weather and climate-related events, as well as changes in average climate conditions, are expected to continue to damage infrastructure, ecosystems, and social systems that provide essential benefits to communities and the nation. The increasing frequency of climate-related disruptions may stress already limited federal, Tribal and state resources to support planning and preparedness to minimize long-term impacts.

The transformation required to integrate climate adaptation planning and preparedness into EPA's programs and operations also must be undertaken by EPA's Tribal, state, and local government partners. To anticipate, prepare for, adapt to, and recover from the impacts of climate change will require all levels of government to transform together.

There is an increasing need to measure community climate risk and resiliency so limited resources can be targeted most effectively; for example, to environmental justice communities at greatest risk. Data related to local impacts and effective actions to reduce risk are not consistent or widely available. This may limit the Agency's ability to identify and invest in the most vulnerable communities using the highest impact actions.

Objective 1.3: Advance International and Subnational Climate Efforts

Collaborate with Tribal, state, local, and international partners and provide leadership on the global stage to address climate change.

Introduction

Climate change is a global issue that has far-reaching human health, social, economic, and biodiversity impacts on the planet, with direct adverse effects in the United States. EPA is prioritizing efforts to help countries respond to the climate crisis by reducing domestic GHG emissions as well as increasing equitable adaptation and resiliency to climate change impacts. Building on EPA's responsibilities for protecting human health and the environment, EPA plays a critical role internationally by providing technical expertise, guidance, and capacity building to help countries set and meet ambitious GHG reductions, improve adaptive capacity, and strengthen climate governance.

E.O. 14008 directs federal agencies to develop plans for integrating climate considerations into their international work, as appropriate and consistent with applicable law. In response, EPA developed an International Climate Strategy Plan to advance climate assistance internationally at the Tribal/Indigenous, national, city, and local levels and provide leadership on the global stage to address climate change.

EPA support will increase partner countries' abilities to integrate climate change mitigation and adaptation actions and information into their relevant domestic policy and engagement decisions. This is consistent with the Agency's domestic climate work and its mission to protect human health and the environment, including from transboundary pollution sources.

Long-Term Performance Goal

- By September 30, 2026, undertake at least 40 international climate engagements that result in an individual partner commitment or action to reduce greenhouse gas (GHG) emissions, adapt to climate change, or improve resilience in a manner that promotes equity.

Strategies

EPA's International Climate Strategy Plan outlines activities where EPA can contribute to help address the global climate crisis. These activities include a focus on overburdened and underserved communities that are most susceptible to impacts from climate change and may be disproportionately affected by climate change mitigation and adaptation actions. To achieve the goals of E.O. 14008, EPA will promote tools and initiate capacity building and technical assistance programs in countries where EPA expects to have the greatest potential to impact the following issues:

- Reducing potent climate forcers: black carbon, methane, ozone, and hydrofluorocarbons (HFCs).
- Improving household and commercial energy efficiency.
- Reducing GHG emissions from the transport sector.
- Improving integrated air quality management.
- Supporting fulfillment of commitments under the Paris Agreement and other international climate related agreements.

- Strengthening climate governance through a suite of model laws, regulations, partnerships, and strategies that build country capacity to strengthen, implement, and enforce domestic policies.
- Boosting national and local adaptation and resilience strategies to the impacts of climate change in an equitable and just manner.
- Supporting resource efficiency actions to reduce GHG emissions from overlooked sources.

Reducing Potent Climate Forcers with Near-Term Benefits: EPA will partner with other countries to establish a global methane emissions reduction goal and will provide technical assistance to build capacity for countries to meet that goal. EPA will also partner with the European Union and INTERPOL to reduce illegal trading of hydrofluorocarbons (HFCs) through improved international tracking and capacity-building activities. EPA will help countries reduce global black carbon emissions from solid fuel combustion to meet household energy needs (e.g., cooking, heating) by partnering with international organizations such as the United Nations Environment Program (UNEP), Climate and Clean Air Coalition (CCAC), and the Clean Cooking Alliance (CCA), to enable transitions to clean energy sources through research and capacity-building programs.

Improving Household and Commercial Energy Efficiency: To address the rapidly expanding use of air conditioning and refrigeration globally, EPA will collaborate with international organizations such as UNEP to provide technical assistance to draft energy efficient cooling standards and permitting requirements for air conditioning and refrigeration. EPA will collaborate with international organizations, including the International Organization for Standards (ISO), to provide countries with information and technical assistance on efficiency and emissions standards to improve the energy efficiency of residential and commercial appliances. EPA will share tools and information on various solid waste management practices and their associated GHG reductions to help incentivize commercial industries to reduce GHG emissions.

Reducing GHG Emissions from the Transportation Sector: EPA will collaborate with international organizations such as UNEP to equip countries with information, knowledge, and tools needed as they transition to zero emissions transportation and improve efficiency of their vehicle fleets. EPA will collaborate with international organizations, such as the International Maritime Organization (IMO), to provide tools and technical assistance for priority countries, including helping them reach the IMO's goal of zero emissions from international shipping by 2050. EPA will also continue working with the International Civil Aviation Authority (ICAO) on programs to control emissions from aircraft.

Improving Integrated Air Quality Management, including Consideration of Clean Air and Climate Co-Benefits and GHG Modeling, Monitoring, and Reporting: EPA will provide tools to countries to improve GHG modeling, monitoring, and reporting. EPA will partner with UN bodies such as the Food and Agricultural Organization (FAO) and the UN Framework Convention on Climate Change (UNFCCC) to improve data and methods for specific source inventories and improve countries' national GHG inventory software. This assistance is in support of national requirements for reporting and review of GHG emissions inventories under the Paris Agreement.

Strengthening Climate Governance and Equity at All Levels of Government: EPA will provide climate and equity governance capacity building and technical assistance to help countries develop, implement, and enforce laws, regulations, partnerships, and policies to reduce GHG emissions, enforce

climate regulations, and adapt to climate impacts in pursuit of the goals of the Paris Agreement in a manner that engages and protects vulnerable and underserved communities. This work will also improve adaptive capacity and mitigation strategies of countries at all levels of government, including subnational governments and vulnerable and underserved communities. EPA will also provide technical assistance to countries to help address the social impacts of GHG emissions.

Boosting Strategies for National and Local Adaptation and Resilience: EPA will engage internationally to assist countries with planning, monitoring, and managing climate change adaptation and resilience strategies, factoring in equity for vulnerable and underserved communities. This includes sharing information and technical assistance on adaptation and resilience strategies for protecting vulnerable coastal ecosystems, building resilient water infrastructure, managing flood and fire risk, and mitigating public health impacts of natural disasters and other extreme weather events.

Supporting Resource Efficiency Actions to Reduce GHG Emissions from Overlooked Sources: EPA will collaborate with international organizations to provide technical assistance to help countries assess environmental, economic, and social impacts of the production and consumption of goods and services, including food loss and waste. This assistance will use models to incorporate GHG emission factors in the evaluation of options for inputs and outputs to the supply chain and to increase the resilience of their economic and natural resource systems. EPA will collaborate with multilateral partners to provide tools and information for countries and the private sector in mineral supply-chain transparency for critical minerals and rare-earth metals to incentivize climate-friendly decisions that shape more sustainable industrial processes.

External Factors and Emerging Issues

EPA cannot control how countries will use the Agency's climate change tools and information, capacity-building trainings and guidance, and technical assistance to develop and implement climate governance regulations and policy to reduce GHG emissions. Ongoing COVID-19 travel restrictions could limit in-country activities around the world.

EPA will target all engagement and technical assistance toward countries where EPA expects to have the greatest potential impact and where EPA can leverage the work of other departments or agencies, as appropriate. These expectations are predicated on the experience of past successes with bilateral engagements and with existing multilateral agreements or partnerships, or with countries otherwise identified by the White House's Special Presidential Envoy for Climate.

Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights¹²

Achieve tangible progress for historically overburdened and underserved communities and ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in developing and implementing environmental laws, regulations, and policies.

Introduction

EPA will center its mission on the integration of justice, equity, and civil rights across the nation's environmental protection enterprise. By doing so, EPA will advance the promise of clean air, clean water, and safe land to the many communities across the country that have not received the full benefits from EPA's decades of progress. Centering its work on justice is especially important in an era when EPA must simultaneously break the cycle of historic environmental injustices while maximizing protection for these same communities as they are too often are hit worst and first from the impacts of a changing climate.

EPA's ultimate goal of centering its mission on these priorities is to achieve measurable environmental, public health, and quality of life improvements in the most overburdened, vulnerable, and underserved communities. Achieving this goal will require significant transformations in how EPA understands and implements its work, including how EPA prioritizes program resources, allocates funding, implements statutory authorities, and engages the communities most affected by environmental and public health threats, especially as the climate changes. Critical to achieving this goal is for EPA to proactively engage with Tribes, states, and local governments to discuss and address disproportionate impacts through their implementation of EPA authorities and engage in meaningful joint planning with communities to advance community visions and priorities.

The vigorous enforcement of civil rights is also key to addressing historical and systemic barriers. These efforts lead to more responsible and equitable siting and permitting decisions by recipients of EPA funding; reductions in racial and ethnic disparities in levels of air pollutants and exposure to toxins; reductions in racial and ethnic disparities in access to clean and reliable water infrastructure that are free of lead and other toxins; reductions in racial and ethnic disparities among communities enduring mismanaged solid waste programs and processes; increased access to other environmental resources such as green spaces; better health outcomes in impacted communities; and increased public participation in critical decision making.

EPA will work to increase the capacity of communities and Tribes working to address environmental justice and civil right concerns; embed environmental justice and civil rights in the Agency's core work; and strengthen civil right enforcement in communities overburdened by pollution.

¹² Civil Rights in this context refers to EPA's responsibility to enforce several civil rights laws which, together, prohibit discrimination on the basis of: race, color, or national origin (including on the basis of limited-English proficiency); sex; disability; age; and retaliation by applicants for and recipients of federal financial assistance from EPA. (Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, respectively.) EPA is also responsible for enforcing Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination based on sex under programs or activities receiving financial assistance under the Clean Water Act.

This goal consists of three objectives for furthering equity, justice, and civil rights across EPA's policies, programs, and activities. The first focuses on EPA's ability to advance this priority outside of EPA — through the support the Agency provides directly to communities, EPA's direct implementation of Federal environmental programs, and the implementation of these programs by co-regulators. The second objective focuses on advancing equity, justice, and civil rights through EPA's internal program activities such as reviewing state permitting actions, responding to emergencies, and cleaning up contamination. EPA recognizes that while the environmental justice and external civil rights programs and their authorities are distinct, they share a deep connection and ability to reinforce and leverage one another to make significant progress in addressing disproportionate adverse impacts burdening communities. For example, civil rights laws, taken together with EPA's environmental justice efforts, can effectively target disparities in exposure to pollution on the basis of race, color, national origin, and other characteristics such as disability. The final objective focuses on EPA's commitment to strengthen the External Civil Rights Office and its ability to enforce federal civil rights laws to their fullest extent, including by fully implementing its authority to conduct affirmative investigations in overburdened communities, issue policy guidance, and secure timely and effective resolutions to address discrimination.

Furthermore, this goal sets targets that align closely with Administration priorities set forth in Executive Orders (E.O.s) 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* and 14008: *Tackling the Climate Crisis at Home and Abroad*. Both Executive Orders require that EPA develop implementation plans to ensure that underserved communities and individuals have full, fair, and equitable access to the benefits of the Agency's programs. The actions in these upcoming plans will be developed to help achieve those objectives.

Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels

Empower and build capacity of underserved and overburdened communities to protect human health and the environment.

Introduction

EPA has the potential to make transformative progress on environmental justice and civil rights at the Tribal, state, and local levels, through a whole-of-government approach that involves communities as authentic partners. This is evidenced by increasing commitments, innovations, and capacities at the state level. In addition, communities are increasingly well organized and equipped to develop their own visions of well-being and resilience, advocate for change, and influence public policy.

Fulfilling the promise of these opportunities requires pursuing three strategies:

- Building capacity and climate resilience and maximizing benefits to overburdened and underserved communities.
- Engaging and supporting federal, state, and local governments to achieve results in communities.
- Integrating environmental justice principles into the implementation of federal environmental programs in Indian country and in other areas of interest to Tribes, in partnership with federally recognized Tribes.

Long-Term Performance Goals

- By September 30, 2026, all EPA programs that seek feedback and comment from the public will provide capacity-building resources to communities with environmental justice concerns to support their ability to meaningfully engage and provide useful feedback to those programs.¹³
- By September 30, 2026, EPA will include commitments to address disproportionate impacts in all written agreements between EPA and states and Tribes (e.g., grant work plans) implementing delegated authorities.
- By September 30, 2026, EPA programs with direct implementation authority will take at least X significant actions that will result in measurable improvements in Indian country.
- By September 30, 2026, all state recipients of EPA financial assistance will have foundational civil rights programs in place.

Strategies

Building Community Capacity and Climate Resilience and Maximizing Benefits to Overburdened and Underserved Communities: EPA will increase support for community-led action by providing unprecedented investments and benefits directly to communities with environmental justice concerns and by integrating equity throughout Agency programs. EO 14008's Justice40 mandate elevates this approach to a national initiative to deliver at least 40 percent of the overall benefits from certain federal investments to underserved communities. Over the next four years, EPA will strive to not only

¹³ First year activities of this LTPG will focus on definition and scope of program participation and what qualifies as capacity-building resources.

meet this goal but exceed it. EPA must likewise ensure that relevant programs are actively supporting community efforts to engage and influence program implementation and maximize the benefits from the investment of resources to achieve meaningful change on the ground for the most impacted communities. Supporting communities as they adapt to and recover from climate change is also central to this commitment.

E.O. 13985 mandates a comprehensive effort to advance equity throughout all of EPA's policies, programs, and activities. A fundamental element of achieving such equity and justice is ensuring communities have the capacity they need to meaningfully engage government programs and have their voices effectively heard and responded to. Critical to EPA's success in this area is supporting the efforts of community members and organizations to provide EPA with their expertise and viewpoints. To meet this responsibility, EPA commits to establishing the necessary policies, tools, and other mechanisms to provide support to communities. In addition, the Agency must take concrete action to further include the voices, experiences, and passions of the full diversity of the nation in EPA's workforce.

Engaging and Supporting Federal, State, and Local Governments to Achieve Results in Communities:

Virtually all national programs interact with other federal agencies, state, and local governments in multiple ways, including funding and oversight of delegated programs. EPA national and regional offices will work proactively to integrate environmental justice and civil rights into policies and activities as a fundamental element of the Agency's relationships with federal, state, and local partners to jointly affect beneficial changes on the ground for communities. EPA will invest in oversight, guidance, and assistance for states and local governments to advance environmental justice integration in coordination with enhanced civil rights enforcement.

EPA will also initiate a new era of proactive support and engagement with its federal partners. Through its regulatory responsibility under the National Environmental Policy Act (NEPA)¹⁴ and section 309 of the Clean Air Act, EPA will promote robust consideration and mitigation of environmental impacts on overburdened communities with environmental justice concerns in the review of other federal agencies' environmental impact statements for proposed actions such as federal land management activities, transportation related projects, and publicly owned facility construction, as applicable.

Integrating Environmental Justice Principles into the Implementation of Federal Environmental Programs in Indian Country and in Other Areas of Interest to Tribes, in Partnership with Federally Recognized Tribes:

Equity principles and equal protection require that implementation of federal environmental law protections be as robust inside Indian country as EPA requires these protections to be outside of Indian country. At this time, EPA directly implements the vast majority of federal environmental programs in Indian country where EPA seeks to apply key environmental justice principles, such as equity, meaningful involvement, and fair treatment. Ensuring EPA direct implementation of federal environmental programs in Indian country is in keeping with the federal trust responsibility and incorporating environmental justice principles when the Agency directly implements federal environmental programs will advance environmental justice for federally recognized Tribes.

¹⁴ National Environmental Policy Act: <https://www.epa.gov/nepa>.

EPA will continue its long commitment to assisting Tribes in building the capacity to receive delegated programs. In those instances when Tribal governments are authorized to implement federal programs, EPA supports Tribal governments' inclusion of environmental justice principles, community engagement, and decision-making processes. Integration of environmental justice principles into all EPA activities with Tribal governments and in Indian country is designed to be flexible enough to accommodate EPA's Tribal program activities and goals, while at the same time meeting the Agency's environmental justice goals.

External Factors and Emerging Issues

EPA's ability to effectively guide and oversee the integration of environmental justice and civil rights will be challenging due to the structure of the nation's environmental regulatory system, which places the bulk of implementation responsibilities on partner agencies, such as in environmental permitting, contamination clean-up, prioritization of infrastructure investments, facility siting, and transportation.

Additionally, while there remains a list of legacy environmental justice issues — such as toxic chemical exposure, hazardous facilities siting, and lack of safe drinking water — communities face a rapidly growing set of impacts from climate change. The majority of Superfund sites are near environmental justice communities, for example, and 65 of them are subject to flooding from natural disasters. This will further compound problems for low-income communities of color that have limited resources to anticipate, respond to, and recover from climate related changes and disasters. EPA will work with community partners and Tribal, state, and local governments to provide support for climate adaptation, prioritizing areas with environmental justice concerns.

Objective 2.2: Embed Environmental Justice and Civil Rights into EPA’s Programs, Policies, and Activities

Integrate environmental justice and civil rights in all of the Agency’s work to maximize benefits and minimize impacts to underserved and overburdened communities.

Introduction

Commitments to achieving change on the ground and accountability for such change will be the ultimate measure of the Agency’s success at advancing justice, civil rights, and equity, including the implementation of E.O.s 13985 and 14008. These efforts include incorporating feedback from impacted communities while analyzing and addressing disproportionate impacts. EPA must not only better support community efforts to engage with the Agency but also advance the Agency’s ability to engage in community-driven work through the regions and across all EPA programs. EPA must ensure the Agency is following and implementing the Civil Rights Act just as equally as environmental statutes. Advancing civil rights compliance through all EPA programs is distinct from Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns. Agency strategies to achieve this include the following elements:

- Making commitments on measurable environmental and public health improvements in overburdened and underserved communities.
- Ensuring that EPA decision making incorporates meaningful community involvement and analyzes for disproportionate impacts.
- Building EPA capacity to support community-driven approaches to building healthy, sustainable, and climate-resilient communities.
- Ensuring consideration of civil rights by EPA programs.

Long-Term Performance Goals

- By September 30, 2026, publicly identify and begin to implement at least ten commitments towards improving environmental and public health conditions on the ground for communities with environmental justice concerns.¹⁵
- By September 30, 2026, XX% of all significant EPA actions with environmental justice implications will clearly demonstrate how the action is responsive to environmental justice concerns and addresses disproportionate impacts.¹⁶

¹⁵ The commitments will include delineation of the responsibilities of EPA programs and regions related to each commitment, establishment of a transparent annual reporting mechanism, and have resolved any policy, programmatic, or data needs in order to annually measure EPA’s progress towards their achievement. Commitments will span EPA authorities including access to drinking water, clean surface waters, reduction in pollutants of concern such as air toxics and pesticides, access to natural resources and environmental benefits, and elimination of disparities such as blood lead levels and childhood asthma rates.

¹⁶ First year activities of this LTPG will focus on definition and scope of significant EPA action and what qualifies as environmental justice implications, responsiveness to community concerns, and addressing disproportionate impacts.

- By September 30, 2026, XX% of EPA programs that work in and with communities will do so in ways that are community-driven, coordinated, and collaborative and will support community revitalization, equitable resilience, and/or implementation of climate justice plans.¹⁷
- By September 30, 2026, all EPA programs and regions will identify and implement areas and opportunities to achieve civil rights compliance in their planning, guidance, policy directives, monitoring, and review activities.

Strategies

Make Commitments on Measurable Environmental and Public Health Improvements in Overburdened and Underserved Communities: EPA will set ambitious goals of achieving meaningful change on the ground for communities with environmental justice concerns. EPA recognizes that these commitments require decisions and activities that extend beyond the implementation of EPA's authorities, such as capacity and relationship building and providing guidance and training to our partners. EPA believes that setting such ambitious goals that speak to priority environmental justice issues is critical to stimulating not only a deeper evaluation of the use of all EPA authorities, but also its ability to lead and support efforts by public and private sector partners to strive collectively towards attainment of those goals. EPA will focus on several elements of progress to make such ambitious outcome commitments. These include delineating the responsibilities of programs and regions towards meeting their objectives, identifying data gaps, building tracking systems, and putting in place any needed policy, guidance, or regulatory changes. EPA will also incorporate responsibility and measurable accountability for advancing environmental justice into Agency plans, including the EPA annual operating plan and annual performance plans of key political, senior executive, and general schedule staff. EPA will commit to at least ten measures of progress towards achieving meaningful environmental and public health outcomes on the ground. Some examples include:

- Providing access to safe and sustainable sources of drinking water and clean surface water for the entire population of the United States.
- Minimizing public health disparities such as the difference in childhood blood lead levels and the incidence of asthma for children living in families below the federal the poverty level and children living in older housing, who are often children of color.
- Reducing exposure to pollutants such as air toxics that disproportionately impact communities with environmental justice concerns.
- Increasing access to natural resources such as green spaces within one-third of a mile, through efforts such as the cleanup and revitalization of contaminated sites in the overall number of overburdened and underserved communities.
- Reducing pesticide exposure to farmworkers, their families, and the agricultural community.

Ensure that EPA Decision Making Incorporates Meaningful Community Involvement and Analyzes for Disproportionate Impacts: The knowledge attained from community engagement activities, along with other actions to consider more fully environmental justice and civil rights, must be regularly reflected and addressed throughout EPA's documented decisions. As a first step, EPA will engage in a process

¹⁷ First year activities of this LTPG will focus on definition and scope of program participation and what qualifies as adoption of the community-driven approach.

and establish all necessary policies to determine which actions are of major significance for environmental justice and civil rights purposes. This will help ensure that the Agency's most important decisions address the needs of impacted communities; respond to policy analyses of potential environmental justice impacts; and consider recommendations from the National Environmental Justice Advisory Council.¹⁸

EPA must make significant and urgent progress in fundamentally grounding its work in addressing disproportionality, which includes understanding of and reacting to issues of cumulative impacts and cumulative risks, and rapidly advance its ability to analyze for disproportionate impacts. One area to catalyze such progress is to ensure that all EPA programs develop guidance on using environmental justice tools such as EJSCREEN to support their decision making.

Build EPA Capacity to Support Community-Driven Approaches to Building Healthy, Sustainable, and Climate Resilient Communities: Achieving meaningful change necessitates that EPA not only improve its decision making and program implementation, but that the Agency significantly advance its ability to work on the ground with communities as a regular means of achieving its mission. EPA will build upon the many ways that programs and regions currently work with and in communities by elevating and expanding the use of coordinated and collaborative community-driven partnerships to address community priorities. EPA will leverage and coordinate its investments in communities and collaborate with partners and other external stakeholders to advance comprehensive and strategic community-driven approaches. EPA will increase annually the number of programs that have fully integrated key principles of effective community-driven work and build the number of collaborative partnerships centered on community priorities.

Ensuring Consideration of Civil Rights by EPA Programs: As a federal agency charged with enforcing federal civil rights laws, EPA must ensure that it is complying with and implementing civil rights obligations across all Agency programs and activities. To do so, EPA must recognize that in addition to the enforcement and implementation of federal civil rights laws, a responsibility that is carried out through EPA's external civil rights compliance program and addressed in Objective 2.3, EPA program and regional offices also must recognize and address civil rights issues that arise as they implement their responsibilities under environmental laws, such as their permit review responsibilities. Civil rights vigilance is an EPA-wide responsibility and a critical means for the Agency to advance justice and equity. To accomplish this, EPA must communicate requirements and expectations to EPA staff through education, training, outreach, and technical assistance to enhance civil rights enforcement awareness and strengthen intra-Agency collaboration to identify whether recipient programs and activities are abiding by civil rights laws or engaging in prohibited discrimination. EPA programs must reference and/or include applicable civil rights requirements in non-civil rights guidance documents, such as in program strategic plans and environmental policy directives. In addition, all EPA program and regional office staff must understand and appreciate the civil rights requirements that apply to federal agencies themselves, including their responsibility to develop and implement program-specific

¹⁸ National Environmental Justice Advisory Council Recommendations: <https://www.epa.gov/environmental-justice/national-environmental-justice-advisory-council-recommendation-reports-0>.

limited English language assistance and disability access plans that apply to all of the public-facing activities of EPA program and regional offices.

External Factors and Emerging Issues

Many of the problems that need to be addressed have been well-known but unsolved for decades. Communities that have multiple industrial and energy facilities and are saturated with legacy pollution want to see EPA realign its enforcement in a way that provides action, accountability, and guidance for taking cumulative impacts and risks into account, even if they cannot be measured with precision.

Permitting and rulemaking have typically not reflected the reality of overburdened communities, which means that it is often easier to site an eighth facility in a community that already has seven than in a community that has none. Since permitting is primarily implemented by other governmental partners with delegated authority from EPA, the work of integrating environmental justice and external civil rights considerations throughout all EPA programs and activities will require commitment, relationship building, and trust from partner agencies.

Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns

Strengthen enforcement of and compliance with civil rights laws to address the legacy of pollution in overburdened communities.

Introduction

To address the legacy of pollution in overburdened communities that results from discriminatory actions, whether direct or indirect, intentional, or unintentional, EPA must use the full extent of its authority and resources to vigorously enforce federal civil rights laws. EPA is required to enforce federal civil rights laws that prohibit discrimination on the basis of race, color, national origin (including limited English proficiency), disability, sex, and age, in programs or activities that receive Agency financial assistance. To ensure EPA financial assistance is not being used in a manner that discriminates and subjects already overburdened communities to further harm, EPA must support and promote a robust and mature external civil rights compliance program for execution of EPA responsibilities and to provide a strong partner to its environmental justice program. As stated earlier, robust enforcement of civil rights law coupled with EPA's environmental justice efforts provides EPA with the strongest ability to address disparities.

Long-Term Performance Goals

- By September 30, 2026, initiate 15 proactive post-award civil rights compliance reviews annually in environmentally overburdened and underserved communities compared with the FY 2021 baseline of one.
- By September 30, 2026, complete 100 audits annually to ensure EPA financial assistance recipients are complying with nondiscrimination program requirements compared with the FY 2021 baseline of none.
- By September 30, 2026, complete 25 information sharing sessions, outreach, technical assistance events, and Alternative Dispute Resolution and informal resolution facilitation opportunities with overburdened and underserved communities and environmental justice advocacy groups on civil rights and environmental justice issues, annually, compared with the 2021 baseline of five.¹⁹
- LTPG under development on informal resolution agreements under Title VI.

Strategies

The classifications protected by federal civil rights laws encompass most of the underserved and overburdened communities that have been exposed to a disproportionate level of harmful environmental, quality of life, and health impacts from pollution sources. Federal law authorizes agencies such as EPA to enact rules, regulations, or orders to achieve the laws' objectives. EPA's nondiscrimination regulation prohibits recipients of EPA financial assistance from taking actions in their programs or activities that are intentionally discriminatory and/or have a discriminatory effect. It is EPA's inherent mission and legal mandate to dismantle discriminatory barriers and systematic injustice

¹⁹ EPA anticipates completing a total of 84 engagements between FY 2022 and FY 2026.

with respect to the federal programs and statutes it implements — and the Agency must have a more robust and effective civil rights compliance program to ensure achievement of this mandate.

EPA has begun revitalizing its external civil rights mission and will launch a significant number of critical initiatives that will directly impact overburdened communities. The external civil rights compliance program will strengthen enforcement of civil rights laws by increasing: the number of affirmative compliance reviews targeting critical environmental health and quality of life impacts in overburdened communities; the number of guidances issued and technical assistance provided to improve implementation; and timeliness and effectiveness of complaint investigations and resolutions.

External Factors and Emerging Issues

For EPA to move its external civil rights program from a reactive program, responding only to complaints, to a proactive program, as the goals envision, involves: making expectations clear by providing clarifying guidance to recipients; using the Agency’s affirmative authority to initiate compliance reviews and audits; and providing enhanced outreach, technical assistance, and informal resolution facilitation opportunities.

Goal 3: Enforce Environmental Laws and Ensure Compliance

Improve compliance with the nation’s environmental laws and hold violators accountable.

Introduction

A robust compliance monitoring and enforcement program is necessary to ensure communities get the environmental and human health benefits intended by environmental statutes and EPA’s regulations. EPA regulates more than 1.2 million facilities adhering to a variety of environmental statutes that protect human health and the environment. Likewise, EPA regulates a wide range of products including automobiles and pesticides. EPA, federally recognized Indian Tribes, states, and territories work cooperatively to achieve compliance, with delegated or authorized states conducting most enforcement activities across the country. EPA collaborates with Tribes in Indian country, by both directly implementing compliance monitoring and enforcement programs and through oversight of programs implemented by Tribes.

EPA will focus federal enforcement resources on the most serious environmental problems where noncompliance with environmental statutes and regulations is a significant contributing factor and where federal enforcement can have a significant impact on the nation’s air, water, and land. This work will include targeting and screening to prioritize inspections in communities facing substantial burdens from environmental noncompliance. EPA will continue to identify a small number of key areas, called National Initiatives, where focused EPA attention will be especially value-added. EPA will seek to increase inspections, prioritize enforcement cases, identify remedies with tangible benefits for impacted communities, and increase engagement with communities about enforcement cases. EPA will continue to initiate enforcement actions to protect against children’s health hazards in areas such as exposure to lead paint, the presence of lead and other contaminants in drinking water, and particulate air emissions that aggravate asthma.

The Agency will address climate change by directing resources to ensure effective enforcement responses for those sources with noncompliant emissions of greenhouse gases and develop remedies that are consistent with GHG mitigation and climate resilience. In addition, EPA will enforce against the illegal import, distribution and use within the United States of HFCs, which are chemicals with potent global warming potential, and pursue violators of the Renewable Fuel Standard (RFS).

Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable

Use vigorous and targeted civil and criminal enforcement to ensure accountability for violations and to clean up contamination.

Introduction

Enforcement is essential to ensuring that everyone is protected by the nation’s environmental laws and regulations. EPA strives to not only return violators to compliance but also to obtain the relief needed to address the underlying causes of the violations to prevent reoccurrence and, in appropriate cases, mitigate the harm to the communities impacted by noncompliance.

Long-Term Performance Goal

- By September 30, 2026, ensure the number of “Referred No Complaint Filed” (RNCF) civil judicial cases that are more than 2.5 years old is no more than 93.²⁰

Strategies

Taking Timely Enforcement Action: Timely enforcement is effective enforcement. EPA has set a long-term performance goal that reflects the commitment of the enforcement program to address noncompliance as expeditiously as possible. For example, one area of focus has been to reduce the number of Referred No Complaint Filed (RNCF) cases; namely, the number of open civil judicial cases that EPA referred to the Department of Justice (DOJ) more than 2.5 years ago and a complaint has not been filed.

Complex cases often take longer to resolve; some of EPA’s enforcement cases involve national companies with multiple facilities across the country. Many cases also involve extremely complex facilities that must comply with multiple federal statutes based on the nature of their operations. Municipal cases often involve multiple neighboring communities with varying economic means who share a failing sewer or drinking water system and who must agree together on injunctive relief that is a very significant expense for the defendants. These types of cases, justifiably, often take a long time to resolve.

Since implementation of the RNCF measure in 2018, EPA has been steadily resolving older referred cases, primarily through settlement. Through timely resolution of environmental violations EPA can address both the public health concerns of overburdened, disproportionately affected communities and the emissions of greenhouse gases or other compounds that contribute to or exacerbate the effects of climate change.

²⁰ For comparison, there were 129 cases more than 2.5 years old without a complaint filed as of June 30, 2018. The number of cases fluctuates and is therefore difficult to predict how many cases will “age in” in a given year. EPA reduces the number of older cases using a number of different tools. For example, sometimes the United States government needs to file a complaint in order to make progress in resolving a case; other times, it needs to drop a claim or shift its injunctive relief or penalty demand because of litigation risk.

Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements:²¹ EPA is committed to using the full array of policy and legal tools available to ensure that environmental laws and the policies to implement them deliver benefits to all individuals and communities. In determining the most appropriate resolution for a particular matter, EPA will first consider which compliance tools will be effective to promptly ensure the regulated party returns to and remains in compliance. Tools like Advanced Monitoring, Audits and Independent Third-party Verification, Electronic Reporting, and Increased Transparency of Compliance Data can help provide information in a more readily available format to members of the public, who can assist in monitoring compliance. Many tools also benefit the settling party. For example, third party verification helps the facility identify future non-compliance early, allowing for a quick response to remedy the problem; and electronic reporting provides a more transparent demonstration of compliance, which may help the settling party's relationship with its neighboring community. When appropriate, an Alternative Dispute Resolution (ADR) process is used to reach a solution that meets the needs of both EPA and the settling party.

Strengthening Environmental Justice Through a Robust Enforcement Program: EPA will continue to rely on mapping and screening tools, including EJSCREEN, in combination with local knowledge to help identify overburdened communities that may be disproportionately impacted by pollution. EPA will focus on strengthening enforcement and resolving environmental noncompliance through remedies with tangible benefits for the impacted community, including:

- Preventing further pollution due to noncompliance, mitigating past impacts from pollution, and securing penalties to recapture economic benefit of noncompliance and deter future violations.
- Seeking early and innovative relief (e.g., fence-line monitoring and transparency tools).
- Incorporating Supplemental Environmental Projects (SEPs) in settlements, where appropriate and to the extent permitted by law and policy.²²
- Seeking restitution for victims of environmental crimes.

The Agency uses its statutory authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and Resource Conservation and Recovery Act (RCRA) to protect overburdened communities by requiring responsible parties to take early and expedited cleanup actions, developing more robust enforcement instruments, ensuring the oversight of those enforcement instruments, and building trust and capacity through community engagement. Superfund enforcement efforts maximize Potentially Responsible Parties' (PRP) involvement at Superfund sites, ensuring that viable, liable PRPs cleanup sites, rather than taxpayers, and by recovering costs if the EPA expends Superfund-appropriated dollars to clean up sites.

²¹ Memorandum: Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements (April 26, 2021): <https://www.epa.gov/sites/default/files/2021-04/documents/usingallappropriateinjunctiverelieftoolsincivilenforcementsettlement0426.pdf>.

²² For more information on Supplemental Environmental Projects, please see: <https://www.epa.gov/enforcement/supplemental-environmental-projects-seps>. The inclusion of SEPs in judicial settlements is currently severely limited by a regulation promulgated by the Department of Justice (28 C.F.R. § 50.28(c)(1)), as well as other DOJ policies. Those are now under review at DOJ, and until further guidance is provided, inclusion of SEPs and stipulated remedies in civil judicial settlements should be limited to those that involve diesel emission reductions. EPA is coordinating closely with DOJ about SEPs.

In addition, EPA will strengthen tools for the detection of environmental crimes in overburdened communities, improve outreach to the victims of such crimes, and ensure that investigations are structured to provide maximum assistance to DOJ in its exercise of prosecutorial discretion and pursuit of remedies that will guarantee adequate protection for those communities.

Tackling Climate Change Through Enforcement: To advance Agency efforts to tackle the climate crisis and mitigate greenhouse gas (GHG) emissions, EPA will target violators of the American Innovation and Manufacturing (AIM) Act, the Renewable Fuel Standard, and regulations that apply to oil and gas sources and landfills. EPA will make effective use of civil judicial litigation and, if appropriate, administrative orders to achieve suitable remedies. EPA also will include climate change adaptation measures, flare efficiency and flare gas recovery requirements, and clean renewable energy projects in case resolutions as appropriate. Case teams will assess climate vulnerabilities and ensure that the injunctive relief measures implemented to resolve environmental violations are resilient to the impacts of climate change. EPA will vigorously enforce its regulations to prevent and deter illegal importation of HFCs.

External Factors and Emerging Issues

To address contamination caused by emerging contaminants (e.g., Per- and polyfluoroalkyl substances (PFAS), which are a current priority), the Superfund enforcement program will continue to use the Agency's enforcement authorities to ensure the manufacturers and generators of these dangerous compounds are held responsible. The civil enforcement program will take action to compel parties that manufacture or release PFAS or other chemicals in violation of the law to return to compliance. Where such parties are causing or may cause an imminent and substantial endangerment, the EPA enforcement program can also compel the parties to address the potential endangerment.

COVID-19 has presented unique challenges, and to ensure the safety of EPA personnel and the public, the Agency decreased the number of onsite inspections. However, EPA's enforcement program has used many off-site compliance monitoring techniques, including remote and virtual inspections, expanded use of information requests, and desk audits, to bolster the compliance assurance program.

Many environmental justice advocates have raised concerns about the number of facilities permitted and re-permitted in their communities. EPA cannot take enforcement action against these facilities unless they are in violation of the law and therefore faces constraints in addressing the concerns of cumulative impacts in these communities through enforcement alone. Advocates have also called for strengthening enforcement of Title VI of the Civil Rights Act to address claims that siting numerous facilities in communities of color imposes disparate pollution impacts in violation of the law. Title VI issues in a community often serve as a prompt to consider conducting an environmental compliance review.

Objective 3.2: Detect Violations and Promote Compliance

Ensure high levels of compliance with federal environmental laws and regulations through effective compliance tools – including inspections, other monitoring activities, and technical assistance supported by evidence and advanced technologies.

Introduction

Effective targeting of compliance monitoring, including inspections in communities with environmental justice concerns, plays a critical role in achieving the goals EPA has set forth for protecting health and the environment. Achieving high rates of compliance with environmental laws and regulations requires the use of a wide range of compliance tools, including compliance monitoring. EPA and Tribal, state, and territorial co-regulators conduct inspections, investigations, and review of self-reported compliance monitoring information to determine if regulated entities are complying with environmental statutes as well as applicable regulations and permit conditions. These activities help identify conditions that may present imminent and substantial endangerment to human health and the environment and thereby warrant immediate response.

Long-Term Performance Goals

- By September 30, 2026, send 75% of EPA inspection reports to facilities within 70 days of inspection.²³
- By September 30, 2026, conduct 55% of inspections annually at facilities that affect communities with potential environmental justice concerns.²⁴

Strategies

Through its ongoing process of selecting National Initiative areas in collaboration with Tribes, states, and territories, EPA will focus its work on critical areas of noncompliance. Recent examples include National Initiatives to address toxic Clean Air Act (CAA) and RCRA air emissions, improve drinking water compliance, reduce the rate of Clean Water Act (CWA) significant noncompliance, and reduce the number of chemical accidents. Notably, EPA is carrying out evidence-building activities to address priority questions related to drinking water systems out of compliance, one of EPA's Learning Agenda priority areas. By proactively working with Tribes, states, and territories to identify areas of serious noncompliance and then bringing the right compliance and enforcement tools to bear, EPA will make the most effective use of its resources.

EPA will continue to promote innovative enforcement remedies that are based on reliable data or other robust evidence to substantiate their effectiveness, through the development of a compliance Learning Agenda. The Agency will identify the most pressing programmatic questions and create a venue for EPA, Tribes, states, and territories to collaborate in the development of evidence-based enforcement tools and techniques that will ensure the biggest impact on environmental compliance.

²³ For comparison, 46% of inspection reports were sent within 70 days of inspection at the end of FY 2018.

²⁴ The baseline for this measure is 27% based on average of FY 2017 - FY 2019.

Producing Timely Inspection Reports: EPA has set a long-term performance goal to reduce the time from when EPA conducts an on-site inspection to the time that EPA provides the facility with a completed inspection report notifying it of any potential compliance issues. Improving the timeliness of these activities allows the facility to address compliance issues more quickly, which often directly benefits the communities affected by the environmental and human health impacts of the alleged violations. EPA balances the desire for fast action against the fundamental need to ensure quality inspections. Thus, where inspections are extremely complex and multi-faceted, more time for the completion of the inspection report may be needed.

Strengthening Environmental Justice Through Compliance Assurance Activities: EPA has set a long-term performance goal to increase the percentage of inspections at facilities affecting overburdened communities. Communities that are already burdened with high pollution levels are more vulnerable to the harmful effects of permit violations and are a high priority for inspections and compliance review. These efforts will advance the detection and resolution of noncompliance activities in communities with environmental justice concerns.

EPA also will provide greater public access to compliance data to help communities better understand and manage risks. The Agency will increase engagement with communities so that communities and EPA can share resources and work together to improve compliance. As an example of community outreach to address the root causes of noncompliance at small drinking water and wastewater systems, EPA will continue the Compliance Advisor Program (formerly known as the Circuit Rider Program) to help systems return to, and maintain, compliance. Many small drinking water and wastewater systems are unable to achieve and maintain compliance due to lack of technical, managerial, and financial capacity as well as aging infrastructure, workforce shortages, and declining rate bases. These challenges are the root cause of most violations of the Safe Drinking Water Act (SDWA) and CWA at small drinking water and wastewater systems. The numbers of systems in noncompliance are holding fairly constant, indicating the need for more hands-on technical assistance for small systems to troubleshoot issues and develop plans to return to compliance. Part trainer and part consultant, compliance advisors troubleshoot issues, develop plans to return systems to compliance, and increase the technical capacity of operators. EPA will continue work to ensure that funded activities increase capacity in these vulnerable communities, including those in Indian country and where EPA has direct implementation authority, to achieve and sustain compliance.

Improving Compliance Assurance Data Management and Enforcement Targeting Capabilities: Effective compliance monitoring and enforcement increasingly depends on effective use of data management and data science capabilities. EPA will improve its collection and management of compliance monitoring information through modernization of existing data systems and creation of new tools to streamline the compliance monitoring process.

EPA will modernize its key compliance information system, the Integrated Compliance Information System (ICIS), and will support better integration with the Enforcement and Compliance History Online (ECHO) website. Improvements to ICIS and ECHO will facilitate better access to compliance data and community information (e.g., from EPA's EJSCREEN tool) for the Agency, states, and the public. This

will enhance EPA's efforts to address compliance concerns in underserved communities and help EPA and authorized states ensure better compliance with clean air and clean water requirements.

EPA will also continue to expand software solutions for field inspectors to improve the effectiveness and efficiency of compliance inspections conducted by the Agency and authorized states. EPA's Smart Mobile Tools for Inspectors software streamlines the process of documenting field inspections and preparing reports on their results. This software will allow EPA and states to use their compliance monitoring resources more efficiently, including monitoring for noncompliance, which affects underserved communities, or which may have climate impacts. ICIS Modernization and Smart Mobile Tools for Inspectors are two of the key efforts under the Agency's E-Enterprise for the Environment program.

Tackling Climate Change Through Compliance Assurance: EPA will advance its efforts to address climate change mitigation and adaptation issues through targeting, monitoring, and technical assistance. For example, EPA will direct monitoring and targeting efforts to sources with the most potential for noncompliant emissions of greenhouse gases and other compounds that contribute to or exacerbate climate change, such as oil and gas wells that are a large source of methane emissions. In addition, EPA's compliance advisors for sustainable water systems will continue to provide technical assistance on climate resilience to wastewater and drinking water facilities. Further, EPA will vigorously enforce its regulations to prevent and deter the illegal importation of HFCs.

External Factors and Emerging Issues

Advanced monitoring technology and information technology continue to evolve, and advances in these fields offer great opportunities for improving the ability of EPA, Tribes, and states to ensure compliance. While continuing research and growing knowledge may offer innovative approaches, EPA, Tribes, states, and territories often face challenges in keeping up with emerging technologies. Through its evidence-based approach, EPA, in collaboration with Tribes and states, is working with the academic community to identify new ways to improve compliance.

Goal 4: Ensure Clean and Healthy Air for All Communities

Protect human health and the environment from the harmful effects of air pollution.

Introduction

All people regardless of race, color, national origin, or income deserve to breathe clean air outdoors and indoors, and it is especially important that the health of vulnerable and sensitive populations, such as children and persons adversely affected by persistent poverty or inequality, be protected. Levels of pollutants linked to health impacts continue to decline as the economy has grown significantly over the long term. Between 1970 and 2020, the combined emissions of six key pollutants dropped by 78 percent, while the U.S. economy remained strong — growing 272 percent over the same time. EPA will continue to build on this progress and work to assure clean air for all Americans, with a particular focus on those in underserved and overburdened communities, who are impacted disproportionately.

Numerous scientific studies have linked air pollution and specific pollutants to a variety of health problems and environmental impacts. Long-term exposure to elevated levels of certain air pollutants is associated with increased risk of cancer, premature mortality, and damage to the immune, neurological, reproductive, cardiovascular, and respiratory systems. Over the next four years, EPA will work to ensure clean and healthy air for communities by reducing emissions of ozone-forming pollutants and particulate matter, and air toxics. EPA will also work to address high-risk indoor air quality pollutants in homes, schools, and workplaces. EPA will rely on proven approaches including regulatory tools, innovative market-based techniques, public and private-sector partnerships, community-based approaches, technical assistance programs that promote environmental stewardship, and programs that encourage adoption of cost-effective technologies and practices.

Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts

Reduce air pollution on local, regional, and national scales to achieve healthy air quality for people and the environment.

Introduction

The United States is continuing to see strong improvement in air quality on the national level as the combined emissions reductions efforts by EPA and Tribal, state, and local air agencies have proven to be very effective. Between 1970 and 2020, the combined emissions of the six common National Ambient Air Quality Standards (NAAQS) pollutants (particulate matter (PM_{2.5} and PM₁₀), sulfur dioxide (SO₂), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), and lead (Pb)) dropped by 78 percent. Also, the number of days each year reaching the “Unhealthy for Sensitive Groups” level or above on the Air Quality Index has continued to trend downward since 2000.²⁵

Despite this national record of success, air quality disparities due to disproportionate pollution impacts exist in multiple areas across the country. Approximately 97 million Americans lived in counties with air quality concentrations above the level of one or more NAAQS in 2020.²⁶ Studies show substantial disparities exist in PM_{2.5}-related risk between groups. Nonwhites, particularly blacks, are at increased risk for PM_{2.5}-related health effects, in part due to disparities in exposure.²⁷ One study estimated people of color were exposed to 25 percent higher PM_{2.5} (as compared to the rest of the population) in 2014 from domestic anthropogenic sources.²⁸ Neighborhoods with the highest poverty rates had 14 percent higher PM_{2.5} levels in 2016 compared with neighborhoods with the lowest poverty rates.²⁹ Multiple areas are disproportionately impacted by local sources emitting air toxics, and the scientific understanding of health risks related to exposure to air toxics continues to emerge.³⁰

All people regardless of race, color, national origin, or income deserve to breathe clean air, and it is especially important that the nation’s laws protect the health of vulnerable and sensitive populations, such as children and those with preexisting respiratory conditions. Over the next four years, EPA will work collaboratively with air agencies to maintain and improve the nation’s air quality. EPA will particularly focus on advancing environmental justice by engaging with communities on key activities including technical assistance, regulation development, and financial assistance.

²⁵ Our Nation’s Air: Trends through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

²⁶ Our Nation’s Air: Trends through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

²⁷ Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2019) (EPA/600/R-19/188) <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534>.

²⁸ Tessum, CW, Paoletta, DA, Chambliss, SA, Apte, JS, Hill, JD, Marshall, JD. PM_{2.5} pollutants disproportionately and systemically affect people of color in the United States. *Sci Adv*, 28 APR 2021: EABF4491.

²⁹ Colmer, J, Hardman, I, Shimshack, J, Voorheis, J. Disparities in PM_{2.5} air pollution in the United States. *Science*, 31 JUL 2020: 575-578.

³⁰ National Air Toxics Assessment: <https://www.epa.gov/national-air-toxics-assessment>.

Long-Term Performance Goals

- By September 30, 2026, reduce ozone season emissions of nitrogen oxides (NO_x) from electric power generation sources by 21% from the 2019 baseline of XX.
- By September 30, 2026, improve measured air quality in counties not meeting the current National Ambient Air Quality Standards (NAAQS) from the 2016 baseline by 10%.
- By September 30, 2026, strive to ensure all people with low socio-economic status (SES) live in areas where the air quality meets the current fine particle pollution (PM_{2.5}) National Ambient Air Quality Standards.
- By September 30, 2026, ensure U.S. consumption of hydrochlorofluorocarbons (HCFCs) is less than 76.2 tons per year of ozone depletion potential.³¹

Strategies

Taking into account the most current research on health effects and changing conditions from a warming climate, EPA will continue to periodically review the NAAQS. The Agency will reconsider the December 2020 decision to retain the PM NAAQS because available scientific evidence and technical information indicate that the current standards may not be adequate to protect public health and welfare, as required by the Clean Air Act.³² In reviewing the NAAQS, the Agency will assess whether the current standards provide adequate protection for the people most at-risk, including people with heart or lung disease, children and older adults, and nonwhite populations.

The Agency will focus on evaluating environmental justice considerations related to the NAAQS during review and implementation. EPA will continue to work closely with air agencies to ensure that they are working to improve air quality in areas that do not meet the NAAQS, including the 2010 SO₂ NAAQS, the 2012 PM_{2.5} and PM₁₀ NAAQS, and the 2008 and 2015 Ozone NAAQS. EPA will also continue to work closely with state air agencies on the regional haze program to improve visibility in the larger national parks and wilderness areas.

Stationary fuel combustion sources, such as electric utilities and industrial boilers, continue to represent a significant proportion of the nation's emissions inventory.³³ In meeting statutory and legal requirements to regulate stationary sources, EPA will maximize public health benefits and make environmental justice and community outreach central in these rulemaking efforts. EPA will lead the development of comprehensive and cost-effective emission reduction strategies and multipollutant regulations governing air emissions from stationary sources, including technology and health-based standards and voluntary or non-regulatory initiatives.

EPA will continue to operate nationwide and multi-state programs, such as the Acid Rain Program and the Cross-State Air Pollution Rules, that address major global, national, and regional air pollutants from the power sector and other large stationary sources. These flexible, cost-effective, and environmentally effective air pollution control programs help reduce air toxics emissions, regional haze, and interstate pollution that interferes with the attainment and maintenance of the NAAQS.

³¹ The U.S. HCFC consumption baseline is 15,240 ODP-weighted metric tons effective as of January 1, 1996.

³² For more information on the Clean Air Act, please visit: <https://www.epa.gov/clean-air-act-overview/clean-air-act-text>.

³³ Our Nation's Air: Trends Through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

EPA will also continue to set and enforce technology-based air toxics emissions standards and, where appropriate, amend those standards to address residual risk and technology advancements. This includes revisiting aspects of the Mercury and Air Toxics Standards for power plants, as directed by Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. These regulations limit toxic air pollution from stationary sources, reducing pollution in communities and providing tools to help communities and other stakeholders meaningfully engage in the process. EPA will consider multipollutant impacts in the development and implementation of Maximum Achievable Control Technology standards and New Source Performance Standards, where appropriate. To address unacceptable risks that may remain after implementing national strategies, EPA works with air agencies to understand the risks at the local level, target problem areas, and tailor reduction strategies and approaches to the unique situations in those areas.

EPA will promote early integration of environmental justice considerations in the regulatory process. For example, the Agency will develop new and enhanced applications of environmental justice analytics to inform how power sector rules can mitigate impacts on overburdened communities. This effort will include modeling of power sector emissions down to the county level as well as improved representation of fine particulate matter that includes toxic heavy metals.

The Agency will continue to develop and make available the necessary technical data and tools to support air quality planning and environmental justice analyses. This includes critical information on emissions and ambient concentrations of air pollution, and associated data systems, such as AirNow, the Air Quality System, and the National Emissions Inventory. In addition, EPA will work with air agencies to develop improved measurement methods (e.g., for woodsmoke, PM emissions, PFAS, and air toxics, such as ethylene oxide). To support air agencies, promote national consistency, and ensure information is publicly available, EPA will continue to operate, maintain, and upgrade as needed the State Planning Electronic Collaboration System (SPeCS), the Combined Air Emissions Reporting System (CAERS), and the Electronic Permit System (EPS). EPA will also test, evaluate, and refine draft tools for incorporating environmental justice considerations into EPA-issued permits and ensure opportunities for meaningful public involvement in the permit process.

EPA will work with air agencies and local communities to prioritize engagement with low-income and marginalized communities that for decades have been overburdened with air pollution and other environmental hazards. EPA will undertake air monitoring and other assessment approaches to address these long-neglected air quality and public health problems. The Agency will work to assess the current state of our nation's monitoring network and pursue collaborative approaches to modernize the technologies, equipment, and network design used to measure air quality as well as enhance the quality and security of critical data collection, handling, and reporting from the network.

EPA will collect and evaluate mobile source emission data to help guide future program priorities related to reducing criteria pollutant and GHG emissions from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and equipment, and from the fuels that power these engines. The Agency will develop the next round of multi-pollutant emission standards for light-duty and highway heavy-duty vehicles, which will improve air quality and reduce pollution near roads and other areas of high truck activity, such as warehouses and ports. EPA will also continue to work to ensure that Clean

Air Act requirements are met for new transportation projects with heavy-duty diesel traffic, such that they do not worsen air quality near communities with environmental justice concerns. The Agency will address air quality concerns in these communities through implementing regulations, developing improved air quality models and mitigation measures, and collaborating with a broad range of stakeholders — including state air quality agencies and communities with environmental justice concerns — to develop targeted, sector-based, and place-based strategies for diesel fleets (including school buses, ports, and other goods movement facilities).

EPA will implement its Air Toxics Strategy³⁴ to more effectively identify and address existing, emerging, and future air toxics issues in the U.S. Identifying air toxics issues and appropriate approaches for addressing them requires strong communication, coordination, and collaboration between EPA, regulatory partners, and stakeholders as well as sound technical information and analyses to support technical and policy solutions. EPA will assess risks to public health from exposure to air toxics such as ethylene oxide, chloroprene, and benzene from stationary sources. This will be done in support of upcoming regulatory and other program efforts, including for source categories with significant disproportionate impacts such as chemical manufacturing, to ensure that the air toxics rules appropriately protect public health, especially for neighboring communities. EPA will also improve delivery of information to the public on the status of air toxics pollution and potential exposure and risk levels through the Air Toxics Data Update. The Agency is developing an approach to provide annual emissions, air quality, and risk information nationally as well as how to best provide interim risk information to communities as needed.

EPA is continuing to implement provisions of Title VI of the Clean Air Act Amendments and the Montreal Protocol, to protect and restore the stratospheric ozone layer by reducing the use, emissions, import, and production of ozone-depleting substances (ODS) in the United States. By 2022, U.S. consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, will be less than 76.2 tons per year of ozone depletion potential from the 2015-2019 target of 1,520 tons per year. EPA will continue to use regulatory approaches to reduce the production import, use, and production of ODS, including reviewing and listing alternatives that are safer for the ozone layer.

External Factors and Emerging Issues

The increasing intensity, duration, and scale of wildfires occurring in the western United States as the climate changes worsens air quality across the country. Older adults, children, pregnant women, people with cardiovascular or respiratory disease, people of low socio-economic status and outdoor workers may be at heightened risk for severe health effects from exposure to smoke.³⁵ EPA is working to protect public health during wildfire-smoke events by improving smoke forecasting abilities, identifying and communicating when and where smoke events are occurring, building local capacity to be Smoke Ready, and providing tools and resources for communities for health protection during smoke events.

³⁴ EPA Air Toxics Strategy: <https://www.epa.gov/haps/air-toxics-strategy>.

³⁵ Which Populations Experience Greater Risks of Adverse Health Effects Resulting from Wildfire Smoke Exposure?: <https://www.epa.gov/wildfire-smoke-course/which-populations-experience-greater-risks-adverse-health-effects-resulting>.

Objective 4.2: Reduce Exposure to Radiation and Improve Indoor Air

Limit unnecessary radiation exposure and achieve healthier indoor air quality, especially for vulnerable populations.

Introduction

To improve indoor air and reduce exposure to radiation, EPA leads programs that educate the public about radiation and indoor air quality concerns, including radon, asthma triggers, and poor ventilation. These programs promote public action to reduce potential risks in homes, schools, and workplaces. Included among the people most exposed to indoor air pollutants are those most susceptible to the effects—the young, the elderly, and the chronically ill. Recognizing the potential hazards of radiation, Congress charged EPA with the primary responsibility for protecting people and the environment from harmful and avoidable exposures.

Because Americans spend most of their time indoors, where pollutant levels are often significantly higher than outdoors, poor indoor air is a major health concern. For example, radon is the second leading cause of lung cancer, responsible for 21,000 lung cancer deaths annually. Nationally, one in 15 homes is estimated to have elevated radon levels. In many communities, this ratio is much higher. Low-income families often lack resources to test for and mitigate radon in their homes. As another example, nearly 24 million Americans have asthma. Low-income communities of color suffer disproportionately from asthma and substandard housing and lack of access to care underlie this disparity. Indoor allergens and irritants play a significant role in making asthma worse and triggering asthma attacks. The COVID-19 pandemic further highlighted the importance of healthy indoor air quality and ventilation in homes, schools, and other buildings.

To address these and other hazardous indoor air pollutants, EPA collaborates with Tribal and state organizations, environmental and public health officials, housing, energy, and building organizations, personnel who manage school environments, and health care providers who treat children prone to or suffering disproportionately from asthma. The focus of these non-regulatory efforts is to create, expand, and leverage policy, systems, and individual action to promote healthy indoor environments and reduce exposure to harmful indoor air pollutants.

Long-Term Performance Goal

- By September 30, 2026, prevent 2,250 lung cancer deaths annually through lower radon exposure as compared to the FY 2020 baseline of 1,684 prevented lung cancer deaths.

Strategies

The COVID-19 pandemic, along with increased prevalence of wildfires and other natural disasters that impact indoor air, generated unprecedented awareness and demand for healthier indoor air in homes, schools, and other buildings. EPA will work to restore, leverage, and scale up programs to reduce exposures to radon through home testing and mitigation, promote in-home asthma management, improve air quality in homes and schools, and build capacity for Tribes and communities with environmental justice concerns to comprehensively address indoor air risks.

EPA estimates that there are 12,000 avoidable lung cancer deaths annually attributable to indoor radon exposure.³⁶ To reduce this high public health risk, EPA will co-lead the National Radon Action Plan (NRAP), a multisector public-private coalition committed to eliminating avoidable radon-induced lung cancer in the United States and addressing radon as a health equity challenge. It is estimated there are more than seven million homes in the U.S. at or above the EPA radon action level.³⁷ EPA will continue to provide State Indoor Radon Grant funding, and technical assistance to Tribes and states, with a focus on increasing access to testing and mitigation in underserved communities.

In-home asthma management is a critical component of asthma care, particularly in low-income populations. EPA, in partnership with the Centers for Disease Control and Prevention (CDC) and Department of Housing and Urban Development (HUD) through the Federal Asthma Disparities Action Plan,³⁸ is supporting state Medicaid programs and private health plans to pay for in-home asthma interventions through reimbursement mechanisms. In addition, EPA is working to reduce asthma disparities for low-income people and communities of color by supporting public health and housing organizations to train and deploy community health workers to deliver in-home asthma interventions and care.

EPA will continue to reduce indoor air quality risks in schools through the Indoor Air Quality Tools for Schools program, with a focus on technical assistance, training, assessments, and implementation support for in-need communities. EPA will expand technical assistance to advance best indoor air quality practices through ventilation improvements, operation and preventive maintenance, and appropriate sanitation in school and childcare buildings. EPA will also expand federal coordination and collaboration through the Federal Partners in School Health, a multi-agency collaboration led by the Department of Education, CDC, and EPA.

EPA will update the Indoor airPLUS new home construction specifications and expand the program to address indoor air quality (IAQ) protections during home renovations and upgrades. EPA will work with federal, state, and local weatherization and energy efficiency programs to incorporate IAQ protective practices through the Energy Savings Plus Health suite of guidances and tools. EPA will provide technical assistance and other support to Tribes through the Tribal Air Monitoring Support (TAMS) Center and tools to build local expertise and indoor air quality capacity among Tribal air quality professionals to help reduce exposure to harmful indoor air pollutants, including through radon testing and mitigation technologies.

EPA will review and update the Federal Radiation Protection Guidance, currently based on protecting an adult male, to include protection for all members of the U.S. population, with particular emphasis on the most vulnerable. These updates will address considerations for all ages, genders, and the increased sensitivity of pregnant individuals and children to radiation exposure. EPA will provide clear,

³⁶ NAS BEIR VI Report: Health Effects of Exposure to Radon: <https://www.nap.edu/catalog/5499/health-effects-of-exposure-to-radon-beir-vi>.

³⁷ Overview of EPA's State Indoor Radon Grants Program: A Focus on Activities Conducted during 2019: https://www.epa.gov/sites/default/files/2021-03/documents/sirg_2019_annual_summary_report_final.revised.pdf.

³⁸ Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities: <https://www.epa.gov/asthma/coordinated-federal-action-plan-reduce-racial-and-ethnic-asthma-disparities>.

accurate, and accessible risk communications products that allow individuals and communities to make informed decisions about reducing radiation exposure.

EPA will maintain personnel expertise, capabilities, and equipment readiness of the radiological emergency response program under the National Response Framework and the National Contingency Plan, including the Agency's Radiological Emergency Response Team. EPA will provide oversight of the Waste Isolation Pilot Plant (WIPP), including review of the Department of Energy plans for additional waste panels and surplus plutonium disposal, to ensure safe, long-term disposal of radioactive waste and the continued cleanup of nuclear weapons program legacy sites. EPA will also meet its Clean Air Act obligation to control radionuclide emissions by updating and bolstering inspector training programs and guidance to ensure a sustainable level of expertise.

External Factors and Emerging Issues

Impacts from a changing climate and the continued threat of disease may worsen existing indoor environmental problems and introduce new ones as temperatures change and the frequency or severity of wildfires, heatwaves, floods, and other climate-driven events increase. These impacts include increased mold from water damage and more time spent indoors where air may be of poorer quality.

The use of novel or advanced nuclear fuel for power generation and for space application, both foreign and domestic, is an emerging issue with direct impact to EPA's core mission areas of radiation protection, response, and waste management. EPA will fill gaps in expertise to meet these emerging needs to support, as appropriate, advanced nuclear energy applications while responding to concerns raised by communities living near nuclear facilities.

Goal 5: Ensure Clean and Safe Water for All Communities

Provide clean and safe water for all communities and protect our nation's waterbodies from degradation.

Introduction

Clean and safe water is a vital resource that is essential to the protection of human health. Without clean water, communities and economies cannot thrive. EPA is committed to ensuring clean and safe water for all, especially for vulnerable communities of color, underserved communities, and Tribal communities. EPA has made significant progress in protecting water resources since the enactment of the Clean Water Act (CWA);³⁹ Safe Drinking Water Act (SDWA);⁴⁰ and Marine Protection, Research, and Sanctuaries Act (MPRA).⁴¹ As a result, most communities enjoy and depend upon reliable sources of clean and safe water. Many formerly impaired waters have been restored and now support recreational and public health uses. Still, the nation faces significant challenges, including water equity and affordability, aging infrastructure, legacy lead pipes, nutrient pollution, Per- and Polyfluoroalkyl Substances (PFAS) contamination, cybersecurity threats, and the climate crisis.

Many communities need upgrades in both drinking water and wastewater infrastructure as well as greater capacity to comply with new and existing risks and standards. Tens of thousands of homes, primarily in Tribal communities, and underserved communities and territories, lack access to basic sanitation and drinking water. EPA is committed to prioritizing equity, environmental justice, and the lived experience of those most impacted by water pollution in the Agency's policy and regulatory development. Climate change compounds these problems. For example, warmer temperatures are exacerbating harmful algal blooms in freshwater lakes and storms of increasing intensity are further stressing aging infrastructure. These challenges highlight the need to work with EPA's partners to evaluate options for protecting and improving the resilience of both built and natural infrastructure.

Over the next four years, EPA will work to protect and improve the quality of groundwater, surface waters, and drinking water. EPA is committed to strengthening collaborative problem-solving with federal agencies, Tribal, state, and local governments, communities, and nongovernmental partners; advancing science; completing key rulemakings (e.g., Lead and Copper Rule Revisions, definition of "waters of the United States," Clean Water Act Section 401 water quality certification); protecting underground sources of drinking water; providing technical assistance; improving data accessibility and risk communication; facilitating innovative program action; and using its authority to help protect the health of all people and the nation's waterbodies. EPA will ensure that science is respected, elevated, and prioritized in all decisions and is released to the public in a timely and transparent manner. EPA will also address a critical public health issue by working with states and water utilities to remove lead service lines that contribute to high lead levels in drinking water. EPA will help utilities identify their lead service lines and work with federal and state funding authorities to help utilities remove the lines.

³⁹ For more information on the Clean Water Act, please visit: <https://www.epa.gov/laws-regulations/summary-clean-water-act>.

⁴⁰ For more information on the Safe Drinking Water Act, please visit: <https://www.epa.gov/sdwa>.

⁴¹ For more information on the Marine Protection, Research and Sanctuaries Act, please visit: <https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act>.

Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure

Protect public health from the risk of exposure to regulated and emerging contaminants in drinking and source waters by improving the reliability, accessibility, and resilience of the nation's water infrastructure to reduce the impacts of climate change, structural deterioration, and cyber threats.

Introduction

The United States enjoys one of the world's most reliable and safest supplies of drinking water. More than 93 percent of the population receives safe drinking water from approximately 50,000 community water systems. Similarly, the use of sewage collection systems has provided dramatic improvements in public health. Today, approximately 15,000 municipal wastewater treatment facilities operate nationwide, serving more than 76 percent of the population.⁴²

Some communities across the country, however, face the challenge of aging or inadequate drinking water, wastewater, and stormwater infrastructure. Many marginalized, underserved, or Tribal communities lack crucial access to clean and safe water and are the most vulnerable to exposure to contaminants such as lead and PFAS. The COVID-19 pandemic, cyber-attacks, and climate change have compounded these challenges and heightened the urgency to reinvest in water infrastructure (i.e., gray and green infrastructure, or natural systems such as wetlands). EPA is committed to investing in water infrastructure improvements to address these challenges so that all communities have access to clean and safe drinking water.

Long-Term Performance Goals

- By September 30, 2026, reduce the number of community water systems still in noncompliance with health-based standards since September 30, 2017 from 3,508 to 600.
- By September 30, 2026, reduce the number of community water systems in Indian country still in noncompliance with health-based standards since March 31, 2021 from 110 to 70.
- By September 30, 2026, EPA water infrastructure finance programs (CWSRF, DWSRF and WIFIA) will leverage an additional \$45 billion in non-federal dollars.
- By September 30, 2026, in coordination with other federal agencies, provide access to basic sanitation for an additional 31,500 American Indian and Alaska Native homes.
- By September 30, 2026, provide 1,722 Tribal, small, rural, or underserved communities with technical, managerial, or financial training or assistance to improve operations of their drinking water or wastewater systems.

FY 2022-2023 Agency Priority Goal (APG)

- **Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities.** By September 30, 2023, EPA will provide technical assistance to at least 90% of pilot communities to address community-

⁴² For more information on the Clean Watersheds Needs Survey 2012 Report to Congress visit: <https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-2012-report-and-data>.

identified needs related to their water and cleanup challenges and enhance their livability and economic vitality.

Strategies

EPA's water infrastructure programs can deliver multiple benefits including improving public health and environmental protection while creating jobs, collaborating with community partners, and setting the stage for long-term economic development. EPA's State Revolving Funds (SRFs) are invested in partnership with states. The Clean Water State Revolving Fund (CWSRF) Program is the largest source of federal funds for states to provide low-interest loans and other forms of assistance for water quality projects including construction of wastewater treatment facilities, water and energy efficiency projects, green infrastructure projects, and agricultural Best Management Practices (BMPs). This federal investment is designed to be used in concert with other sources of funds to address water quality needs.⁴³ EPA's Drinking Water State Revolving Fund (DWSRF) is designed to assist public water systems in financing the costs of drinking water infrastructure improvements needed to achieve or maintain compliance with Safe Drinking Water Act (SDWA) requirements, protect public health, and support state and local efforts to protect and provide drinking water. Furthermore, the Water Infrastructure Finance and Innovation Act (WIFIA) loan program provides low interest loans with flexible repayment options for qualified borrowers. With a small expenditure of federal funds, the WIFIA Program creates powerful leverage resulting in significant funding for water infrastructure projects that protect public health and deliver environmental benefits while supporting local economies and creating jobs. Eligible public and private borrowers can finance a wide variety of wastewater, drinking water, water reuse, stormwater, and other water quality improvement capital projects with WIFIA loans. In addition, the Water Infrastructure Improvements for the Nation Act of 2016 (WIIN) and America's Water Infrastructure Act of 2018 (AWIA) strengthened many existing programs within EPA while creating new programs to tackle significant public health concerns and environmental needs. They range from the creation of grant programs to promoting water workforce development. These programs are vital to protecting public health, growing the American economy, and ensuring that rural and urban communities from coast-to-coast can thrive.

Low-income, people of color, Tribal, smaller, and rural communities are disproportionately impacted by water related challenges and face historical hurdles in accessing water infrastructure funding. EPA will ensure that infrastructure investments reach communities that need them the most, which will be supported by work to implement the Justice40 initiative and advance racial equity and environmental justice for communities who too often have been left behind. EPA will support this effort by identifying and addressing barriers to support these communities (including how best to pursue SRF loans or grants for infrastructure funding); assisting and training state programs, Tribal water officials, and technical assistance providers to achieve and maintain compliance at water systems; developing best practices; and strengthening Tribal and state program capacity.

EPA also will promote and certify water operators, who are critical to providing safe drinking water. EPA will ensure that the water sector is aware of threats posted by cyber-attacks and provide

⁴³ For additional information, please see: <http://www.epa.gov/cwsrf>.

resources and assistance to states and systems so they understand how to prepare for, identify, respond to, and recover from cyber-attacks. Work under this objective will support the FY 2022-2023 Agency Priority Goal to clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities. Under this Agency Priority Goal, EPA plans to engage with a number of pilot communities that are overburdened and underserved to provide technical assistance supporting community-identified needs addressing water and clean-up challenges.

Many water systems and communities are facing challenges with lead and PFAS. Some communities do not know where their lead service lines are located. Many system operators and communities are not familiar with emerging contaminants like PFAS with respect to decisions, for example, about the best treatment solutions or remediation options. EPA will work with states to identify and prioritize infrastructure projects to replace lead service lines and address PFAS contamination, particularly in small and underserved communities.

EPA is taking multiple actions to reduce drinking water lead exposure in underserved communities that have been disproportionately impacted by this public health crisis. EPA is reviewing the Lead and Copper Rule Revision under Executive Order 13990; the Agency hosted a series of virtual engagements with low-income communities and communities of color to obtain further public input on the Lead and Copper Rule Revisions. EPA is working with partners to test for lead in the drinking water of schools and childcare facilities and to provide resources for remediation. EPA is completing guidance documents to assist communities in identifying lead service lines, the most significant sources of lead in drinking water, to prioritize their replacement. EPA will provide training and technical assistance to drinking water service providers to protect children and households in impacted communities and will help providers improve outreach to drinking water consumers to take actions to reduce their lead exposure.

PFAS contamination is another urgent public health and environmental threat facing communities across the United States, with significant potential equity and environmental justice implications. EPA has created a cross-Agency Council on PFAS, staffed by senior policy and technical experts, to coordinate and accelerate a whole-of-Agency response to this crisis and leverage partnerships with other Federal agencies. The Council is charged with developing a strategic roadmap and identifying actions the Agency should take in the next five years to maximize the use of existing authorities and scientific capacity to research, restrict, and remediate PFAS. EPA will publish a proposed PFAS National Primary Drinking Water Regulation. EPA will also begin PFAS monitoring under the Unregulated Contaminant Monitoring Rule and conduct occurrence analyses in FY 2023 through 2025. In addition, EPA also has determined that effluent limitation guidelines under the Clean Water Act should be developed to address PFAS in industrial wastewater discharged by the PFAS manufacturing and the metal finishing industries and is initiating rulemaking to do so. EPA is committed to lifting up the voices of all communities, particularly those who have suffered disproportionately from the impacts of PFAS, and to supporting those least able to access technical assistance, filtration, and other control and remediation solutions, so that we can work together to address this complex environmental challenge. EPA will confront the issue of PFAS by fully leveraging the Agency's authorities and working closely with federal, Tribal, state, and local partners.

While advances in science, sensor, and measurement technologies may improve our ability to identify additional contaminants in drinking and source waters, understanding and communicating the potential health risks of individual and mixtures of contaminants, especially those with little to no toxicity data, remains a challenge. A good example of this challenge is the detection in water of multiple PFAS, for which no toxicity data currently exists.

Understanding the potential risks of drinking water contaminants to the public remains a key priority for EPA. The Agency will continue to evaluate health effects information for drinking water contaminants to support SDWA activities. Considering those potentially most at risk — including sensitive populations and children at all life stages — is essential when developing health effects assessments for water contaminants. EPA will also update and develop new health advisories and benchmarks that can be used by federal and state partners, drinking water utilities, and others to better characterize the potential health risks associated with drinking water contaminants. To protect source waters such as lakes, reservoirs and rivers, EPA will continue to take an integrated approach to source water protection by leveraging Clean Water Act (CWA) tools, particularly national-scale recommended ambient water quality criteria.

In addition, EPA is carrying out evidence-building activities to address priority questions related to drinking water systems out of compliance, one of EPA's Learning Agenda priority areas. EPA will gather existing reports and analyses on the quality of its drinking water compliance data to address priority questions on federal and state drinking water program policies; identify what additional data are needed; search for other sources of information; and identify ways to fill data gaps. With this data analysis, EPA will identify system characteristics that support compliance and those that cause compliance challenges and use the findings to inform and develop policy instruments that are more effective in increasing drinking water compliance.

External Factors and Emerging Issues

Changing and more extreme precipitation patterns, including drought and flooding, as well as increasingly sophisticated and prevalent cyber-attacks, pose serious challenges to drinking water, wastewater, and storm water infrastructure and facilities. Safeguarding the integrity of our public health and communities requires that our water infrastructure is of sufficient capacity and properly maintained, and that the workforce that supports it is well-trained and resourced.

Another challenge is the capacity limitations of states that are facing heavy demands on annual budgets because tax revenues and system revenues are down due to the COVID-19 pandemic and other reasons. EPA continues to work with states regarding this issue and explore sources of matching funds and other potential resource options.

In addition, the potential scaling up of carbon capture to remove CO₂ from the atmosphere and safely sequester it underground may pose new scientific, technological, and permitting capacity challenges to EPA and our regulatory partners.

To help address these challenges, the Agency has established the Water Workforce Initiative, collaborating with partners to work with stakeholders across the water sector to ensure that the sector workforce is strong, diverse, resilient, and attracts and retains talented individuals from many different

backgrounds. EPA's Critical Infrastructure Protection program provides water utilities access to information, tools, training, and protocols designed to enhance the security (including cybersecurity), preparedness, and resiliency from terrorist threats and all-hazard events.

The frequency and potential severity of cyber-attacks against critical water infrastructure continues to grow. EPA, states, and sector partners have offered guidance, training, and technical assistance to promote the voluntary adoption of cybersecurity best practices; however, water utilities continue to be highly vulnerable to cyber-attacks. The risk to the environment and public health from cyber-attacks and the limited adoption of cybersecurity practices within the water sector gives urgency to federal-state engagement on improving the operational security of public water systems and publicly owned treatment works.

EPA also is assisting the water sector in developing a clear understanding of climate change impacts on utilities and water supplies, and potential long-term adaptation and risk-management options for decision-making related to water utility infrastructure. EPA also will work to facilitate compliance with updated Federal Flood Risk Management Standards for critical infrastructure, which includes many water systems.

Objective 5.2: Protect and Restore Waterbodies and Watersheds

Address sources of water pollution and ensure water quality standards are protective of the health and needs of all people and ecosystems.

Introduction

Clean and safe water is an essential resource that provides for healthy ecosystems, communities, and economies across the nation. Pollution and degradation of lakes, rivers, streams, and wetlands endangers aquatic ecosystems, threatens the safety of drinking water, compromises water quality planning and flood protections, impacts commercial and recreation opportunities (e.g., fishing, hunting, kayaking, swimming), and reduces the natural benefits these resources provide to communities. EPA needs to protect these resources against emerging threats such as climate change, drought, sea level rise, invasive species, plastics, and nutrient pollution.

EPA's water programs will maintain, restore, and improve water quality and availability and ecosystem services. EPA is focused on its core mission to protect the nation's waters and reiterates the principles of science, equity, environmental justice, and Tribal sovereignty as fundamental standards that should be woven throughout its programs.

Long-Term Performance Goal

- By September 30, 2026, increase by an additional 41,000 square miles the area of watersheds with surface water meeting standards that previously did not meet standards from a July 7, 2021 baseline of 425,198 square miles of watershed area with surface water that are meeting standards.

Strategies

EPA uses a suite of programs to protect and improve water quality and ecosystem health in the nation's watersheds—as well as estuarine, coastal, and ocean waters. In partnership with other federal agencies, Tribes, states, territories, local governments, and a broad range of non-governmental partners, EPA recognizes the disproportionate impact of pollution and climate stress on communities with environmental justice concerns and Tribal treaty rights and will work collaboratively with public and private sector stakeholders nationally and locally to establish innovative, location-based programs to achieve the Agency's goals. EPA water programs will:

- Conduct monitoring and assessments.
- Collect and share data following Internet of Water⁴⁴ principles, which will help connect water data to inform policy and community decision making.
- Improve tools for early and rapid detection of harmful algal blooms and pathogens in recreational waters.
- Promulgate and update regulations, such as:
 - EPA and the Department of the Army's intent to revise the definition of "waters of the United States". This process includes two rulemakings: a foundational rule to restore

⁴⁴For additional information, please see: <https://internetofwater.org/>.

longstanding protections, and an anticipated second rule that builds on that regulatory foundation.

- Reconsider and revise the 2020 CWA Section 401 Certification Rule, which provides states and authorized Tribes an important tool to help protect the water quality of federally regulated waters within their borders.
- Produce effluent limitation guidelines for chemical manufacturers and metal finishing companies to address PFAS, for steam electric power generators to address toxics and other pollutants, and for meat and poultry products to address nutrient discharges.
- Evaluate state-specific rules that arise based on an EPA review of changes to state Water Quality Standards (WQS).
- Review rules related to improving CWA protections on Tribal reservations and considering Tribal treaty rights when acting on state WQS that impact those rights.
- Augment water supplies by safe reuse practices and stormwater capture to recharge aquifers.
- Develop climate-related tools and technical assistance to protect and improve water quality and habitat, while also providing climate mitigation and adaptation benefits.
- Identify impaired waters.
- Develop water quality plans to restore and protect waters and wetlands, including total maximum daily loads (TMDLs) and protection approaches.
- Update WQS.
- Establish pollution reduction targets.
- Issue and enforce discharge and ocean disposal permits.
- Implement coastal and estuarine programs to reduce coastal wetland loss, adapt to sea level rise, protect coral reefs, and address other coastal hazards.
- Implement programs to prevent or reduce nonpoint source pollution, including nutrients and plastic pollution.

EPA understands that the benefits of clean, safe water are not shared equally by all communities and ecosystems. Moving forward, EPA will work with its partners to protect and restore water quality and wetlands, especially in low-income and underserved communities. To address water quality challenges, EPA will apply the fundamental building blocks of the Clean Water Act (CWA), including the development and implementation of TMDLs for CWA Section 303(d) listed impaired waterbodies, development of technology-based and water-quality based standards, and the implementation of permit programs such as the National Pollutant Discharge Elimination System (NPDES) and Marine Protection, Research, and Sanctuaries Act (MPRSA) programs. Another approach could include taking full advantage of the flexibilities in the CWSRF programs to help achieve broader watershed protection and restoration. Partnership, science, technology, and innovation will be key to EPA's efforts to reduce and control pollutants that are discharged from industrial, municipal, agricultural, and stormwater sources, as well as to implement programs to prevent and reduce pollution that washes off the land during rain events, including nutrients and plastic pollution.

The Agency will improve the way existing initiatives are used to create and protect healthy watershed tools, explore how innovative tools can be applied, and enhance efforts and cross media collaboration

to protect and prevent water quality impairment in healthy watersheds. The Agency will use data collected, for example, under the National Aquatic Resource Survey, to track the effectiveness of these combined efforts at protecting and improving water quality over time. In addition, EPA will work with government and non-governmental partners to bring appropriate and effective solutions to small, rural, and underserved communities.

The Agency will continue to develop new and revised CWA national recommended water quality criteria for the protection of human health and aquatic life that Tribes, states, and territories may adopt into water quality standards for their waterbodies. Water quality criteria consider the health protection for susceptible populations and lifestages (e.g., pregnant individuals, children) but can be limited by data availability. EPA also is reviewing the water quality criteria methodology to further advance the health protection of communities and individuals who are disproportionately impacted by high pollution levels or susceptibilities (e.g., Tribes, underserved and overburdened communities, pregnant individuals, children). EPA is developing the necessary tools and obtaining data needed to conduct efficient, standardized human health risk assessments for PFAS and other chemicals found in biosolids. EPA is also fully committed to implementing programs that protect Tribal water resources—EPA will revise Water Quality Standards regulations to explicitly and sustainably protect Tribal reserved (e.g., treaty) rights in state waters.

EPA will continue to promote multi-benefit solutions, such as integrated planning for wastewater and stormwater management, to achieve water quality goals while considering community needs and priorities. Robust stakeholder engagement and collaboration across state and local government can lead to effective long-range plans that implement green infrastructure, nature-based solutions, and more resilient infrastructure that is less vulnerable to flooding and the effects of the changing climate. To respond and adapt to the current and potential impacts of climate change on aquatic resources, EPA has developed working relationships with partners across the country. Through planning tools, technical resources, and funding programs, EPA will promote adaptive solutions to meet the challenges faced by communities.

EPA and its partners will accelerate progress to protect and restore ecologically and intrinsically valuable watersheds across the nation through its place-based and Geographic Programs by strategically focusing on the biggest threats to their ecosystems and associated human health issues. Using a collaborative watershed approach, these programs incorporate in their environmental protection work the principles of environmental justice and Tribal treaty rights and sovereignty. EPA's leadership, at the regional and national levels, provides a foundation using technical expertise, science-based support, and funding to develop long-term strategies and actions to improve water quality, restore habitat, and foster sustainable human use. Through place-based and geographic programs, EPA plays an important role as a convener and facilitator with federal, Tribal, state, and local partners to align resources and authorities within regional, watershed, and basin-scaled collaborative networks. More specifically, EPA's place-based and geographic programs deliver technical and financial assistance to solve problems and support healthy, climate-resilient ecosystems that address water quality, water infrastructure, nutrient pollution, habitat loss, treaty rights, equity, and environmental justice.

EPA, in partnership with other federal agencies, has shown time and again that collaboration can deliver multiple benefits to achieve common goals. EPA will continue to foster partnerships, such as with the Hypoxia Task Force and U.S. Department of Agriculture, to protect sources of drinking water and overall water quality. This can be accomplished through watershed management and more effectively managed runoff from agricultural lands using nature-based approaches; participation in the Urban Waters Federal Partnership to promote more efficient and effective use of federal resources and build new partnerships to help local communities achieve their water quality priorities and increase their resilience to climate change; partnering with the Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, and others on both pre-disaster planning and post-disaster recovery; and serving as a Natural Resource Damage Assessment and Restoration Trustee in partnership with federal and state co-Trustees, for restoring Gulf resources and services impacted by the Deepwater Horizon oil spill.

External Factors and Emerging Issues

Climate change will continue to pose risks to wetlands, groundwater, and freshwater habitat quality and quantity. Sea-level rise will result in loss and compression of habitat for fish and wildlife and salt-water intrusion to coastal groundwater sources. Extreme weather events due to climate change also pose challenges such as increases in nutrient loadings and stormwater runoff, which place additional stress on waterbodies and ecosystems. There also are potential emerging risks to water and water quality from increased domestic mining for critical and rare earth elements needed to produce electric vehicles, motors, wind turbines, and other technologies that will be important to decarbonize the economy and reduce CO₂ emissions.

Microplastics, defined as pieces of plastic between 1 nanometer and 5 millimeters in length (about the size of a sesame seed), present potential risks to human health and the environment. While much remains unknown, microplastics leaking into the environment have been estimated to increase from 1.4 megatons per year in 2016 to 3.0 megatons per year in 2040. Another study estimates the concentrations of microplastics in some ocean areas are 60 times greater today than just 15 years ago. There are many potential sources of microplastic input to aquatic systems, including degradation of plastic waste, tire wear particles, textiles, improperly disposed fishing gear, scrubbers in cosmetics and other personal care products, and protective hull coatings on ships.

To address these challenges, EPA will support communities in developing water quality plans, promoting green infrastructure to achieve multiple benefits, and providing resources and training to reduce stormwater pollution. EPA will support Tribal, state, and local partners to understand and respond to the risks to human health and the environment due to coastal hazards and climate change. EPA also will engage in both domestic and international partnerships to support trash pollution prevention programs, recycling efforts in rural and suburban communities, and waterfront revitalization. Research into the sources, fates, and effects of microplastics continues to be a priority and EPA participates on the Interagency Marine Debris Coordinating Committee, which plans for how federal agencies, in partnership with other stakeholders, can best pursue opportunities to reduce microfiber pollution substantially during the five-year period following the enactment of the Save Our Seas Act. The Agency also will help states and local communities address PFAS. EPA is pursuing a

number of activities related to PFAS in ambient water, including development of national recommended water quality criteria, biosolids risk assessment, fish tissue monitoring, analytical method development, and a multi-industry wastewater study examining available information about PFAS use and discharge across several industries.

Goal 6: Safeguard and Revitalize Communities

Restore land to safe and productive uses to improve communities and protect public health.

Introduction

EPA works directly with, in, and for thousands of communities across the country, protecting their health and the environment by cleaning up contaminated land, managing the safe disposal of solid, industrial, and hazardous waste, and planning for and responding to environmental emergencies. EPA assesses and restores contaminated land near 61 percent of the United States population, including 62 percent of children under the age of five. While there is no single way to characterize communities located near contaminated sites, the legacy of pollution disproportionately affects minority, low-income, linguistically isolated populations, and those without a high school education. EPA will engage early and collaborate with Tribal, state, local partners, and affected communities to improve the livelihood of all Americans by cleaning up and returning these sites to productive use, especially in underserved and overburdened communities.

Uncontrolled releases of hazardous substances, pollutants, and contaminants impact air, land, and water and threaten healthy ecosystems. Nationally, there are thousands of contaminated sites with challenging and complex environmental problems, including soil, sediment, and groundwater contaminated by chemicals such as per- and polyfluoroalkyl substances (PFAS). Over the next four years, EPA will prioritize the cleanup of legacy contamination and emerging pollutants and facilitate site redevelopment in collaboration with communities, local governments, businesses, and other stakeholders.

As it addresses existing contamination, EPA also will focus on reducing waste and preventing pollution. EPA and states manage the safe disposal of 2.96 billion tons of solid, industrial, and hazardous waste every year. This includes protective standards for the roughly 60,000 facilities in the United States that annually generate and manage more than 30 to 40 million tons of hazardous waste. EPA, in partnership with Tribes, states, local governments, and other organizations, will work to prevent releases of contaminants, reduce waste by increasing materials recovery and recycling, and support sustainable materials management practices. Through prevention activities, EPA protects groundwater from releases from underground storage tanks (USTs). Through materials recovery and recycling, EPA also provides direct, measurable reductions in greenhouse gas (GHG) emissions since natural resource extraction and processing make up more than 50 percent of total GHG emissions.

EPA also has mission-essential functions to prepare for and respond to environmental emergencies, which are growing in frequency and risk because of climate change. EPA strives to prevent emergencies through inspections of high-risk facilities and maintains the capabilities to respond to emergencies through planning and preparedness efforts. EPA follows the government-wide National Response Framework (NRF)⁴⁵ in responding to large-scale emergencies that involve chemicals, oil,

⁴⁵ For more information about the National Response Framework, please visit <https://www.epa.gov/emergency-response/national-response-framework-nrf>.

biological agents, radiation, or natural disasters. As part of the framework, EPA supports other agencies on significant incidents, and works with Tribes, states, and local planning and response organizations. Due to their proximity to facilities, fence-line communities, often with environmental justice concerns, bear a disproportionate risk of exposure to releases. Over the next four years, EPA will work to find solutions for these disproportionately impacted communities by prioritizing inspection of high-risk facilities.

Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities

Clean up and restore contaminated sites to protect human health and the environment and build vibrant communities, especially in underserved and overburdened areas.

Introduction

Contaminated soil, sediment, mine waste, and groundwater expose communities across the United States to dangerous pollution. Twenty-two percent of the U.S. population lives within three miles of a Superfund site. At Superfund residential lead sites, 18 percent of the population live below the national poverty level, 15 percent do not have a high school degree, and 51 percent are minority. Similarly, within a half mile of a brownfields site receiving EPA funding, 21 percent of people live below the national poverty level, 17 percent have less than a high school education,⁴⁶ 56 percent are minority, and 7 percent are linguistically isolated. Children are disproportionately exposed to health risks and safety hazards, especially from lead in soil. By cleaning up and returning contaminated land to productive use, EPA will improve the health and livelihood and reduce the environmental and health effects of exposure to contamination in communities, especially overburdened communities. This includes lowering the risk of elevated blood lead levels for children living near lead-contaminated sites.⁴⁷

Together with federal, Tribal, and state partners, EPA's cleanup programs will reduce risks to human health and the environment while also returning them to productive reuse and providing economic and additional environmental benefits. Thousands of sites across the country have been transformed—from abandoned, contaminated industrial sites into parks, landfills into solar farms, and former smelters into health clinics. By assessing and cleaning up brownfields properties, EPA will bring direct economic and environmental gains to communities. Through FY 2020, on average, \$20.13 was leveraged for each EPA brownfields dollar, and 10.3 jobs were leveraged per \$100,000 of EPA brownfields funds expended on assessment, cleanup, and revolving loan fund cooperative agreements.⁴⁸ Several studies have shown that environmental benefits accrue when brownfields sites are used for redevelopment, such as reduction of paved surfaces and vehicle miles traveled.⁴⁹

Long-Term Performance Goals

- By September 30, 2026, bring human exposures under control at an additional 60 Superfund sites.
- By September 30, 2026, clean up an additional 650 brownfields properties.

⁴⁶ U.S. EPA, Office of Land and Emergency Management 2020. Data collected includes brownfields site information from EPA's Assessment, Cleanup and Redevelopment Exchange System (ACRES) database at the end of FY 2020 and population data from the 2015-2019 American Community Survey.

⁴⁷ Klemick, H., Mason, H., & Sullivan, K. (2019). Superfund cleanups and children's lead exposure. *Journal of Environmental Economics and Management*, 100, <https://doi.org/10.1016/j.jeem.2019.102289>.

⁴⁸ U.S. EPA, Office of Land and Emergency Management 2020. FY 2020 program accomplishments from EPA's ACRES Database.

⁴⁹ 2020 Environmental Benefits of Brownfields Redevelopment — A Nationwide Assessment. For more information, please visit: <https://www.epa.gov/brownfields/2020-environmental-benefits-brownfields-redevelopment-nationwide-assessment-0>.

- By September 30, 2026, make an additional 425 RCRA corrective action cleanups Ready for Anticipated Use.
- By September 30, 2026, clean up an additional 36,500 Leaking Underground Storage Tank facilities.

FY 2022-2023 Agency Priority Goal (APG)

- **HUD and EPA will reduce exposure to lead to protect families, particularly children, in overburdened and underserved communities.** By September 30, 2023, HUD and EPA will reduce exposure to lead to protect families, particularly children, by EPA completing at least 100 Superfund lead cleanup projects, of which there are at least 5 projects where HUD is financing efforts to reduce exterior and interior paint-lead hazards in housing.

Strategies

To return a formerly contaminated site to productive reuse takes strong local and regional economies and supportive federal, state, and local land use, housing, and transportation policies. EPA will collaborate with its partners to clean up sites and return them to productive use; and involve people in decisions that affect their environment or health, especially communities with environmental justice concerns. EPA will engage with and increase involvement of communities to develop their visions for revitalization by identifying economic drivers and connecting community needs to federal investments. In carrying out Superfund removal actions, EPA will partner with communities to ensure that their concerns are identified and accounted for while working with Tribal, state, local, and other stakeholders. Work under this objective will support the FY 2022-2023 Agency Priority Goal to clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities.

During FY 2019-2020, over 40 percent of Superfund removal completions were in communities with environmental justice concerns. EPA will continue to support marginalized and overburdened communities by removing or mitigating exposure to harmful substances and remediating contaminated land for reuse. EPA has identified nearly 1,200 Superfund National Priority List (NPL) and Superfund Alternative Approach (SAA) sites where lead is a contaminant of concern, potentially exposing children in communities across the country.⁵⁰ EPA will continue a cross-program effort focusing on environmental lead exposure reduction with emphasis on where the burden of lead exposure disproportionately impacts communities with lower socioeconomic status. EPA also will address lead-contaminated soil at Superfund sites by developing site-specific cleanup levels accounting for total lead exposure at a site. In addition, EPA will consider climate change and weather science as part of standard operating practices in Superfund cleanup projects⁵¹ and take steps to reduce the carbon footprint of remedies' implementation.

EPA will help build vibrant communities by supporting Tribes, states, local governments, and nonprofit organizations as they assess, cleanup and plan reuse of brownfields properties and by providing job training opportunities, particularly in underserved communities. Additionally, EPA will provide Tribal

⁵⁰ For more information, please visit: <https://www.epa.gov/leadactionplanimplementation/implementation-status-report-epa-actions-under-december-2018-federal>.

⁵¹ For additional information, please visit: <https://www.epa.gov/superfund/superfund-climate-resilience>.

nations and states with critical financial and technical assistance resources to build their brownfields response programs. EPA will provide direct technical assistance to communities to support community visioning, engagement, market and feasibility studies, and project financing options. In carrying out cleanup and redevelopment efforts, EPA will continue to strengthen community-driven approaches by working with neighborhoods, towns, and regions to help them revitalize in ways that support improved environmental outcomes and disaster resilience and respond to challenges of the 21st century. EPA will leverage federal, state, and local resources to strengthen partnerships across all levels of government and with the private sector, allowing these partners to build on each other's successes.

EPA is undertaking an Agencywide effort to determine the best way to mitigate and reduce PFAS pollution. EPA, responsible parties, and other Federal agencies will assess the nature and extent of PFAS contamination and other contaminants of concern at sites and will coordinate with responsible parties and lead federal agencies to identify and use effective remediation approaches. As part of its oversight responsibility at federal facility sites, EPA will establish guidance and best practices for PFAS investigation and cleanup. EPA will work to keep pace with the surging number of actions for PFAS at Department of Defense and other federal facility sites and oversee cleanup efforts where PFAS releases have been identified as a risk to human health or the environment. EPA also will consider statutory and regulatory authorities to address PFAS contamination. For example, EPA is considering a proposal to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act.

EPA will support states in cleaning up leaking underground storage tanks (LUST),⁵² and directly implement assessments and cleanups of petroleum contamination in Indian country. EPA will provide technical assistance and training to Tribes and states on how to conduct cleanups and improve the efficiency of state programs. Along with Tribal and state partners, EPA will work to revitalize abandoned facilities by implementing strategies to reduce the number of sites that have not reached cleanup completion and to address new releases as they are confirmed. EPA will create an environmental indicator with UST and LUST data in EJSCREEN, EPA's Environmental Justice Screening and Mapping Tool. The new indicator will include national information from active UST and LUST sites, including sites in Indian country. EPA will work to integrate environmental justice into cleanups' prioritization and decision making to ensure that the most vulnerable communities are protected from further environmental harm.

External Factors and Emerging Issues

Cleanup remedies at contaminated sites may be vulnerable to the impacts of climate change, fires, floods, and extreme weather events.

The potential releases from emerging fuels (such as E15 and higher blends of ethanol) stored with incompatible tanks and equipment or corroded diesel fuel UST systems could significantly impact

⁵² States as referenced here also include the District of Columbia and five territories as described in the definition of state in the Solid Waste Disposal Act.

resources available for cleanup. A 2016 study⁵³ found moderate to severe corrosion inside 83 percent of examined diesel fuel tanks. EPA's coordination and cooperation efforts with the UST stakeholder community remains critical. The impacts of an aging UST infrastructure could lead to more frequent and more catastrophic releases. This would strain state resources to ensure appropriate oversight as well as negatively impacting available resources for cleanup.

New scientific information, including new toxicity information or a new analytical method, can call previous determinations into question. For example, the discovery of new pathways, such as vapor intrusion, and emerging contaminants make remediating contaminated sites more challenging.

State programs are likely to encounter resource challenges and have less money to support cleanup efforts as states experience declines in gas tax revenues associated with the emergence of electric vehicles and a downward trend in the amount of gasoline sold annually. Possible impacts of economic transition to electric vehicles, including battery recycling and legacies of petroleum-era infrastructure, pose challenges. Lead battery recycling facilities are a common type of cleanup the Superfund removal program conducts and, if recycling of lithium becomes a valuable economic venture in the future with minimal oversight, the pattern would likely repeat.

⁵³ EPA's July 2016 research report, *Investigation of Corrosion-Influencing Factors in Underground Storage Tanks with Diesel Service* (EPA 510-R-16-001). July 2016. <https://www.epa.gov/ust/investigation-corrosion-influencing-factors-underground-storage-tanks-diesel-service>.

Objective 6.2: Reduce Waste and Prevent Environmental Contamination

Prevent environmental pollution by preventing releases, reducing waste, increasing materials recovery and recycling, and ensuring sustainable materials management practices.

Introduction

To prevent future environmental contamination and protect the health of the approximately 5.3 million people living within one mile of a hazardous waste facility, EPA and its state partners issue RCRA permits for approximately 6,700 hazardous waste units (such as incinerators and landfills) at 1,300 facilities. EPA will ensure that permits reflect the latest technology and standards and remain protective under changing conditions, such as climate change. EPA will also ensure that all communities, including those who are marginalized and overburdened, have an equitable opportunity to engage in the permitting process.

Through its National Recycling Strategy,⁵⁴ EPA is working to develop a stronger, more resilient, and cost-effective U.S. municipal solid waste recycling system. Recycling has been a long-standing critical component of EPA's waste management efforts and is the foundation for Sustainable Materials Management, which aims to reduce the environmental impacts of materials across their lifecycle. Recycling is an important part of a circular economy, which refers to a system of activities that is restorative to the environment, enables resources to maintain their highest values, and designs out waste. A circular economy approach provides direct, measurable reductions in GHG emissions as natural resource extraction and processing make up approximately 50 percent of total global GHG emissions. Reducing waste helps alleviate burdens on populations that bear the brunt of poorly run waste management facilities and transfer stations and underinvestment in waste management infrastructure. When applied to critical minerals, a circular economy approach facilitates end of life recycling and the recovery of critical minerals in order to support a secure supply chain.

To protect groundwater sources from releases of petroleum from USTs, EPA will continue to work with Tribal and state partners to prevent these releases. This work will help mitigate the negative environmental impacts to communities that are historically underserved, marginalized, and adversely affected by persistent poverty and inequality. As of September 2020, approximately 53 million people live within one-quarter mile of an active UST facility, and they tend to be minority populations and have lower income than the average U.S. wage earner.⁵⁵

⁵⁴ The National Recycling Strategy is currently in draft and expected to be finalized during FY 2021. For more information, please visit: <https://www.epa.gov/americarecycles/national-recycling-strategy-and-framework-advancing-us-recycling-system>.

⁵⁵ U.S. EPA, Office of Land and Emergency Management 2021. Data collected includes: (1) LUST information as of late-2018 to mid-2019, from the Office of Research & Development and Office of Underground Storage Tanks UST Finder, <https://gispub.epa.gov/ustfinder>; and (2) population data from the 2015-2019 American Community Survey.

Long-Term Performance Goal

- By September 30, 2026, increase the percentage of permit renewals at RCRA facilities to 80% from the FY 2021 baseline of 71%.

Strategies

EPA will update the RCRA solid and hazardous waste regulations, as necessary, to ensure protective standards for managing solid and hazardous waste. From 2016 to 2019, EPA issued regulatory improvements for hazardous waste generators, recyclers, and for pharmaceutical waste. These revisions affect tens of thousands of manufacturers and businesses that generate, recycle, and otherwise manage solid and hazardous waste. EPA will continue to develop outreach and guidance to help stakeholders implement these protective requirements while encouraging resource conservation.

In implementing regulations for coal combustion residuals, EPA is taking action to ensure that the concerns of nearby communities are addressed in a protective manner. EPA is emphasizing proper monitoring of groundwater, protective closure, and corrective actions to address contamination. Furthermore, as authorized in the Water Infrastructure Improvements for the Nation Act of 2016,⁵⁶ EPA will continue to work to approve state permit programs for coal ash disposal as well as a federal coal ash permit program.

EPA has set goals through 2030 for recycling and reducing food waste as well as decreasing lifecycle environmental impacts of materials. EPA will collaborate with federal, Tribal, state, and local organizations, and other stakeholders to develop additional strategies for food waste and the built environment. EPA will administer grant programs to improve Tribal, state, and local solid waste management programs and infrastructure and education and outreach on waste prevention. EPA also will address land-based contributions to the mismanagement of post-consumer materials and plastic waste.

In order to support the Administration's efforts to secure supply chains for critical minerals, EPA will work with public and private sector partners on strategies to increase the circularity and recycling of products, such as batteries, that contain critical minerals as well as the recovery of critical minerals from mining waste.

To reduce risk posed by USTs located at nearly 200,000 facilities throughout the country, EPA and state partners will work to ensure that every UST system is inspected at least once every three years, as required by statute.⁵⁷ EPA is working to ensure biofuels and other emerging fuels are stored in compatible UST systems. In addition, EPA will implement these UST regulations in Indian country in partnership with the Tribes. EPA will focus on supporting all aspects of the Tribal prevention programs, including the development of inspection and compliance assistance capacity. EPA will provide facility-specific compliance assistance for UST facility owners and operators in communities with

⁵⁶ For more information about the Water Infrastructure Improvements for the Nation Act or the WIIN Act, please visit: <https://www.epa.gov/coalash/permit-programs-coal-combustion-residual-disposal-units>.

⁵⁷ For information about the Energy Policy Act of 2005, please visit: <https://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks-usts>.

environmental justice concerns in Indian country. EPA will work to integrate environmental justice into release prevention prioritization and decision making, ensuring the most vulnerable communities are protected from further environmental harm.

External Factors and Emerging Issues

The potential impacts of a changing climate, including extreme weather events such as tornadoes, fires, and hurricanes on hazardous waste and UST facilities across the nation will affect EPA's work. Also, new waste streams continue to emerge as technology advances and new products are designed and manufactured. The general trend away from landfills and toward the recycling of materials using new technologies will require further evaluation. In addition, the impacts of an aging UST infrastructure could lead to increased difficulty in preventing more frequent and more catastrophic releases. This would strain state resources for release prevention activities such as inspections because of the enhanced need to focus on riskier sites. The potential incompatibility of emerging fuels (such as E15 and higher blends of ethanol) stored with existing tanks and equipment, or increased corrosion in diesel fuel UST systems, also could create challenges to preventing releases.

Objective 6.3: Prepare for and Respond to Environmental Emergencies

Prevent, prepare, and respond to environmental emergencies and support other agencies on nationally significant incidents, working with Tribes, states, and local planning and response organizations.

Introduction

Environmental emergencies are caused by both natural and anthropogenic effects. Those emergencies caused by natural forces are growing in frequency and in the risks they pose. EPA will strive to prevent such emergencies and be ready to respond when they occur, in coordination with and through the support of partner organizations. EPA's leadership for national preparedness for emergency responses is designated as a Primary Mission Essential Function. Agency coordination with Tribes, states, local communities, and industry helps to ensure national safety and security during responses.

EPA will continue to develop and implement regulations and policies that aim to prevent environmental emergencies and enhance the ability of communities and facilities to prepare for and respond to emergencies. EPA's highly trained corps of on-scene coordinators and special teams will prepare for the possibility of significant incidents by maintaining and providing guidance and technical assistance to Tribal, state, and local planning and response organizations to strengthen their preparedness.

Long-Term Performance Goal

- By September 30, 2026, ensure that 40% of CERCLA, Oil, Homeland Security, and FEMA exercises with EPA participation conducted annually address environmental justice concerns.

Strategies

During an incident, EPA plays a central role in working to prevent, mitigate, or contain the release of chemical, oil, radiological, biological, or hazardous substances. The Agency will coordinate with industry, Tribes, states, and local communities to help ensure national safety and security during responses.

To strengthen its prevention and readiness framework for responding to environmental emergencies (including from climate and extreme weather), EPA will develop and update regulations under its statutory authorities, establish policies, and develop supporting capabilities and information. EPA also will coordinate with and provide technical assistance and training to support federal, Tribal, state, and local partner organizations to better prepare for and respond to environmental emergencies and ensure communities have access to chemical safety information. EPA will continue to operate RadNet, the Agency's national environmental radiation monitoring system, providing officials with access to data and improving their ability to make decisions during and after a radiological incident. The Agency also will maintain a robust physical and information security and preparedness infrastructure, ensuring that its numerous facilities and information systems are secured and protected in line with federal requirements.

The Agency will continue to deploy its assets to support emergency response. The Portable High-throughput Integrated Laboratory Identification System (PHILIS) mobile laboratory asset provides on-site analysis of chemical warfare agents and environmental samples contaminated with toxic industrial compounds. This resource is part of EPA's Environmental Response Laboratory Network and will be pre-deployed in anticipation of incidents or deployed anywhere in the U.S. after an incident. The Airborne Spectral Photometric Environmental Collection Technology (ASPECT) is the nation's only airborne real-time chemical and radiological detection, infrared, and photographic imagery platform. EPA will use ASPECT to assist local, national, and international agencies with hazardous substance responses, radiological incidents, and situational awareness.

EPA's chemical safety and oil programs will prioritize inspection activities at high-risk facilities to protect communities, including those with environmental justice concerns. EPA will review the programs to determine if risks posed by climate change warrant modifications to the programs.

EPA homeland security research fills critical scientific and technological gaps that enhance the Agency's ability to carry out its national preparedness and emergency response and recovery obligations and inform disaster response and guidance. EPA will develop tools, methods, and data needed to implement environmental statutes effectively and support federal, Tribal, state, and local emergency responders in characterizing chemical, oil, biological, or radiological contamination; assessing exposure and risks to human health and the environment; cleaning up impacted areas; and improving community resilience. EPA also will consider regulatory modifications under CAA Section 112(r) to help prevent serious industrial chemical accidents, mitigate those that occur, and provide communities with better access to information about industrial chemical hazards.

External Factors and Emerging Issues

The risks posed by climate change are growing, with previously unforeseen risks developing and worsening, increasing the need for emergency response efforts. Chemical and oil facilities can be vulnerable to rising seas, wildfires, high heat, flooding, and other events that can endanger these facilities and result in, or worsen, an incident.

As infrastructure becomes more tightly coupled and dependent on remotely accessed or internet-connected data acquisition and control technologies, the threat of cyber terrorism will increase the potential for oil and chemical releases. EPA will need to continue to work with federal, state, and local agency partners to prepare for and respond to this threat.

Goal 7: Ensure Safety of Chemicals for People and the Environment

Increase the safety of chemicals and pesticides and prevent pollution at the source.

Introduction

EPA is responsible for ensuring the safety of chemicals and pesticides for people at all life stages and the environment, improving access to information, and preventing pollution at the source before it occurs. The Agency focuses on assessing, preventing, and reducing releases and exposures resulting from the manufacture, processing, use and disposal of chemicals and pesticides, and advancing community right-to-know. Through risk evaluation/assessment and management, encouragement of safer alternatives, and effective data management, EPA strives to ensure protection of communities and the environment from unsafe exposures, especially children, the elderly, and those with environmental justice concerns (including low income, minority, and Indigenous populations) who may already be disproportionately impacted by and at risk from exposure to other stressors. In addition, EPA works to ensure public access to chemical and pesticide data, analytical tools, and other sources of information and expertise; and promotes source reduction, integrated pest management, and other pollution prevention strategies by organizations and businesses.

Objective 7.1: Ensure Chemical and Pesticide Safety

Protect the health of families, communities, and ecosystems from the risks posed by chemicals and pesticides.

Introduction

Chemicals are ubiquitous in the products we use daily and are present in our environment and our bodies. EPA has significant responsibilities under the Toxic Substances Control Act (TSCA) for ensuring the safety of chemicals in or entering commerce and addressing unreasonable risks to human health or the environment. This work will play an important role in enhancing environmental justice and tackling the climate crisis as described in Executive Orders 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* and 14008: *Tackling the Climate Crisis at Home and Abroad*. Also, under TSCA, EPA is responsible for collecting and managing vast amounts of chemical data/information, securely managing Confidential Business Information, and reducing exposure to lead in paint and dust, especially in disproportionately affected communities.

The Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended TSCA in 2016, introduced far-reaching improvements to America's chemical safety scientific, regulatory, and information infrastructure and enhanced EPA's ability to protect human health and the environment from chemical risks. Under Section 5, EPA assumed responsibility for making safety determinations in its review of hundreds of new chemical submissions annually. Under Section 6,⁵⁸ EPA assumed new responsibilities for systematically prioritizing and comprehensively evaluating at least 20 chemicals at a time, assessing additional chemicals at manufacturers' request, and managing identified unreasonable risks—all under statutory deadlines.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act of 1996 (FQPA), and the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4),⁵⁹ EPA is charged with protecting people and the environment from the risks that pesticide use can pose. EPA reviews and registers new pesticides, new uses for existing pesticides and other registration requests in accordance with statutory requirements, making sure exposure to subgroups and sensitive life stages, including infants and children, are reflected in the human health risk assessments supporting these regulatory determinations and that pesticides do not pose unreasonable adverse effects to the environment. Under the Endangered Species Act (ESA),⁶⁰ EPA is charged with ensuring that pesticide registration and registration review decisions do not jeopardize the continued existence of federally-listed threatened and endangered species or adversely modify designated critical habitat. In addition, the Agency evaluates pesticides that are already in the market against current scientific standards for human health and the environment.

⁵⁸ Regulation of Chemicals under Section 6(a) of the Toxic Substances Control Act: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/regulation-chemicals-under-section-6a-toxic-substances>.

⁵⁹ Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act of 1996 (FQPA), and the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4).

⁶⁰ Summary of the Endangered Species Act: <https://www.epa.gov/laws-regulations/summary-endangered-species-act>.

Long-Term Performance Goals

- By September 30, 2026, complete at least eight High Priority Substance (HPS) TSCA risk evaluations annually within statutory timelines compared with the FY 2020 baseline of one.
- By September 30, 2026, review 90% of risk mitigation requirements for TSCA new chemical substances compared to the FY 2021 baseline of none.
- By September 30, 2026, renew 40% of expiring lead-based paint Renovation, Repair, and Painting (RRP) firm certifications within 30 days compared to the FY 2021 baseline of 36%.
- By September 30, 2026, complete 78 pesticide registration review cases.
- By September 30, 2026, consider the effects determinations or protections of federally threatened and endangered species for new active ingredients in 90% of the risk assessments supporting pesticide registration decisions for new active ingredients compared to the FY 2020 baseline of 50%.
- By September 30, 2026, consider the effects determinations or protections of federally threatened and endangered species in 50% of the risk assessments supporting pesticide registration review decisions compared to the FY 2020 baseline of 25%.
- By September 30, 2026, support Agricultural Worker Protection Standard (WPS) pesticide safety training for 20,000 farmworkers annually compared with the FY 2018-2020 annual average baseline of 11,000.

Strategies

Over the next four years, EPA will focus on meeting statutory requirements and mandatory deadlines for ensuring that its chemical reviews are efficient, effective, and transparent to EPA's stakeholders. EPA will ensure that decisions stemming from chemical reviews are transparent, use methods and tools based on the weight of scientific evidence, are consistent with the best available scientific information, and are reasonable and consistent with the intended use of the information.

EPA is responsible for reviewing all new chemical submissions before they enter commerce to determine whether the chemicals may pose unreasonable risks to human health or the environment.⁶¹ EPA will conduct risk assessments for more than 500 new chemical notice and exemption submissions annually and make affirmative determinations on whether unreasonable risks are posed under those chemicals' conditions of use. This involves managing identified risks, publishing Significant New Use Rules, and requiring development of additional data when information is insufficient to conduct a reasoned evaluation.

EPA will continue to ensure that the public has access to as much chemical safety information as allowed by law to increase transparency and support stakeholder engagement in EPA's activities on chemical risks. EPA also will continue to reduce exposures to lead in paint by establishing standards for inspection, risk assessment, and abatement of lead-based paint hazards, along with training and certification programs, among other efforts.

⁶¹ Actions under TSCA Section 5: <https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/actions-under-tsca-section-5>.

Consistent with statutory responsibilities^{62 63 64} EPA will continue to review and register new pesticides and new uses for existing pesticides, and other covered applications under PRIA and act on other registration requests in accordance with FIFRA and FFDCA standards. Many of these registration actions will be for reduced-risk conventional pesticides and biopesticides, which, once registered and used by consumers, will increase benefits to society, including infants and children, and reduce ecological impacts. Additionally, EPA will continue to reevaluate existing pesticides in the marketplace on a 15-year cycle to ensure the FIFRA standard for registration continues to be met based on current science. Working together with the affected communities, through integrated pest management (IPM) activities, the Agency plans to accelerate the adoption of lower-risk products.

The Pesticide Environmental Stewardship Program (PESP)⁶⁵ is an EPA partnership program that works with the nation's pesticide-user community to promote IPM practices. Resources are focused on funding projects that reduce the impacts of pesticide use in agricultural settings. Selected projects could address pesticide use in rural areas or in Indian country, promoting IPM practices that benefit these communities.

The Agency will partner in the development of training, outreach, tools, and informational brochures to promote IPM efforts and provide guidance to schools, farmers, other partners, and stakeholders. Millions of America's workers are exposed to pesticides in occupations such as agriculture, lawn care, food preparation, and landscape maintenance. The *Agricultural Worker Protection Standard (WPS)*⁶⁶ and the *Certification of Pesticide Applicators (CPA)*⁶⁷ revised rules (finalized in FY 2015 and FY 2017, respectively) are key elements of EPA's strategy for reducing occupational exposure to pesticides. EPA will continue to support the implementation of the regulations through education and outreach, guidance development, and grant programs. Efforts to implement the WPS include addressing environmental justice issues in rural communities, especially for farmworkers and their families.

Under the ESA,⁶⁸ EPA is responsible for ensuring that pesticide regulatory decisions will not destroy or adversely modify designated critical habitat or jeopardize the continued existence of species listed as threatened or endangered by the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS). EPA will assess in its FIFRA registration and registration review regulatory determinations whether listed endangered or threatened species or their designated critical habitat may be affected. Where risks are identified in a biological evaluation, EPA will work with the Services

⁶² Summary of Federal Insecticide, Fungicide, and Rodenticide Act: <https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act>.

⁶³ Summary of the Federal Food, Drug, and Cosmetic Act: <https://www.epa.gov/laws-regulations/summary-federal-food-drug-and-cosmetic-act>.

⁶⁴ Pesticide Registration Improvement Extension Act of 2018 (PRIA 4): <https://www.epa.gov/pria-fees>.

⁶⁵ Pesticide Environmental Stewardship Program: <https://www.epa.gov/pesp>.

⁶⁶ Agricultural Worker Protection Standard: <https://www.epa.gov/pesticide-worker-safety/agricultural-worker-protection-standard-wps>.

⁶⁷ Revised Certification Standards for Pesticide Applicators: <https://www.epa.gov/pesticide-worker-safety/revised-certification-standards-pesticide-applicators>.

⁶⁸ For additional information on the Endangered Species Protection Program: <https://www.epa.gov/endangered-species/about-endangered-species-protection-program>.

through a consultation⁶⁹ process to ensure these new or existing pesticide registrations also will meet the ESA standard.⁷⁰ EPA will also continue to develop processes to protect listed species earlier in the regulatory and consultation processes and pursue other major improvements to its ESA compliance work in coordination with the Services.

External Factors and Emerging Issues

Advances in science and technology are continually expanding the range and nature of chemicals submitted for EPA review, which demands that the Agency keep pace with scientific knowledge and technological capabilities. As an example, the program has observed new chemical submissions for chemicals used in nanotechnology, batteries, and semiconductors. Likewise, new understandings of chemical exposures and risks can require EPA to reprioritize activities to protect human health and the environment. Chemical safety programs may be affected by changing levels of economic activity, as exemplified by the impacts of housing market fluctuations on lead renovation, repair, and painting work.

The impacts of climate change and subsequent alteration of ecosystems likely will change where crops are grown and result in more pests and diseases in many areas. This is expected to pose growing workload demands, including increases in ecological risk assessments to support new pesticide and registration review decisions that evaluate potential endangered species impacts.

External factors and emerging issues that could impact EPA-supported WPS training of farmworkers are as follows: 1) the EPA-funded grant is limited by funding and capacity to training a low number of farmworkers in relation to the overall U.S. farmworker population; and 2) tracking and assessing the effectiveness of all training is limited by the lack of a regulatory requirement that trainers/employers report back to EPA the number of farmworkers trained. There is great value in tracking occupational pesticide exposure incidents but there are limitations to existing systems in providing national trends. In the future and with additional resources, EPA would like to improve its ability to track trends using available pesticide incidence data sources (e.g., NIOSH SENSOR-Pesticides data).

⁶⁹ For additional information, please visit: <https://www.epa.gov/endangered-species/assessing-pesticides-under-endangered-species-act>.

⁷⁰ Additional information on how EPA protects endangered species from pesticides can be found at: <https://www.epa.gov/endangered-species>.

Objective 7.2: Promote Pollution Prevention

Encourage the adoption of pollution prevention and other stewardship practices that conserve natural resources, mitigate climate change, and promote environmental sustainability.

Introduction

EPA's implementation of pollution prevention (P2) under the Pollution Prevention Act of 1990⁷¹ is one of the Agency's primary tools for advancing environmental stewardship and sustainability by federal, Tribal, and state governments, businesses, communities, and individuals. These practices focus on reducing the amount of any hazardous substance, pollutant, or contaminant entering a waste stream or released into the environment prior to recycling of discarded material, treatment, or disposal, as well as conserving the use of natural resources. P2 grants contributed to the elimination of 16.9 million metric tons of greenhouse gases between 2011 and 2019.

Through these approaches, the Agency helps business, consumers, procurement officials, organizations, and others reduce costs and access market opportunities while achieving significant reductions in the generation of hazardous releases to air, water, and land; hazardous materials use; greenhouse gas generation; and water use. EPA's Toxics Release Inventory (TRI)⁷² tracks implementation of pollution prevention activities by reporting facilities and serves as a critical source of public chemical release, management, and P2 information to support community-right-to-know and advance EPA's chemical safety goals.

Long-Term Performance Goals

- By September 30, 2026, reduce a total of 1.5 million metric tons of carbon dioxide equivalent (MMTCO_{2e}) released attributed to EPA pollution prevention grants.
- By September 30, 2026, EPA's Safer Choice program will certify a total of 2,300 products compared to the FY 2021 baseline of 1,950 total certified products.

Strategies

During the next four years, EPA will focus on carrying out sector-focused P2 National Emphasis Areas⁷³ and enabling the replication and leveraging of business successes supported by the \$5 million in P2 grants awarded annually. The Agency will customize, develop, and deliver training to identify and deploy green chemistry and engineering solutions to companies, consumers, and communities. EPA also will implement training and outreach for disproportionately affected communities, as well as Tribal, state, and local governments to help with product and service procurement choices that are environmentally sound and promote human and environmental health.

EPA plans to update and strengthen the standards of the Safer Choice (SC) program,⁷⁴ which advances chemical safety by increasing the availability and identification of products containing ingredients that

⁷¹ Summary of the Pollution Prevention Act: <https://www.epa.gov/laws-regulations/summary-pollution-prevention-act>.

⁷² Toxics Release Inventory Program: <https://www.epa.gov/toxics-release-inventory-tri-program>.

⁷³ P2 National Emphasis Areas: <https://www.epa.gov/p2/p2-national-emphasis-areas-neas>.

⁷⁴ For additional information on Safer Choice, please visit: <https://www.epa.gov/saferchoice>.

meet stringent health and environmental criteria, through a notice and comment process after consultation with stakeholders. The Agency will conduct outreach with federal, Tribal, state, and local government procurement officials, and institutional and industrial purchasers to communicate the benefits of SC and other environmentally preferable products, and work to make SC-certified products more widely available to people of color and low-income communities. EPA will partner with organizations serving communities with environmental justice concerns to help custodial staff and house cleaning companies advocate for protections from occupational exposure-related conditions (e.g., asthma) and gain access to SC-certified products. EPA also will update the Safer Chemical Ingredients List to enhance transparency and facilitate expansion of safer chemical choices and products, including increasing the number and volume of SC-certified products.⁷⁵

EPA will work to expand its recommendations for addressing product categories with positive climate change impacts in support of E.O. 14008, which directs federal agencies to align management of federal procurement in support of climate action. EPA also will implement the Framework for the Assessment of Environmental Performance Standards and Ecolabels to provide a transparent, fair, and consistent approach to evaluating the environmental sustainability of product standards and ecolabels for federal purchasing. EPA will also contribute to the development of sustainability standards associated with critical minerals.

EPA will continue to facilitate market adoption and penetration of new commercially successful chemistries and technologies and pursue market-oriented environmental and economic progress through increased adoption of these innovations. EPA's Green Chemistry Challenge Awards, which raise the profile and credibility of innovative green and sustainable chemistry technologies, resulted in awards to 123 technologies from more than 1,800 nominations over the last 25 years. Winning technologies are estimated to eliminate 7.8 billion pounds of carbon dioxide equivalents released to air each year, which is equivalent to taking 770,000 cars off the road.

The TRI program has provided data to support partnerships between community groups and companies that resulted in decreased air emissions.⁷⁶ EPA will continue research on tools that can quickly and accurately identify vulnerable communities near TRI facilities, which would support prioritization of pollution prevention initiatives. EPA will continue to publish the TRI and use analyses of toxic chemical releases from industrial facilities located near overburdened and disproportionately affected communities to identify and develop sector-specific P2 case studies, best practices, outreach, and training. This will help facilitate adoption of P2 practices in the facilities and in the communities themselves.

External Factors and Emerging Issues

Interest in participation in P2 activities can be driven by economic conditions, the regulatory climate, and public pressure for industry to adopt pollution prevention solutions such as safer alternatives to chemicals and products currently in the marketplace. The program will continue to further enhance engagement with public and private sector stakeholders to facilitate adoption — and

⁷⁵ Safer Chemical Ingredients List: <https://www.epa.gov/saferchoice/safer-ingredients>.

⁷⁶ TRI for Communities: <https://www.epa.gov/toxics-release-inventory-tri-program/tri-for-communities>.

showcase accomplishments — of green chemistry advances, explore opportunities to further integrate green chemistry into federal procurement through product standards/specifications/ecolabels, and provide leadership on green chemistry across federal agencies.

Cross-Agency Strategies

Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making

Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations

Strategy 3: Advance EPA’s Organizational Excellence and Workforce Equity

Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making

Deliver rigorous scientific research and analyses to inform evidence-based decision making.

Introduction

EPA's ability to protect human health and the environment depends on the integrity and quality of the information, data, and evidence that provide the scientific foundation for Agency decisions. To accomplish the goals and objectives set out in this Strategic Plan, EPA will develop, deliver, and use the best available scientific information, data, and evidence to meet partner needs and inform decision making at all levels, from site-specific decisions that affect local communities to national decisions that impact all Americans. EPA's cross-agency strategy will ensure scientific integrity by developing and using science worthy of public trust and confidence, advance the delivery of rigorous and independent scientific evaluation and analyses, and ground EPA's environmental policies, decisions, guidance, and regulations in high-quality, independent science.

EPA's science enterprise touches all parts of the Agency, from regional laboratories that analyze scientific data to inform immediate and near-term decisions on environmental conditions, emergency response, compliance and enforcement, to national program scientists and engineers who conduct science to inform regulations and national compliance and enforcement initiatives. A major component of EPA's science enterprise is the research and development program,⁷⁷ which focuses on delivering leading-edge research to meet near-term and long-term science needs of the Agency, inform EPA decisions, and support the emerging needs of Tribal, state, and community partners.

Long-Term Performance Goals

- By September 30, 2026, YY% of ORD Research Products will meet partner needs compared to the FY 20ZZ baseline of XX%.
- LTPG under development for scientific integrity.

Actions

Over the next four years, EPA will strengthen the policies and procedures surrounding scientific integrity and the use of science and evidence to inform Agency decision making. There are a number of key actions that support the outcomes for this strategy.

Ensuring Scientific Integrity: Scientific integrity results from adherence to professional values and practices when conducting, communicating, supervising, and using science. It ensures objectivity, clarity, reproducibility, and utility, and it provides insulation from bias, fabrication, falsification, plagiarism, outside interference, censorship, and inadequate procedural and information security. At a fundamental level, scientific integrity safeguards the science that informs EPA's mission-driven work. EPA will rebuild a culture of scientific integrity across the Agency by ensuring that adherence to scientific and ethical standards is outlined in EPA's Scientific Integrity Policy.⁷⁸ EPA will make sure that

⁷⁷About the Office of Research and Development: <https://www.epa.gov/aboutepa/about-office-research-and-development-ord>.

⁷⁸ EPA's Scientific Integrity Policy: https://www.epa.gov/sites/default/files/2014-02/documents/scientific_integrity_policy_2012.pdf.

every EPA employee, contractor, grantee, and collaborator understands their personal responsibility to use and communicate science with honesty, integrity, and transparency, both within and outside the Agency. Agency officials also have the responsibility to recognize the distinction between scientific information and the decisions that are informed by such information and, in so doing, not suppress or alter scientific findings or impede the timely release of scientific findings or conclusions.

To support employees, contractors, and officials, EPA will provide training on scientific integrity and access to a network of deputy scientific integrity officials to whom employees, contractors, and officials can turn for advice to prevent lapses in scientific integrity or to report allegations of a loss of scientific integrity. EPA's programs will also reaffirm their commitment to fostering open, objective, and honest investigation and discussion of scientific activities, data, and conclusions. This includes supporting robust discussion of different scientific points of view,⁷⁹ which helps to guard against inadequate science and flawed analyses.

Delivering Rigorous Scientific Research and Analyses: EPA will develop and deliver rigorous scientific research, assessments, and analyses to meet near-term and long-term science needs of the Agency, inform EPA decisions, and support the emerging needs of Tribes, states, territories, and communities through a network of scientists, engineers, and laboratories that span EPA's regional offices, national program offices, and research and development program. EPA will evaluate the quality, usability, and timeliness of select Agency scientific products to ensure that Agency science is relevant, timely, and of sufficient quality to inform evidence-based decision making and work to increase the percent of scientific products that meet decision makers' needs.

EPA will renew and refocus efforts to develop the science and quality data needed to tackle climate change, advance environmental justice, and protect children's environmental health. To do this, EPA will restore the role of science and evidence in addressing the climate change crisis and advance a rigorous exploratory and applied climate adaptation science program by conducting climate-related research in its labs and centers, supporting research through its grants program, conducting policy-relevant assessments, communicating research and assessment results, and delivering innovative and sustainable solutions. EPA will advance environmental justice by conducting scientific research to improve its understanding of disproportionate impacts that can arise from unequal environmental conditions and exposure to multiple environmental stressors. EPA will also provide tools, training, and technical support to advance community-led projects that develop scientific information, data, and evidence that inform local decisions. Finally, where feasible based on availability of data and methods, EPA will explicitly and consistently assess risks to vulnerable life stages, including infants and children, as part of the Agency's approach for developing risk assessments and in its research agenda.

Underlying the Agency's scientific activities is a commitment to rigorous quality assurance, appropriate peer review, and the timely release of scientific information. EPA's quality program⁸⁰ provides the framework for planning, implementing, documenting, and assessing work performed by EPA,

⁷⁹ Approaches for Expressing and Resolving Differing Scientific Opinions: <https://www.epa.gov/scientific-integrity/approaches-expressing-and-resolving-differing-scientific-opinions#:~:text=EPA%20expects%20and%20encourages%20all,plausible%20explanations%20of%20that%20evidence.>

⁸⁰ How EPA Manages the Quality of its Environmental Information: <https://www.epa.gov/quality>.

contractors, and grantees and for carrying out required quality assurance and quality control activities. Independent peer review is integral to ensuring the rigor of Agency analyses, methodologies, and scientific and technical products. EPA's Peer Review Handbook⁸¹ provides a roadmap to ensure the Agency's peer review policy⁸² is implemented effectively and that the integrity of our peer review activities can be demonstrated transparently to the public. EPA's Public Access Plan⁸³ details the Agency's commitment to the timely release of scientific information to the public. EPA's *Best Practices for Clearance of Scientific Products at EPA*⁸⁴ promotes the development of clearance procedures that are transparent, clear, timely, predictable, and consistent.

Under the Foundations for Evidence-Based Policy Making Act of 2018, EPA is developing and will fully implement an Agencywide policy for evaluations and other evidence-building activities to ensure that evaluations and evidence that inform policies and decisions are relevant, rigorous, independent and objective, transparent, equitable, and ethical.

Using Science in Decision Making: Identifying and implementing effective strategies for protecting human health and the environment—including strategies to adapt to the changing climate, advance environmental justice and equity, and protect children—requires that decisions be grounded in the best available science and evidence. Fit-for-purpose scientific assessments and analyses are of particular importance for informing the development of many national regulations. These assessments and analyses use, evaluate, and integrate existing and emerging information and data from diverse scientific disciplines to form scientific conclusions. This includes, but is not limited to, health or environmental effects, exposure, and impact or risk assessments; cost-benefit analyses; and other technical support documents. Because of their importance to evidence-based decision-making, EPA is committed to following well-established, scientifically rigorous protocols and guidelines for conducting scientific assessments or analyses and evaluating scientific information in a timely manner that is free from political interference, incorporates new advancements in science, and promotes consistency in scientific assessments across the Agency. EPA will continue to use its cross-Agency Science and Technology Policy Council, and the Risk Assessment Forum that it oversees, to develop high-quality, scientifically rigorous guidelines for conducting risk assessments and to promote consistency across the Agency.

Building public trust and confidence in EPA's actions means being transparent about how EPA makes decisions, including being transparent about the scientific information and evidence EPA evaluates (with appropriate protections for privacy) and the confidence EPA has in the conclusions. EPA is deeply committed to restoring public trust in government and will strive to clearly articulate the role of science in every major action the Agency undertakes. EPA will demonstrate its commitment to using

⁸¹ EPA's Peer Review Handbook: https://www.epa.gov/sites/default/files/2020-08/documents/epa_peer_review_handbook_4th_edition.pdf.

⁸² EPA's Peer Review Policy: https://www.epa.gov/sites/default/files/2015-01/documents/peer_review_policy_and_memo.pdf.

⁸³ Plan to Increase Access to Results of EPA-Funded Scientific Research: <https://www.epa.gov/sites/default/files/2016-12/documents/epascientificresearchtransperancyplan.pdf>.

⁸⁴ Best Practices for Clearance of Scientific Products at EPA: https://www.epa.gov/sites/default/files/2018-05/documents/best_practices_for_clearance_of_scientific_products_at_epa_final_21may2018.pdf.

the best available scientific information, data, and evidence in Agency decision making by ensuring that public materials, such as *Federal Register* notices announcing proposed and final Agency actions, records of decision, and permit decisions describe the role of science in the decision clearly and in plain language. In addition, EPA's programs will review existing internal procedures and, if needed, modify them to explicitly document the integrity and quality of the relevant scientific information, data, and evidence and how that information, data, and evidence were considered in the decision-making process. This includes any discussion of differing scientific opinions or other scientific integrity issues raised during the process.

External Factors and Emerging Issues

Several external factors and emerging issues could impact EPA's ability to achieve the outcomes under this cross-agency strategy. EPA must continue to be able to attract and retain world-class scientists and engineers to bring innovation and cutting-edge scientific and technical expertise to inform EPA's work. This strategy may also be impacted by human-made or natural disasters—including climate-related disasters—that require EPA scientists and engineers to quickly pivot from conducting planned scientific activities to generating critical scientific information, data, and evidence to inform immediate or near-term human health and environmental actions or decisions at the federal, Tribal, state, and local levels. For example, the COVID-19 global pandemic brought unforeseen and unprecedented challenges to EPA. While EPA successfully pivoted to virtual work, some field and laboratory work was delayed and some scientific resources were redirected to assist with the federal response to the pandemic, including new research to reduce the risk of exposure to SARS-CoV-2, the virus that causes COVID-19. Future pandemics could impact the Agency's ability to conduct field and laboratory work in a similar fashion. In addition, advances in science and technology (e.g., machine learning, artificial intelligence, synthetic biology) may bring new opportunities for solving environmental challenges, while also presenting new challenges for the Agency (e.g., resources, training, ethics).

Cross-Agency Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations

Focus on protecting and improving the health of children at all life stages and other vulnerable populations in implementing our programs.

Introduction

By being able to live, learn, and play free from environmental exposures that contribute to harmful health effects, children and vulnerable populations are given the best opportunity to thrive throughout their lives. Protecting children against toxic exposures is essential to human health protection and therefore, must be included in all relevant EPA decisions and programs, both regulatory and voluntary. EPA strives for Agency programs to apply and promote the use of science, policy, partnerships, communications, and action to protect children at all life stages and vulnerable populations from adverse health effects resulting from harmful environmental exposures. EPA also will take actions to protect children and vulnerable populations in underserved communities who suffer disproportionately from the effects of exposures enhanced by socio-economic determinants of health, and to address any impacts that are exacerbated by climate change.

Children's environmental health refers to the effect of the environment on an individual's growth, wellness, development, and risk of disease at all life stages. EPA actions will be informed by two important considerations: (1) the scientific understanding of childhood as a sequence of life stages, from conception through infancy and adolescence to early adulthood (age 21); and (2) the recognition that protecting children's health at all life stages is necessary to achieve the Agency's mission. Children may be at greater risk to environmental contaminants than adults if exposure occurs during windows of enhanced toxicological susceptibility. Children may also experience greater exposure than adults as they eat more, drink more, and breathe more in proportion to their body size and due to their unique behaviors, such as breast feeding, crawling, and hand-to-mouth activity. Children can be exposed to environmental contaminants that their caregivers may inadvertently bring home from their workplace, while adolescent workers may be directly exposed to harmful chemicals in the workplace. Finally, the effects of early life exposures may become apparent during childhood and/or may not arise until adulthood or in later generations.

Long-Term Performance Goal

- By September 30, 2026, evaluate and consider environmental health information and data for children at all life stages for XX% of completed EPA actions that concern human health.

Actions

Use Science and Policy to Strengthen Protections for Children at All Life Stages and Vulnerable Populations: To best protect children's environmental health at all life stages and vulnerable populations, EPA will identify, evaluate, develop, and promote the use of science to support its policies, decisions, and actions, including regulations and voluntary programs. EPA will ensure that Agency toxicity, exposure, and risk assessments consider all relevant and available science to address the unique vulnerabilities of children and vulnerable populations, including disproportionate impacts

related to racial, ethnic, income, or other social determinants of health. These assessments will inform the evaluation and selection of the levels of exposure for regulatory action that are protective of children and vulnerable populations, including the extent to which cumulative or concurrent exposures to chemical and social stressors can modify exposure or hazard considerations.

EPA will support the development of new science to address uncertainties related to the environmental health of children and vulnerable populations, including through intramural and extramural research. EPA will update existing and develop new environmental health indicator data, including factors related to social determinants of health, to track progress, communicate trends, and identify areas that warrant additional attention. EPA will develop additional measures of benefits arising from protecting the environmental health of children and vulnerable populations and take them into account in decision making. EPA will promote training of environmental and health professionals to respond to children's health issues related to climate change, such as natural disasters.

Strengthen and Expand Partnerships and Provide Leadership: EPA will provide national leadership by working with governmental and non-governmental environmental and health organizations and provide a forum to support understanding and application of evidence-based information to children's environmental health exposure and effects. EPA will develop and support internal and external partnerships and implement programs to support the protection of children particularly at home, in dependent child-care settings, and in school and childcare settings. The Agency will leverage the capabilities of diverse groups by engaging partners and stakeholders, providing forums to develop and share evidence-based information, and distributing information through training, tool sharing, conferences, and publicly available media. EPA will support healthcare professionals, including those who provide pediatric and obstetric expertise, to better address risks from childhood exposures.

EPA will co-chair the President's Task Force on Environmental Health Risks and Safety Risks to Children⁸⁵ with the Department of Health and Human Services (HHS). In this role, the Agency will make recommendations to the President on federal strategies to advance children's health nationwide by exchanging information, planning targeted research, establishing concerted planning and program implementation, and enhancing public outreach to support reduction in exposure and risks to children's environmental health throughout the country. EPA will also consult with the Children's Health Protection Advisory Committee⁸⁶ to seek input and advice on how the Agency can improve the effectiveness of its work aimed at protecting children's environmental health.

Address Disparities: EPA will protect children and vulnerable populations who live in disproportionately impacted communities. EPA will consider how social determinants of health affect children and vulnerable populations, especially as these challenges may reduce resiliency or ability to recover from exposure to environmental hazards. As the climate changes, it is especially critical that the Agency collaboratively develops solutions and implements strategies to protect children and sensitive populations from disproportionate impacts.

⁸⁵ For more information on the President's Task Force on Environmental Health Risks and Safety Risks to Children, please visit: <https://ptfceh.niehs.nih.gov/>.

⁸⁶ Children's Health Protection Advisory Committee: <https://www.epa.gov/children/chpac>.

External Factors and Emerging Issues

EPA’s ability to strengthen regulatory protections for children and vulnerable populations depend in large measure on the availability of robust science and information to inform decision making. Environmental and public health statutes also differ in the extent to which they require protection of children and sensitive populations. Nationally, children’s environmental health stakeholders share common goals but face challenges in being heard due to the breadth and depth of children’s environmental health topics that require attention.

Cross-Agency Strategy 3: Advance EPA’s Organizational Excellence and Workforce Equity

Foster a diverse, equitable, and inclusive workforce within an effective and mission-driven workplace.

Introduction

To support its mission to protect human health and the environment, EPA will advance organizational excellence and equity through a workforce that reflects the diversity of the American public and maintains and promotes a culture of inclusion and accessibility. The Agency will remove barriers that may prevent small and underserved businesses from doing business with EPA and focus on developing a workforce and workplace of the future that will meet the demands of the 21st century.

The Agency will strengthen workforce planning of mission-critical positions and continue to prioritize equity and diversity in EPA efforts to support succession management for the next generation of workers. EPA will modernize information technology systems, enhance the physical workplace for a hybrid workforce, support employee-friendly work policies, and transition to a paperless work environment. EPA will focus on implementing efficient and effective processes across the full range of Agency efforts, using proven techniques and training to equip staff to solve problems and make improvements to enhance our ability to accomplish our mission. Additionally, EPA will continue to safeguard against cybersecurity risks to protect Agency assets and infrastructure from potentially malicious attacks. Further, EPA will be a leader in the Federal Government in advancing the sustainability of facilities and operations while developing resiliency to respond to the risks of climate change.

Long-Term Performance Goals

- By September 30, 2026, adopt multifactor authentication for all EPA systems compared to the July 2021 baseline of 40%.
- By September 30, 2026, award 4% of EPA contract spending to small businesses located in Historically Underutilized Business Zones (HUBZones) compared to the FY 2018-2020 average annual baseline of 2.2%.
- By September 30, 2026, initiate all priority climate resiliency projects for EPA-owned facilities within 24 months of a completed facility climate assessment and project prioritization.
- LTPG under development on Workforce Diversity, Equity, Inclusion and Accessibility (DEIA) pending finalization of Agency DEIA Strategic Plan.
- LTPG under development on Paper Process & Form Digitization. This measure will support achievement of EPA goals to transition to a paperless work environment.
- LTPG under development for automated permit application system for EPA permitting programs.
- LTPG under development on improving operational processes.

Actions

Fostering a Diverse, Equitable, Inclusive, and Accessible Workforce

Recruit and Maintain a Workforce Representative of the American Public: EPA strives to be a model employer for diversity, equity, inclusion, and accessibility in the Federal Government. Building upon

progress made on learning and succession management, EPA will strengthen its ability to recruit, hire, develop, promote, and retain a workforce that reflects the diversity of the American people. EPA will expand and further promote diversity, equity, inclusion, and accessibility principles and will identify and eliminate barriers that hinder such efforts. The Agency will promote diversity among EPA leadership by providing opportunities in management positions, including the Senior Executive Service. EPA will increase outreach to underrepresented and underserved communities, including minority-serving institutions, improve accessibility to Agency systems and applications, and better leverage special hiring authorities, such as Federal internship programs, to provide entry-level career development opportunities to students and recent graduates and Schedule A Hiring Authority for persons with disabilities.

EPA will implement Executive Order 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*⁸⁷ and support the government-wide Diversity, Equity, Inclusion, and Accessibility (DEIA) Strategic Plan and develop an EPA DEIA Plan that will focus on cultivating a balanced work-life-wellness environment for employees and set goals and measures for tracking progress. EPA will engage staff to shape Agency decisions, improve processes, and strengthen flexible work practices. EPA will strengthen its partnership with labor unions and advance equity, civil rights, racial justice, and equal opportunity across the Agency. EPA will champion fair and inclusive employee-friendly policies and opportunities for continuous learning. EPA also will develop collaboration tools to improve communication, cross-program integration, access to information, and transparency.

Implement Workforce Planning/Succession Management: EPA's mission to protect human health and the environment requires a highly skilled and dedicated workforce. More than 25 percent and growing of EPA's workforce is or will be eligible for retirement in three years, which will impact every region and program. Along with changing workforce demographics, this presents a unique opportunity for EPA to transform its human capital processes, including workforce planning, knowledge transfer, and succession management. EPA is carrying out evidence-building activities to address priority questions related to workforce planning, one of EPA's Learning Agenda priority areas. The Agency will use the results to inform and develop policies and approaches that equip employees with the needed competencies, knowledge, and most up-to-date tools to advance EPA's mission.

Promoting an Effective and Mission-Driven Workplace

Create the EPA Workplace for the Future: EPA will work to modernize and enhance governance of information technology (IT), information management (IM) systems, and the associated infrastructure as well as enterprise software development and architecture capabilities. EPA will build capacity to conduct meaningful customer and stakeholder engagement and incorporate Customer Experience (CX) design practices into IT/IM systems. EPA will provide IM expertise and solutions that support programmatic planning, capacity building, and decision making. This includes geospatial capabilities, web support, access to IM solutions, and data collection, analytics, and visualization.

⁸⁷ Executive Order 14035: Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce (June 25, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce/>.

EPA will implement the Federal Data Strategy to leverage federal data in carrying out the Agency's work. EPA also will continue to operate and maintain existing financial and administrative federal shared service IT solutions, and where appropriate, adopt additional federal shared services. EPA will incorporate remaining smaller legacy financial systems into the Agency's core financial system, leverage business process automation to improve efficiency, and increase transparency of financial data for internal Agency decision making while implementing appropriate security controls and data governance.

EPA will adopt new workforce and workplace innovations to support the future of work. The re-envisioned physical workspace will require adapting space to support the seamless collaboration and engagement of a hybrid workforce. It will allow the Agency to optimize its real estate portfolio, thus reducing the Agency's environmental footprint and facility costs in the long term through lease, utility, and security savings. EPA will adopt new IT tools to better manage shared space, reduce paper-based processes, and bridge the technology gaps in the workplace that exist when operating in a hybrid work environment. EPA also will evaluate workforce flexibilities to support the hybrid workforce transition. These actions will reimagine EPA as a model federal employer and strengthen the ability to attract, recruit, retain, and empower top talent while advancing diversity, equity, inclusion, and accessibility.

As EPA envisions the future of work with a hybrid workforce, it is imperative that EPA rethinks paper and low-tech forms and processes to move toward a paperless work environment based on electronic workflows. For example, as Information Collection Requests are renewed, the Chief Data Officer of the Agency will work to transition new requests to electronic submission to modernize how EPA receives data from outside parties. Additionally, EPA will advance the paperless transformation through the automation of permit application and approval processes for all EPA programs. Automation of the permit application process will reduce processing time on issuing permits, decrease the time between receiving monitoring data and engaging in enforcement actions, and foster transparency by allowing communities to search, track, and access permitting actions easily. Further, permit automation will enable the integration of climate change and environmental justice considerations into permit processes and ensure that they are addressed within the terms and conditions of the permit.

EPA will continue to digitize legacy paper records and information through the operations of EPA National Digitization Centers. The Agency will work to enhance the EPA content management system, which will leverage artificial intelligence and machine learning for content tagging in the records digitization process to improve the quality and overall availability of digitized permanent records. This will enable access to permanent records regardless of physical work location and the ability to access environmental health and safety information across organizational boundaries or environmental media.

Enhance Cybersecurity: EPA, in line with Executive Order 14028: *Improving the Nation's Cybersecurity*,⁸⁸ will modernize its cybersecurity defenses to protect EPA networks and IT assets and strengthen EPA's ability to respond to incidents as they occur. EPA will ensure Agency IT systems

⁸⁸ Executive Order 14028: Improving the Nation's Cybersecurity (May 21, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity/>.

support multifactor authentication and encryption, address cybersecurity protection gaps through the continuous diagnostics and mitigation program, and quickly identify and respond to federal-wide cybersecurity threats and incidents. The Agency will implement a Zero Trust Architecture, which includes comprehensive security monitoring; granular risk-based access controls; and system security automation coordinated throughout all aspects of the infrastructure to focus on protecting data in real-time within a dynamic threat environment.

Advance Justice and Equity in EPA Acquisition and Grants: Working with EPA’s Equity Team and Agency partners, EPA will focus on removing barriers that may prevent small and underserved businesses from conducting business with EPA. The Agency will increase spending significantly on small and underserved businesses and specifically target businesses located in Historically Underutilized Business Zones (HUBZones).⁸⁹ EPA will accomplish this by eliminating barriers to its procurement processes through greater diversification of the Agency’s vendor base, increasing engagement and technical assistance, and enhancing the Agency’s contracts with new vendors. For assistance agreements, EPA will develop requirements for tracking and reporting on grant place of performance, which is the location where grant dollars are spent and/or benefits are received, and incorporate equity and environmental justice considerations into the grant decision-making process to the maximum extent practicable. EPA also will partner with organizations that assist underserved communities to use EPA’s acquisition and grant processes to benefit underserved communities through providing technical assistance and outreach to support grantees in meeting federal requirements for sound financial management and lowering the barriers to federal funding opportunities.

Support Administration Climate Sustainability and Resiliency Priorities: EPA will implement all Administration Executive Orders on climate and will refocus its internal operations on the carbon pollution-free energy use and net-zero emissions in line with federal sustainability goals. To accomplish this, EPA will invest in energy infrastructure retrofits to mechanical systems for existing facilities, incorporating climate sustainability and resiliency into new facility commissioning, and transition its vehicle fleet to zero-emission electric vehicles, including charging infrastructure for EPA facilities. EPA will prioritize sustainable workplace choices that Agency employees can easily practice, such as recycling and composting initiatives and eliminating single-use containers to divert and reduce solid waste from landfills. The Agency will prioritize the acquisition of sustainable products that it can reuse, refurbish, or recycle in line with statutory purchasing requirements.

EPA is committed to the safety of its personnel, the integrity of its buildings, the efficiency of its operations, and the sustainability of the communities in which its facilities are located. However, the impacts of climate change, including more frequent and intense storms, wildfires, water shortages, and sea level rise, pose risks to meeting these objectives. Adaptation planning to protect EPA’s workforce, operations, underlying infrastructure, and supply chains is crucial. EPA will implement activities that protect the Agency’s workforce, facilities, critical infrastructure, supply chains, and procurement processes from the risks posed by climate change. Further, EPA will leverage procurement practices to

⁸⁹ Small Business Administration’s HUBZone Program: <https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program>.

increase the energy and water efficiency of its buildings where it is feasible to do so, and ensure they are climate ready.

External Factors and Emerging Issues

EPA faces several factors that may impede its ability to advance organizational excellence and workforce equity. Faced with an aging workforce that is increasingly retirement eligible, the Agency's ability to attract staff for mission-critical occupations is a continuing challenge that impedes succession management and knowledge transfer. Additionally, there may be barriers to federal employment that disproportionately impact underserved populations and limit the ability to recruit a workforce representative of the American public. Furthermore, continually changing IT/IM and cybersecurity technologies and requirements pose challenges to implementing Agencywide enterprise architecture standards, cybersecurity readiness, and ability to modernize systems and infrastructure. Lastly, the impacts of climate change on EPA operations and physical infrastructure continue to be an unknown for which EPA must prepare.

Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

Collaborate and engage effectively with Tribal nations in keeping with the Federal Government's trust responsibilities, state and local governments, regulated entities, and the public to protect human health and the environment.

Introduction

Protecting human health and the environment is a shared responsibility of EPA and its Tribal, state, and local government partners. State and local governments provide the majority of on-the-ground environmental protection in this country, implementing federal environmental laws as well as their own. In Indian country EPA directly implements the majority of federal programs. Many innovative and effective public health and environmental programs are initiated at the Tribal, state, and local levels. Environmental outcomes are best achieved through collaborative and effective partnerships across all levels of government, successful oversight of federally delegated programs, and robust engagement with non-governmental organizations, national and community groups, industry, and the public. Through a renewed focus on intergovernmental relationships, improving on-the-ground community engagement, enhancing collaboration with the business community, delivering high-impact environmental education programs, and increasing public trust and transparency, EPA will forge stronger partnerships. As a result, EPA will advance durable policies to its most pressing challenges and ensure the equitable protection of all communities, including those who have historically been underserved and overburdened.

Long-Term Performance Goals

- By September 30, 2026, integrate consideration of Tribal treaty rights into all EPA Tribal consultations that may affect Tribal treaty rights.
- By September 30, 2026, eliminate the backlog of overdue Freedom of Information Act (FOIA) responses, compared with the August 2021 baseline of 1,148.
- LTPG under development on updating the Agency's oversight policies and guidances to strengthen and improve oversight of federally delegated environmental programs.

Actions

Strengthening the Nation-to-Nation Relationship with Sovereign Tribal Partners: In accordance with Executive Order 13175: *Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships*,⁹⁰ and in light of the disproportionate impact of environmental pollution on Native Americans, EPA is committed to strengthening its nation-to-nation relationship with American Indian and Alaska Native Tribal Nations. In keeping with the Federal Trust Responsibility, the Agency will endeavor to protect the environmental interests of Indian Tribes when carrying out its responsibilities that may affect Indian country.

⁹⁰ Executive Order 13175: Tribal Consultation and Strengthening Nation-to-Nation Relationships (January 26, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/>.

Consistent with the trust responsibility, EPA will continue its existing consultation activities under the EPA Policy on Consultation and Coordination with Tribes⁹¹. EPA will also renew focus on integrating consideration of Tribal treaty and reserved rights early into decision making and regulatory processes. EPA will continue to improve the Agency’s web-based Tribal Consultation Opportunities Tracking System, a publicly accessible database used to communicate upcoming and current EPA consultation opportunities to Tribal governments.

In addition, EPA will focus on building Tribal capacity to increase the number of Tribal co-regulators and Tribes’ ability to meaningfully participate and engage in environmental protection activities that inform, support, or enhance EPA direct implementation under federal environmental statutes. EPA will continue capacity building activities under the Indian General Assistance Program, the development of mutual environmental goals on a government-to-government basis through EPA-Tribal Environmental Agreements, and active use of the flexibilities under the Tribal Performance Partnership Grants rule. The Agency will work through the EPA National Tribal Operations Committee and support EPA Tribal partnership groups, including regional Tribal operations committees. Through these groups and other Tribal meetings, EPA will strive to address pressing environmental issues such as climate change and environmental justice.

Fostering Tribal, State, and Local Partnerships: Environmental and human health protection is a shared responsibility of Tribes, states, and the Federal Government. More than 50 years after the creation of EPA, states and local governments serve as primary implementers of many of the nation’s environmental laws. Due to these unique relationships, the early, meaningful, and substantial involvement of EPA’s co-regulator partners is critical to the development, implementation, and enforcement of the nation’s environmental programs. With a renewed focus on climate, environmental justice, and children’s health, EPA will emphasize frequent and early communication as a keystone of its partnership with Tribal and state co-regulators, whose concerns and existing regulatory programs must be thoughtfully considered to develop effective and lasting policies to our most pressing environmental challenges.

Through E-Enterprise for the Environment, EPA, Tribal, and state leaders will prioritize shared concerns, collectively address challenges, and build efficient and effective solutions. By relying on three key principles to improve environmental program implementation—early and meaningful dialogue with partners who make decisions together, streamlined and simplified processes, and sharing of technology—EPA, Tribes, and states can make the best use of new tools and technologies to improve environmental results. EPA will work with Tribal and state partners to better understand the use of “citizen science” in environmental management, develop a compliance Learning Agenda, and advance environmental monitoring technologies. Furthermore, Tribes and states are encouraged to use E-Enterprise Workload Tradeoffs to adjust grant workplans to focus on collaborative efforts related to work modernization.

⁹¹ EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussion Tribal Treaty Rights: <https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes-guidance-discussing-tribal-treaty>.

Collaboration under the Exchange Network (EN), a standards-based, secure approach for EPA and its Tribal, state, territorial, and industry partners, will further enhance data management and electronic reporting. EPA will continue to administer the EN Grant Program⁹² to support integration and development of tools leveraging EN technology, data standards, open-source software, shared services, and reusable components. Under Executive Order 1398: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, EPA will foster increased Tribal participation in the EN, build data management and technical capacity, and enable the EN Grant Program to measure the effectiveness of these approaches in underserved communities. In addition, the Agency plans to continue to support the implementation of the National Environmental Performance Partnership System⁹³ and the Multipurpose Grant Program,⁹⁴ which are the key funding programs that support Tribal and state implementation of environmental programs.

EPA's oversight role is critical to supporting effective implementation of federally delegated environmental programs by Tribes, states, and local entities, ensuring protection of civil rights, and protecting communities that have historically been underserved and overburdened. The Agency will improve and strengthen oversight of state-delegated programs and collaborate with Tribes, states, territories, and local governments to identify opportunities for additional oversight improvements. EPA will ensure protections afforded by the Civil Rights Act are being implemented at all levels of government, which is vital to advancing equity and environmental justice. Robust oversight of compliance with civil rights laws will address historical and systemic barriers on the basis of race, color, and national origin that contribute to environmental injustice and the disproportionate burden of pollution in particular communities.

Improving On-the-Ground Community Engagement: Meeting communities where they are, to better understand the lived reality of people and the health and environmental challenges they face, is fundamental to developing effective programs and policies. EPA will meet regularly with stakeholder groups to seek perspectives on Administration priorities and engage early with relevant stakeholder groups on upcoming regulatory actions. EPA also will focus on opportunities like site visits, forums, and convenings to cultivate relationships and stay attuned to the needs and concerns of diverse groups, private sector partners, and others impacted by the Agency.

When needed, EPA will provide facilitation, mediation, and related services to support EPA's engagement with members of the public. When conflict is present or expected, EPA will provide collaboration and conflict resolution support, including an impartial intervener to help ensure the public's concerns are heard and fully considered in Agency decision making. EPA's public engagement efforts will establish coordination and communication systems that ensure public participation in rulemaking and Agency regulatory policy is inclusive, diverse, and accessible. EPA will develop and maintain an extensive, up-to-date database of stakeholders' interests and concerns to support engagement and inform policy.

⁹² Exchange Network Grant Program: <https://www.epa.gov/exchangenetwork/exchange-network-grant-program>.

⁹³ National Environmental Performance Partnership System: <https://www.epa.gov/ocir/national-environmental-performance-partnership-system-nepps>.

⁹⁴ Multipurpose Grants to State and Tribes: <https://www.epa.gov/grants/multipurpose-grants-states-and-tribes>.

Enhancing Private Sector Engagement: Solving the climate crisis and working toward an equitable and sustainable future will require commitment and action from every sector of the economy. EPA is committed to working with the business community to advance environmental progress through both its regulatory programs and its wide array of voluntary programs and non-regulatory initiatives. By engaging with business groups and individual companies, EPA will encourage and support private sector environmental action, including environmental justice initiatives and the pursuit of meaningful corporate and sector-wide climate and sustainability goals. The Agency will also continue its commitment to use and participate in Voluntary Consensus Standards (VCS) as directed by the National Technology Transfer and Advancement Act (NTTAA). Use of VCS in regulation, voluntary programs, research, and other activities helps the Agency achieve robust engagement with industry, academia, NGOs, and others, harnessing partnerships that enhance public trust and lead to durable policies that enjoy broad consensus and buy-in.

Promoting Environmental Education: Improving environmental literacy is a critical strategy to empowering Tribal and local communities with the capacity and resources to accelerate stewardship, environmental justice, and community-level understanding of climate impacts. EPA implements the National Environmental Education Act (NEEA)⁹⁵ and is charged with achieving the environmental education (EE) objectives and supporting public understanding of the Agency. EPA will ensure that EE tools, trainings, curricula, resources, and grants align with strategic priorities to address climate change, advance environmental justice, support frontline communities, promote science, and protect public health. EPA will build strategic partnerships to include underserved communities and Minority Serving Institutions and increase the conversation around using EE as a tool to achieve environmental justice, climate equity, and economic prosperity. EPA will ask the National Environmental Education Advisory Council (NEEAC)⁹⁶ to provide a set of national recommendations on how frontline and underserved communities can use environmental education to build capacity to become resilient to the effects of climate change. EPA will create public and private partnerships through the National Environmental Education Foundation (NEEF) to develop programs and initiatives that can empower frontline communities to address environmental threats, advance equity, and increase economic prosperity for all.

Increasing Public Trust and Transparency: Transparency in government and the ability to show tangible results are critical to bolstering public trust and confidence in the nation's environmental programs. EPA is carrying out evidence-building activities to address priority questions related to grants, one of EPA's Learning Agenda priority areas, to better communicate environmental outcomes stemming from EPA's grant programs. The Agency also will enhance its efforts to meet statutory deadlines for responding to Freedom of Information Act (FOIA) requests and eliminate the backlog of overdue responses. Through enhanced transparency, the public and local communities can participate more meaningfully and partner with EPA in protecting human health and the environment.

⁹⁵ National Environmental Education Act: <https://www.epa.gov/education/national-environmental-education-act>.

⁹⁶ National Environmental Education Advisory Council: <https://www.epa.gov/education/national-environmental-education-advisory-council-neeac>.

To increase transparency and improve EPA decision-making for Tribal program implementation, the Agency will increase data availability and data quality for regulated facilities and entities in EJSCREEN, EPA’s Environmental Justice Screening and Mapping Tool.

External Factors and Emerging Issues

Limited resources across all levels of government affect the ability for Tribal, state, and local governments to implement federal programs in a timely manner and to adequately protect human health and the environment.

Citizen science is an emerging issue that includes a broad range of activities and projects, from those originating in academic and government institutions that enlist the public in data collection to create knowledge, to community-led projects intended to develop data and information that address particular issues of concern. New tools and technologies are making public contributions to science easier—from submitting photographs to using low-cost pollution sensors. However, there are significant challenges to the use of citizen science data in environmental policy decisions and regulatory programs, particularly with respect to data quality and legal and ethical issues regarding objectivity of data. EPA is developing a strategy that considers the full spectrum of citizen science activities.

Draft Learning Agenda

The draft of the full EPA Learning Agenda is below. In the December 2021 Final Draft FY 2022-2026 EPA Strategic Plan and in the final Plan issued in February 2022, the Agency will include a high-level summary of the EPA Learning Agenda, with hyperlinks to the full Learning Agenda posted separately. This approach will support the Learning Agenda as a living document.

Overview

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)⁹⁷ provides a framework to promote a culture of evaluation, continuous learning, and decision making using the best available evidence. EPA has identified four learning priority areas (three underway and one under development):

1. **Drinking Water Systems Out of Compliance** – What EPA/state drinking water program policies (tools, guidance, training, funding mechanisms) are most effective in increasing system compliance?
2. **Workforce Planning** – How can EPA ensure it has employees with the competencies needed to achieve its mission now and in the future, including identifying or developing leading practices in recruitment, retention, succession planning and knowledge management?
3. **Grant Commitments Met** – How can EPA assess the extent to which commitments achieve the intended environmental results and identify possible next steps in establishing a comprehensive grant reporting system?
4. **Air Pollution Benefits** (Under Development)

EPA continues to engage with relevant internal staff and external experts and stakeholders on these learning priority areas. Stakeholder engagement helps EPA to formulate priority questions, identify relevant past evidence development, and to plan and implement the activities designed to answer them. Currently these learning priority areas are in developmental phases (i.e., developing the questions, foundational fact finding, assessing data gaps, addressing data needs, reviewing research, etc.). EPA's Learning Agenda will be updated with evaluation and other evidence-building plans as the learning priority areas progress beyond this phase.

Learning Priority Area: Drinking Water Systems out of Compliance

The likelihood of a public water system (PWS) complying with Safe Drinking Water Act (SDWA) regulations is a function of water system characteristics such as infrastructure, operator expertise, and financial sustainability. These characteristics directly affect a water system's ability to comply with SDWA standards. EPA and primacy agencies aim to increase the probability of compliance by influencing system characteristics through program policy, tools, guidance, training, and funding (program components). Learning Agenda evidence-building activities, including evaluations, will guide

⁹⁷ Full-text of the Foundations for Evidence-Based Policymaking Act of 2018 <https://www.congress.gov/bill/115th-congress/house-bill/4174/text>.

Agency decisions on policies to improve system compliance with existing regulations and provide the foundation for effective analysis in support of future policies and regulations.

Whether a program component improves compliance (or performance) ultimately depends on (1) its ability to affect on-the-ground system characteristics and (2) how these characteristics impact the likelihood of compliance. EPA will evaluate these dependencies and develop a “theory of change” for characteristics deemed high priority for addressing noncompliance and ultimately improving compliance.

For each system characteristic identified as important to study, EPA will identify:

- The program component(s) intended to impact the characteristic;
- Whether evidence exists that shows the program component is implemented correctly; and
- What evidence exists to estimate the effect of the characteristic on the likelihood of compliance.

Connecting program components to their associated system characteristics, and then identifying how these characteristics are assumed to impact the system operations, will help to focus data collection activities, assess how successfully program components are implemented, and define measurement of outcomes related to compliance. Research questions guiding this learning priority area must consider:

- *Program monitoring*: whether regulator efforts intended to impact a characteristic are implemented as intended; and
- *Program evaluation*: (i) how a program component affects the targeted system characteristic and (ii) how the characteristic change impacts the likelihood of improving compliance/performance.

Together, these elements represent a theory of change for how regulatory efforts work to achieve improved compliance. For each system characteristic, EPA can map the specific theory of change for the characteristic and its associated program components. This allows EPA to identify the assumptions and risks for each connection and key measurements for each. Differentiating program components from the characteristics they are intended to modify will allow the Agency to map more clearly existing empirical evidence and identify which characteristics are the most promising to target for improving compliance.

Specifically, the drinking water learning priority area focuses on evaluating ways to effectively improve community water system compliance by: (1) assessing drinking water data reported to EPA to determine how accurately it measures national compliance and if the data sufficiently substantiates EPA policy decisions; (2) examining root causes of system compliance and non-compliance and corresponding technical, managerial, financial factors; and (3) testing efficacy of technical assistance, enforcement, and state oversight. Each of the questions in this priority area will consider communities with concerns about environmental justice.

This learning priority area supports Goal 2, Objective 2.1, Promote Environmental Justice Efforts at the Federal, Tribal, State, and Local Levels and Objective 2.2, Embed Environmental Justice into EPA’s Programs, Policies, and Activities; Goal 3, Objective 3.2, Detect Violations and Promote Compliance; and Goal 5, Objective 5.1, Ensure Safe Drinking Water and Reliable Water Infrastructure. This learning priority area is also aligned with Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based

Decision Making, and Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement.

Stakeholder Engagement

To develop the priority questions, EPA consulted with internal and external stakeholders listed below including state and water system associations, small-system technical assistance providers, the U.S. Department of Agriculture, nongovernmental organizations (NGOs), and academia. Based on those consultations, EPA generated more than 30 potential questions covering about 10 categories before narrowing the focus to five. Hearing from a broad range of stakeholders helped identify important questions that were either common among most of the stakeholders or that address recalcitrant and environmental justice-related problems. External stakeholders EPA consulted with include:

- Associations and Technical Assistance Providers
 - Association of State Drinking Water Administrators (ASDWA)
 - American Water Works Association (AWWA)
 - National Rural Water Association (NRWA)
 - Rural Community Assistance Partnership (RCAP)
 - USDA's Rural Development-Rural Utilities Service (RUS)
- Non-Governmental Organizations
 - Natural Resources Defense Council (NRDC)
 - Environmental Defense Fund (EDF)
 - Earth Justice
 - Clean Water Action
- Academic Programs
 - University of North Carolina Environmental Finance Center
 - Harvard Law, Energy and Environment Law Program
 - Berkeley Dept. of Agriculture and Resource Economics

EPA has delegated primary enforcement responsibility (primacy) for public water system supervision programs to 49 states, five territories, and the Navajo Nation. EPA has established a work group to help advise evaluation of the drinking water learning priority area questions. The work group includes EPA regional representatives and state drinking water program staff. EPA will work closely with individual states on specific aspects of the evaluations through the ASDWA (which includes in its membership territories and the Navajo Nation).

At key points in plan development, study design and implementation, and product drafting, EPA will consult with associations that represent public water systems, Tribal coordinators, technical assistance providers, and drinking water NGOs. EPA will continue to seek and include perspectives for communities with environmental justice concerns as it evaluates the priority questions. EPA is engaging academia to assist with identifying relevant existing study results and to design and conduct studies.

Priority Questions

1. To what extent does EPA have ready access to data to measure drinking water compliance reliably and accurately?
2. What factors determine system noncompliance and continuous compliance?
3. How can we determine if a system has the technical, managerial, and financial capacity to provide safe water on a continuous basis to its customers?

4. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so, under what circumstances?
5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

Strategy for Addressing the Priority Questions and Accomplishments to Date

1. To what extent does EPA have ready access to data to measure drinking water compliance reliably and accurately and to make policy decisions?

EPA is carrying out the following activities to answer this priority question:

- Gathering existing Government Accountability Office (GAO) and Inspector General (IG) reports, data verification audits, annual program file reviews, and published studies that analyze data quality of the Safe Drinking Water Information System (SDWIS) and creating a table that summarizes findings.
- Developing a method for assessing SDWIS data quality impact on compliance rate calculations (for instance rule-by-rule compliance rates as well as national, overall compliance rate) and use for policy decisions.
 - Reviewing other programs' use of compliance monitoring data to inform this analysis.
- Seeking compliance monitoring data that exist in state databases to use for SDWIS data quality checks and for trend analysis in the evaluations described in Questions 2 through 4.
- Using statistical techniques to identify anomalies in sampling data.
- Reviewing data accuracy through a statistical lens with the goal of quantifying the uncertainty of calculated rates.

2. What factors determine system noncompliance and continuous compliance?

EPA is engaging in the following activities to answer this priority question:

- Identifying, gathering, and merging existing analyses of SDWIS data.
- Working with academics to identify data analysis tools (e.g., machine learning algorithms) to identify the most strongly correlated system factors to noncompliance and continuous compliance. Analyses will also be done on a rule-by-rule basis to learn from any trends in specific rule provisions.
- Conducting literature searches to identify data sets that describe system characteristics/factors (e.g., system size, resource base, source water contamination, as well as technical, managerial, and financial capabilities) that are believed to correlate to performance. Previous analyses indicate the majority of systems in chronic non-compliance are in communities with environmental justice concerns.
- Prioritizing system characteristics that correlate strongly with performance for additional study to determine causative associations. Studies will be designed based on the information gleaned from the analysis. Study designs may vary based on the types of correlative factors identified and what is already known about the factors and how much data exists for them. Studies could involve use of "big data" analytical tools, randomized control trials, retrospective analyses, or other study types.

3. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so, under what circumstances?

EPA is engaging in the following activities to answer this priority question:

- Gathering and synthesizing past and ongoing analyses.
- Conducting analyses of available information in SDWIS and the Enforcement and Compliance History Online that describe trends related to use of inspection and enforcement, which will help identify factors to include in randomized control trials (RCTs).
- Working with academics to determine interest in and approaches to further analyze historical data and design studies to answer questions about use of enforcement and inspections in the drinking water program.
- Using existing literature summaries and conducting additional literature searches on the efficacy of using compliance monitoring inspections and enforcement to ensure compliance.

4. How can we determine if a system has the technical, managerial, and financial capacity to provide safe water on a continuous basis to its customers?

To answer this priority question, EPA will identify minimum core technical, managerial, and financial capabilities required for systems to maintain compliance based on empirical evidence gathering and use those minimum core capabilities to develop measures that will help to identify systems vulnerable to failure. The evaluation for priority question two will inform this evaluation's design and activities, as will other sources such as relevant published literature and data sets that exist outside of EPA and state drinking water agencies. It is particularly critical that primacy agencies, Tribal leaders, water sector associations, and technical assistance providers actively engage in this process.

5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

To answer this priority question, EPA will develop an evidence-based methodology to identify the most effective oversight approaches that ensure state programs' ability to improve compliance in drinking water systems. The evaluation for this question will also be informed by the evaluations of the other questions.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- Only a small portion of drinking water compliance data is housed in EPA's SDWIS database. States have compliance data, but some are reluctant to share them with EPA. Some states make the data open to the public through Drinking Water Watch. EPA will begin working early with states and invite them as collaborators on the Drinking Water Learning Agenda. EPA will also use the publicly available data as a starting point.
- A potential major challenge may occur if the data sets states are willing to give to EPA or that already are public are not similar to the data from states that do not share publicly (i.e., sampling bias). For example, states that are willing to voluntarily share their data with EPA or the public compared with states that are not as transparent may have higher compliance rates and/or implement their programs differently.
- The drinking water program under the Safe Drinking Water Act is delegated to authorized states, thus state participation in RCTs will be critical. EPA will need to recruit states willing to participate. Controlling for variations among state approaches and among drinking water systems will present a significant challenge. Upfront work will be done to ensure study designs

and appropriate statistical methods are used to account for the variations and can produce statistically significant results.

- EPA regions will be asked to use inspection and enforcement tools in new ways. As these two tools are used so infrequently now, without piloting changes in the use of these tools, EPA will likely have trouble learning under what circumstances such tools are effective. Working through the National Compliance Initiative for Drinking Water Compliance, EPA will attempt to get regional buy-in for the RCTs.
- EPA will have to overcome definitional problems in which a simple notice of violation (NOV) and a formal enforcement action with a binding compliance schedule are lumped together as enforcement actions, when in fact they are very different. While the use of NOVs is common, EPA suspects the use of formal enforcement actions is much less common and these two different tools will need to be distinguished to advance learning on when formal enforcement works.
- State participation in the RCTs is critical to the success of this effort, since the primacy agencies implement and enforce the National Primary Drinking Water Regulations, and the sample sizes would be increased. Working with additional organizations necessarily adds complexity. EPA will use lessons learned from other studies that have included states.
- While EPA has had success collaborating with academic researchers without providing the researchers with funding, EPA will spend time finding university researchers who are both interested in this work and can engage in it without EPA funding. This somewhat limits the pool of academics.

Learning Priority Area: Workforce Planning

Workforce planning is critical for all large organizations and EPA is at an important juncture to shape the workforce of the future. Currently, 25 percent of EPA’s workforce is retirement eligible, increasing to an estimated 42 percent over the next five years. EPA’s decentralized workforce planning approach and urgent programmatic needs often result in a “one-for-one” replacement of staff, with insufficient consideration of new skills and disciplines that might be needed. In addition, forward-thinking approaches often are hampered by the constraints and complexity of federal hiring practices and position classifications. For example, to successfully transition its workforce, EPA needs to better understand what skills are needed across all disciplines for a future that will certainly be more reliant on adept use of data. EPA also needs to acknowledge the wealth of institutional knowledge developed over the past 50 years. Knowledge management is the holistic process of creating, sharing, using, and maintaining the key knowledge and information of an organization. It creates organizational efficiencies by capturing information and best practices for the workforce of the future.

EPA identified this area as an enterprise risk due to the high number of staff eligible for retirement and EPA’s aging workforce. The Agency completed several initiatives to better understand its workforce needs and to capture and close skills gaps. The completion of these activities will assist EPA in developing an evidence-based plan and roadmap for how EPA can ensure it has diverse employees with the competencies needed to achieve its mission now and in the future. It will also help determine the overall processes used to cultivate and manage the workforce, while anticipating internal and external changes, and continuously maximizing the efficiency and effectiveness of the Agency’s human resource services.

EPA will take a two-phased approach to this learning priority area, with an ongoing goal of imbedding all learning into the Agency's tactical approaches to workforce.

In the near term, EPA will focus on:

- Determining current capabilities for assessing workforce status and needs;
- Defining the future skills and disciplines that will strengthen and modernize the workforce; and
- Planning for and beginning data collection for EPA's longer-term efforts, described below.

In the longer term, EPA will focus on:

- Identifying best strategies to retain and attract employees and develop skills to meet the Agency's future mission-critical needs; and
- Developing leading practices for maintaining expertise by transferring knowledge from current subject matter experts (SMEs) to existing and new employees.

To identify the actions needed to address the priority questions, EPA consulted with the U.S. Office of Personnel Management (OPM), external organizations, and academicians focused on the future of the federal workforce. Of specific interest is determining how government can attract and retain individuals with needed skills in environmental science.

This learning priority area covers all program areas and as such supports all strategic goals and is aligned with Cross-Agency Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity.

Priority Questions

1. To what extent does EPA have access to the tools and strategies needed to analyze and understand the Agency's near and long-term workforce needs?
2. What are the critical skills needed to support the Agency's mission, now and in the future?
3. What are the leading strategies to attract, recruit, train, and retain a diverse and talented workforce? What makes people stay in the Agency long-term?
4. How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

Stakeholder Engagement

EPA understands that its success in answering the above priority questions will to a great degree depend on the support and buy-in received from key stakeholder groups. Thus, the Agency has begun briefing a range of internal stakeholders, including senior leaders, members of the Human Resources Officer/Program Management Officer (HRO/PMO) community, and Shared Services Centers (SSCs) staff, and key employee groups. Information provided by Agency HROs/PMOs is being used to revise existing and future workforce planning tools. Quarterly updates to senior leaders are building greater understanding of the scope and anticipated benefits to answering the workforce priority questions. Interviews with human capital contacts at the National Institutes of Health (NIH), Internal Revenue Service (IRS), Department of Homeland Security (DHS), Small Business Administration (SBA), and Department of State are aiding EPA in fine-tuning its methodology for several actions. In FY 2021, the Agency also partnered with OPM's Strategic Foresight Team to hold a special training workshop for its HROs/PMOs and Office of Human Resources' (OHR) Management Team. Moving forward, additional stakeholder groups such as EPA's Diversity, Equity, Inclusion, and Accessibility Tiger Team; Emerging Leaders Network; First Line Supervisors Advisory Group; Executive Management Council; Human Resources Council; and members of the external human resources academic and practitioner

community will be integrated into the preparation, delivery, and evaluation of workforce priority items.

Strategy for Addressing the Priority Questions and Accomplishments to Date

1. To what extent does EPA have access to the tools and strategies needed to analyze and understand the Agency's near and long-term workforce needs?

While gathering data from various internal and external stakeholders, EPA will engage in the following activities to answer this priority question:

- Assess: 1) overall effectiveness of EPA's existing workforce planning tools (Workforce Demographics Dashboard, Diversity Dashboard, Succession Management Guide, and Workforce Plan), 2) consistent use of the tools, 3) alignment of the tools with stakeholder needs, and 4) effectiveness of EPA's communication of and training for these tools; and
- Ensure appropriate features and measures of diversity, equity, inclusion, and accessibility are incorporated into EPA's workforce planning tools and strategies.

During FY 2021, significant progress was made on this priority question, including: designing the template for a workforce planning/succession management dashboard specifically aligned with each stage of the workforce planning process, developing training materials on workforce planning and succession management processes for our HRO/PMO community, and securing an annual membership with the American Productivity and Quality Center to facilitate researching leading practices and Key Performance Indicators for workforce planning/succession management.

2. What are the critical skills needed to support the Agency's mission, now and in the future?

EPA has begun and will continue to engage in the following activities to answer this priority question:

- Establish Mission Critical Skills needed across the Agency to ensure the demands of EPA and its various constituents are met by maintaining both the correct positions and employees with sufficient proficiencies both now and in the future;
- Enhance the Talent Enterprise Diagnostic (TED) tool — EPA's competency assessment tool — and conduct Agencywide skills gap analyses;
- Administer competency assessments using a revised version of the methodological and well-documented approach employed to complete the assessments already conducted;
- Analyze results of all relevant competency and skills assessments, including those conducted via TED, the National Training Needs Assessment, and through other Evidence Act priorities; and
- Evaluate competency assessment data to identify disparities along gender, racial, and targeted disability categories and, if found, research and recommend leading practices to eliminate such gaps.

EPA has already started addressing several of the actions under this priority question by holding a special strategic foresight training workshop for its HROs/PMOs and Office of Human Resources' Management Team, beginning the enhancement of our competency assessment tool to provide more robust features in preparation for conducting large-scale skills assessments, and revamping the Agency's National Training Needs Assessment to better address stakeholder and Agency needs.

3. What are the leading strategies to attract, recruit, train, and retain a diverse workforce? What makes people stay in the Agency long-term?

EPA will engage in the following activities to answer this priority question:

- Analyze internal and external recruitment strategies;
- Enhance employee engagement strategies;
- Develop an employee career progression model;
- Conduct an attrition cause analysis; and
- Track and evaluate trend data of key indices within the annual Federal Employee Viewpoint Survey.

When analyzing the results of the above five actions, EPA will determine if disparities exist along categories of employee diversity, equity, inclusion, and accessibility. If found, the Agency will research and recommend leading practices to eliminate such disparities.

In FY 2021, EPA started addressing several of the actions under this priority question by participating in OPM training to identify root causes of Mission Critical Occupation attrition, preparing to refill the Agency's Employee Engagement Officer role, and designing the template for an Agencywide dashboard capturing trends in the Employee Engagement Index and Global Satisfaction Index of the Federal Employee Viewpoint Survey.

4. How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

EPA has begun and will continue to engage in the following activities to answer this priority question:

- Perform a literature review for knowledge management and knowledge transfer to identify best practices;
- Perform market research to identify relevant leading tools and resources; and
- Assess EPA's current strategies for knowledge transfer to identify best practices, paying close attention to leading practices for individuals with different abilities.

To accomplish the action items for this priority question, EPA deployed a knowledge transfer pilot for two organizations, gathered initial information on leading practices for knowledge management within both private industry and a government setting, and registered two OHR employees for the training required to obtain a certificate in knowledge management.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- There might be low participation among stakeholders in the evaluation and analysis of EPA workforce planning tools and communication plan, including lower than expected completion rates for interviews, surveys, and focus groups. This possible challenge will be mitigated by enlisting the buy-in and support of senior leaders, the Human Resources Council, and other key stakeholders to help promote the process prior to its start and by keeping in constant contact with those stakeholders during the evaluation and analysis process.
- Once TED is enhanced and EPA begins conducting skills assessments needed for workforce planning and succession management, there might be low completion rates across the Agency

and/or in certain organizational components. This possible challenge will be mitigated by enlisting the buy-in and support of senior leaders, EPA's Human Resources Council, and other key stakeholders to help promote the process prior to its start and by keeping in constant contact with those stakeholders during the evaluation and analysis process. In addition, numerous training sessions will be conducted and recorded, and TED's User Guide and website will be refreshed.

Learning Priority Area: Grant Commitments Met

Every year, EPA awards over \$4 billion in grants and other assistance agreements. Through these grants, EPA helps to protect human health and the environment through the work of small non-profits, academic institutions, Tribes, states, and local communities. 96 percent of these grants are awarded to state, local, and Tribal governments to implement environmental programs.

EPA's grant policies require each award be tied to the Agency's Strategic Plan and that the environmental results associated with grant actions be clearly established. Responsibilities for the management and tracking of the individual awards are dispersed among approximately 1,400 staff throughout headquarters and EPA's ten regional offices. The Agency's lack of a comprehensive system for tracking grant-related activities leads to an inability to proficiently evaluate environmental outcomes on a national scale.

Work to date has contributed to an improved understanding of reporting and tracking processes across the Agency's current grant programs. This baseline will help EPA develop a sustainable and consistent process for negotiating and tracking the environmental outputs and outcomes resulting from EPA's grant funding.

Over the last two years, the Office of the Administrator has engaged program and regional offices to better understand the Agency's grants management processes, including reporting mechanisms and frequency. The Agency found that due to variability in programmatic goals and metrics, the management of EPA's grants and cooperative agreements is highly variable. While some regions and programs employ a coordinated process to negotiate and track grant commitments, others rely on Project Officers. In addition, the Agency's current centralized grants management system is not configured to collect and track grantee progress on discrete commitments. EPA's work under this learning priority area will further Agency efforts to effectively report on the outcomes of taxpayer dollars and to make informed resource decisions.

This learning priority area covers all program areas, and thus supports all strategic goals and aligns with Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement.

Stakeholder Engagement

As this learning priority area moves into its second year, internal and external stakeholder engagement will be very important. The effort to date was internally focused on understanding EPA grant program practices and tools. The focus on best practices will involve essential engagement with both internal and external stakeholder groups, including the following:

- State media associations (e.g., Environmental Council of States, Association of State Drinking Water Administrators, Association of Clean Water Administrators, National Association of Clean Air Agencies, Association of Air Pollution Control Agencies, National Association of State

Departments of Agriculture, Association of State and Territorial Solid Waste Management Officials);

- EPA programs that administer grant programs;
- EPA regions that implement grant programs; and
- EPA’s Office of Grants and Debarment.

Priority Questions

1. How do EPA’s existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?
3. Are the commitments established in EPA’s grant agreements achieving the intended environmental results?

Strategy for Addressing the Priority Questions and Accomplishments to Date

1. How do EPA’s existing grant award and reporting systems identify and track grant commitments?

To answer this priority question, EPA surveyed active EPA grant programs to determine the universe of existing grant reporting and tracking systems. EPA is reviewing the completeness of the data and will follow up with programs and regions, as appropriate, to collect any remaining survey data. EPA is using quantitative and qualitative methods to analyze the data. EPA will review survey data to identify where equity and climate change impacts are identified as priority outcomes of grant programs. EPA will use this information to better understand what factors might affect a grant program’s ability to effectively track grant commitments related to equity and climate impacts and to help inform actions taken pursuant to the Agency’s equity assessment under E.O. 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*; and pursuant to climate change initiatives under E.O. 14008, *Tackling the Climate Crisis at Home and Abroad*.

2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?

EPA will engage in the following activities to answer this priority question:

- Compare the current state of grants management to an ideal future state, considering the programmatic and statutory requirements unique to each grant program, and available tools for programmatic monitoring.
- Identify opportunities for improvement to Agency grant program monitoring and tools to demonstrate environmental results more effectively on a national scale and to determine the extent to which these environmental results benefit underserved communities.

3. Are the commitments established in EPA’s grant agreements achieving the intended environmental results?

EPA will engage in the following activities to answer this priority question:

- Select a subset of Agency grant programs to review for environmental outcomes or other priority strategic programmatic outcomes.

- Provide recommendations, as appropriate, for the selected Agency grant programs to better communicate how grant outputs advance the Agency’s mission through environmental results, including achieving outcomes related to equity and climate change impacts.
- Identify what potential changes could be made to grant programs’ data collection efforts to help EPA determine equity and climate change impacts.
- Outline next steps in establishing an EPA system that compiles the outputs and outcomes of Agency grant reporting.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- Through approximately 1,400 project officers, EPA administers approximately 105 grant programs, each defined by its own set of laws, regulations, and policies that can change annually, in conformance with the Agency’s priorities. Currently, there are on the order of 6,000 active grants across the Agency, each with an unknown number of specific commitments. EPA will be thoughtful in assessing what data are needed to answer each question and determining what data currently exist and what need to be collected to fill gaps. EPA will determine in advance how it will analyze the data to answer the questions and will collect data in a way that supports those analyses.
- The Agency plans to pilot a data collection tool with a subset of regions to ensure that it is a reliable instrument and that the data collected fulfills the anticipated need. EPA will refine the tool as needed before expanding its use to the complete universe of programs. EPA will involve internal stakeholders in the analyses to ensure the accuracy and utility of findings.
- EPA anticipates there will be a wide range of practices for monitoring grantee performance, but due to the lack of clear metrics and/or a clear directive to track individual grant activities, the data collection process may reveal data gaps. EPA also understands that a one-size-fits-all approach for grants management may not be appropriate across the Agency’s grant programs. EPA will ensure both the national program and regional grant managers are closely involved in the criteria development for what constitutes a “successful” model for assessing grantee performance.

Learning Priority Area: Air Pollution Benefits

This learning priority area is under development.

Draft Capacity Assessment

The draft of EPA’s Capacity Assessment report is below. In the December 2021 Final Draft FY 2022-2026 EPA Strategic Plan and in the final Plan issued in February 2022, the Agency will include a high-level summary of the EPA Capacity Assessment report with hyperlinks to the more detailed Capacity Assessment report posted separately. This approach will support updates of the Capacity Assessment, including summaries of actionable results and progress in implementing the Evidence Act.

Progress Overview

Introduction

The Foundations for Evidence-Based Policymaking Act (Evidence Act) requires Chief Financial Officer Act agencies to conduct a Capacity Assessment to appraise their ability and infrastructure to carry out evidence-building activities. EPA’s approach to the Capacity Assessment can be broadly described in two phases:

- The initial assessment focuses on EPA’s ability to answer the questions in the Agency Learning Agenda: Can we answer the questions posed by the Learning Agenda priority areas?
- The final assessment describes EPA’s skills, capability, and capacity based on a maturity model: Do we have the skills, organizational structure, resources, expertise, and infrastructure to meet Agency Learning Agenda goals, as well as to implement the Evidence Act across the Agency?

Preliminary Results from the Initial Assessment

EPA’s approach to the Capacity Assessment consists of two phases: an initial assessment and a maturity model-based assessment. The initial assessment examines whether the Agency has the skills and resources to answer the priority questions in the Learning Agenda.

The Agency conducted a survey to examine whether EPA has access to the skills and resources to answer the priority questions in its area. The survey respondents included members of EPA workgroups coordinating actions to address each learning priority area, starting with the three initial learning priority areas: workforce planning, drinking water systems out of compliance, and grant commitments met.

Preliminary Take-Aways

All three priority area workgroups expressed concern about data availability, data access, and available funding beyond FY 2022. Other observations include:

- Workforce Planning – in the short-term, the workgroup has sufficient data, expertise, and funding for two of the four priority questions. The workgroup is unsure about data, expertise, and funding for the other two questions.
- Drinking Water Systems Out of Compliance – The workgroup will require both internal staff resources and access to external experts (contractors and academics) with expertise in evaluation design and implementation. While they believe they have access

to external experts, they do not believe they currently have internal staff resources with these skills available for the project.

- Grant Commitments Met – The workgroup is confident in its ability to answer only one of the three priority questions. For the other two priority questions, data availability, data quality, and the availability of funding to support the work were identified as the most significant possible challenges.

These findings are preliminary and subject to change pending further exploration via focus groups with workgroup members.

Development of the Maturity Model Approach for the Final Assessment

The final assessment will be Agencywide and based on a maturity model approach. The assessment will examine EPA's skills, organizational structure, resources, expertise, and infrastructure to answer Agency Learning Agenda priority questions, as well as to implement the Evidence Act across the Agency.

EPA's draft maturity model addresses five domains: Evaluation, Data Use, Research, Statistics, and Lean Management. For each domain, the draft maturity model considers dimensions such as coverage, quality, methods, independence, and effectiveness. The final maturity model will be included in a report published in February 2022.

Background

EPA's Current Context

The Evidence Act provides a framework to promote a culture of evaluation and continuous learning to ensure agencies' decisions are made using the best available evidence. The Evidence Act asks agencies to assess their capacity to implement this framework including coverage, quality, methods, consistency, effectiveness, and independence. Office of Management and Budget (OMB) implementation guidance asks agencies to "plan how they will assess the coverage, quality, methods, effectiveness, and independence of their statistics, evaluation, research, and analysis efforts... [to] provide a comprehensive view of agency capacity, while also ensuring that the review takes into account specific needs identified through the development of the agency's learning agenda."⁹⁸ This report outlines EPA's plan and includes preliminary results.

EPA's ability to pursue its mission to protect human health and the environment depends upon the availability and quality of data and evidence that support and inform environmental policies, decisions, guidance, and regulations. As a science-based organization, EPA is committed to developing and using evidence to achieve its mission. Evidence-building activities are governed by a myriad of EPA and governmentwide policies, standards, and guidance to promote the quality, reliability, and accuracy of the information EPA develops and/or uses to inform policy and decision-making. These include (but are not limited to) EPA's Peer Review Policy and Handbook for internal and external review of scientific products, EPA's Information Quality Guidelines, EPA's Policy and Procedures on Protection of Human

⁹⁸ Memorandum from the Executive Office of the President for Heads of Executive Departments and Agencies: Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance (July 10, 2019): <https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf>.

Subjects in EPA Conducted or Supported Research, EPA’s Plan to Increase Access to Results of EPA-Funded Scientific Research, EPA’s Guidelines for Preparing Economic Analysis, and EPA’s Scientific Integrity Policy. EPA is also drafting a “Policy for Evaluations and Other Evidence-Building Activities” for release by February 2022.

The Evidence Act builds on longstanding principles of good governance and asks that agencies ensure the use of data and evaluation to support performance management and the improvement of operations. Relatedly, EPA has longstanding performance measurement efforts incorporated throughout the Agency’s work. Performance measurement is a part of the Agency’s strategic plan development, annual planning and budgeting, operations and implementation, and accountability and results processes to inform decision-making. The Agency also has a history of using Lean Kaizen tools integrated with performance measurement to advance a culture of using data and visual management to support business process improvement and day-to-day operations.

However, the Evidence Act provides an opportunity for EPA to reconsider its capacity to use evaluation, data, statistics, research, analysis, and other evidence-building activities to support policymaking. For example, prior to the Evidence Act, EPA did not have mechanisms to invest consistently or substantially in evaluation for the purpose of evidence-based program design and implementation. Small, decentralized pockets of evaluation expertise exist within EPA, supporting evaluation and other evidence-building projects on an ad hoc basis. The decentralized structure of evaluation and evidence-building makes it challenging to coordinate efficiently across different parts of the Agency. In response to the Evidence Act, EPA seeks to reestablish a centralized evaluation function to support and coordinate Agency evaluations as well as to build capacity for evaluation and other Evidence Act activities across the organization. EPA has included investments in the FY 2022 and FY 2023 President’s budgets to support specific evidence-building activities for the Agency Learning Agenda, which will be submitted as part of the *FY 2022-2026 EPA Strategic Plan*, and to meet Evidence Act requirements to develop a Capacity Assessment and evaluation policy. The Capacity Assessment will aid EPA’s efforts to identify staffing and resource capabilities to implement the Evidence Act over the long-term. Identifying Agency strengths and opportunities for improvement will help set priorities, catalyze action, enable decisions that advance the robust use of data and evaluation, and support the routine development and use of evidence in decision-making.

Initial Assessment: EPA’s ability to answer the questions in the Agency Learning Agenda

Status

EPA has initiated an assessment of the extent to which EPA has the necessary resources—expertise, capability, funding, data, technology, partners, organizations, and extramural vehicles—to answer the questions in three of the Agency’s Learning Agenda priority areas. This assessment will generate information that may inform the scope, feasibility, timing, and implementation of the Agency Learning Agenda that will be part of the *FY 2022-2026 EPA Strategic Plan*.

Furthermore, EPA’s understanding of its capacity to address the Learning Agenda’ priority questions can facilitate a strategic approach to evaluation and evidence building and prioritize investments in

resources and staff. As EPA assesses its capacity to address the priority questions and employ a variety of evidence-building activities, the Agency will consider the coverage, quality, methods, effectiveness, and independence of EPA's statistics; as well as the quality of its evaluation, research, analysis, and other evidence-building efforts. EPA will also consider best practices for the use, protection, dissemination, and generation of data and the production of evidence for use in policymaking.

Early in the development of its learning agenda, EPA identified three priority areas: Workforce Planning, Grant Commitments Met, and Drinking Water Systems Out of Compliance. A fourth priority area—Air Pollution Benefits—is still under development. Consequently, the methodology described in the next section only applies to the first three priority areas. EPA will work closely with the fourth priority area team to assess its capacity to answer priority questions and will include this assessment in the final report.

Methodology

EPA's framework for assessing capacity involved the identification of seven capacity areas, including: data, evaluation design, data collection, data analysis, evaluation expertise, contracting, and funding (See Figure 1). Additionally, consistent with the requirements of the Evidence Act and where appropriate and applicable, EPA assessed key dimensions of the capacity areas including coverage, quality, methods, effectiveness, and independence. These dimensions will provide structure for assessing existing strengths and opportunities for improvement in these areas. EPA anticipates some overlap with the capacity areas and dimensions (See Figure 1. EPA Capacity Areas and Key Dimensions).

A survey was identified as the optimal data collection instrument given the need to assess seven capacity areas, five dimensions, three priority areas, and 12 learning agenda questions. The capacity areas were used to frame the design of the survey. EPA consulted with survey design experts from EPA's National Center for Environmental Economics (NCEE).

The target audience/survey respondents included the individual members of the priority area workgroups, starting with the three areas identified by EPA in FY 2020: workforce planning; drinking water systems out of compliance; and grant commitments met. The survey is designed such that priority area workgroup members answer the survey to assess capacity for each learning agenda question.

A survey comprised of a core set of 19 questions covering the seven capacity areas was designed for each Learning Agenda priority area. The different Learning Agenda priority questions necessitated the development of three surveys. These survey questions were repeated for each Learning Agenda priority question, resulting in a total number of survey questions ranging from 53 – 83 (depending on priority area/respective Learning Agenda priority). This approach helped increase the validity of the responses and ensured that respondents answered each survey question with a specific Learning Agenda priority in mind.

Figure 1. EPA Capacity Areas and Key Dimensions

Capacity Area	Description
Data	<ul style="list-style-type: none"> Information required and source(s) Data availability Data accessibility Data quality
Evaluation Design	Types of evaluation designs employed to address the evaluation questions
Data Collection	Strategies and methods for collecting the required information or data
Data Analysis	Analytical techniques to be used
Evaluation Expertise	Access to Staff skills and competencies in evaluation <ul style="list-style-type: none"> Evaluation Design Data Collection Data Analysis
Contracting	Sufficient contract vehicles and capacity <ul style="list-style-type: none"> Number of contract vehicles Available capacity
Funding	Extramural dollars to support the effort

To the extent possible and where appropriate, workgroup members were asked to consider responses over the multiple years required to fully execute the Agency Learning Agenda. The survey process is expected to be augmented by individual or focus group interviews. Survey categories include:

- Learning Agenda Priority Area Workgroup Roles and Responsibilities;
- Availability and Access to Data to Support Answering the Learning Agenda Questions;
- Data Collection Methods Used to Support Answering the Learning Agenda Questions;
- Data Analysis Skills (Basic and Advanced Statistics) and Techniques Used to Support Answering the Learning Agenda Questions;
- Program Evaluation and Evaluation Design;
- Resources to Support the Execution of Evidence-Building Activities to Answer Learning Agenda Questions;
- General Familiarity with Program Evaluation and Evidence-Building Activities (e.g., Respondent’s general understanding of program evaluation, data use, statistics, research and development, and lean management); and
- Independence and Use of Results.

A pilot of the survey was launched in April 2021 with a small subset of individuals representing each priority area workgroup. After completion, a follow-up meeting was scheduled to obtain feedback from the respondents regarding key aspects of the survey, including:

- Duration – Length of time to complete the survey;

- Clarity – Ease of completion and understanding of questions; identification of questions that are unclear or require further explanation; and
- Format/Structure – Assessing the format, structure and flow of the survey given the repetitive nature of the questions

The survey was revised to incorporate feedback from the pilot respondents and a final survey was distributed June 2021. After the survey closed, the pilot and final responses were combined, and EPA initiated the analysis of results. The analysis was a critical first step in identifying areas of overlap and divergence regarding workgroup member perspectives about data availability, data quality, methods, and access to experts. A summary highlighting the preliminary findings for each Learning Agenda priority area is presented in the Findings section that follows.

An important next step in the process involves conducting focus groups and interviews with the learning priority area workgroup members to discuss and reconcile the various perspectives and responses that emerged from the survey that require further exploration. After reconciling these perspectives, EPA will summarize the findings and develop a strategy to address gaps in knowledge, skills, data, methods, and access to experts.

The results from the initial pilot will be useful in helping to inform the design of the survey prior to broader application Agencywide.

Potential Limitations

Surveying a single individual (i.e., the workgroup leader) from each priority area workgroup (a total of three people), although a valid approach, presented a concern regarding the small number of respondents. Also, it raised a potential question about whether a single individual's response would mask or fully convey the perspectives of all workgroup members. To mitigate this concern, the survey was distributed to all workgroup members. Consequently, three survey instruments (one for each priority area) were distributed to 13 priority area workgroup members. Ten workgroup members completed the entire survey (75% of members).

Finally, EPA viewed this as an opportunity to understand how a survey approach can work as a component of a Capacity Assessment, before attempting an Agencywide survey approach for the final Capacity Assessment.

Progress to Date and Next Steps

Progress to Date

Data Collection

April 2021: Pilot Survey Launched

May 2021: Integrated Feedback and Revised Pilot Survey

June 2021: Final Survey Launched

Data Analysis

July 2021: Preliminary Analysis of Data Conducted

Next Steps

August – September 2021: Facilitate Focus Groups

October 2021: Draft Action Plan to address

November 2021 – February 2022: Implement Action Plan

Anticipated Agency-Specific Challenges and Proposed Solutions to Developing Evidence to Support Agency Priorities

Developing an evidence and evaluation culture that fosters continuous learning is an important goal embraced by EPA's senior leaders. The Learning Agenda has highlighted the need and value of investing resources and time to explore and research questions of greatest importance and interest to achieve the mission. The development of learning agendas, while commonplace to some federal agencies, is new to EPA. Consequently, navigating this new territory requires a measured approach resulting in a slow but steady pace.

Findings

As indicated earlier, the survey results revealed differing perspectives among the respective Learning Agenda priority area workgroup members regarding the various capacity areas. Therefore, findings presented in this section are preliminary and subject to change pending further exploration via focus groups with workgroup members. Keeping this in mind, a common and overarching theme that emerged for each priority workgroup revolved around questions related to data availability, data access, and available funding beyond FY 2022.

Learning Priority Area: Drinking Water Systems Out of Compliance

Priority Question(s)

1. To what extent does EPA have ready access to data to measure drinking water compliance reliably and accurately?
2. What factors determine system noncompliance and continuous compliance?
3. How can we determine if a system has the technical, managerial, and financial capacity to provide safe water on a continuous basis to its customers?
4. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so, under what circumstances?
5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

Overview

The linchpin to making progress in this priority area is having appropriate data to measure drinking water compliance reliably and accurately. The team is currently working to determine if the data they have or can access is sufficient. The team believes they will require both internal staff availability and access to external experts (contractors and academics) with expertise in evaluation design and implementation. While they believe they have access to external experts, they do not believe they currently have the necessary EPA staff resources with the skills available for this project.

Learning Priority Area: Workforce Planning

Priority Question(s)

1. To what extent does EPA have access to the tools and strategies needed to analyze and understand the Agency's near and long-term workforce needs?
2. What are the critical skills needed to support the Agency's mission, now and in the future?
3. What are the leading strategies to attract, recruit, train, and retain a diverse workforce? What makes people stay in the Agency long-term?

4. How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

Overview

For Workforce Planning, data availability, uncertainty regarding data quality, and lack of funding beyond FY 2021 are the most significant hindrances and challenges to executing the Learning Agenda priority questions. In the short-term, sufficient data, expertise, and funding are available for two of the four learning agenda priority questions (1 and 3). EPA data does not currently exist to answer priority question 2 (leading strategies to attract, recruit, train and retain a diverse workforce) and priority question 4 (ensure knowledge transfer from outgoing and incoming staff to support succession planning). For priority question 2, EPA may be able to partner with a non-profit organization —the American Productivity and Quality Center — to access benchmarking and other data that can be used.

Learning Priority Area: Grant Commitments Met

Priority Question(s)

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?
3. Are the commitments established in EPA's grant agreements achieving the intended environmental results?

Overview

For this priority area, EPA is fairly confident in its ability to answer priority question 1. For priority questions 2 and 3, EPA sees data availability, data quality, and the availability of funding to support the work as the most significant possible challenges to being able to execute the work.

Initial Assessment Summary

Overall, the execution of Phase 1 of the Capacity Assessment has been a valuable learning experience for EPA. This exercise enhanced the Agency's understanding of the level of effort, time, skills, and resources needed to assess our ability to execute evidence-building activities.

Specifically, the design of the survey instrument required customization for each Learning Agenda priority area and their respective questions. Unfortunately, this level of customization may not be feasible when assessing a broader range of evidence-building activities Agencywide. The approach and survey instrument will require adaptation in light of the broader scope. The preliminary findings from this phase will influence the Agency's approach to the final Capacity Assessment, particularly where there are common challenges. For example, since preliminary findings from the initial Learning Agenda survey suggests common challenges with data access and sharing, the Agencywide Capacity Assessment can explore this in greater depth.

Final Assessment: Assessing EPA’s skills, capability, and capacity based on a maturity model

I. Maturity Model Overview

Context

Maturity models assess a current state or level of effectiveness along with criteria for achieving the next desired level of performance. For EPA, a maturity model will serve as a roadmap to help establish an evidence-based culture where Agency decisions are informed by evidence, and performance is routinely evaluated for potential improvements. Stakeholder feedback and management buy-in are critical to ensuring that the maturity model will be actionable and can drive EPA towards achieving its desired state. Implementation of the maturity model will enable the Agency to take stock and chart a path forward to ensure it makes progress in critically important areas to EPA. Looking forward, EPA will pursue a holistic approach that integrates the requirements of the Evidence Act with strategic planning and budgeting, regulatory development, program management, scientific research, and continuous improvement efforts. This integration will reinforce the importance of each initiative and foster Agencywide long-term culture change.

Methodology

In January 2021, EPA’s Evidence Act Workgroup convened a maturity model subgroup to research and develop the maturity model for EPA and to plan the approach for engaging internal stakeholders and piloting the model. The subgroup is a cross-office team comprised of individuals from national programs and regions with a range of subject matter expertise. The Evaluation Officer, Data Officer, and Statistical Official also participate in the subgroup. To date, the subgroup members have been following the approach below to produce a draft maturity model for Agency review:

- 1. Identify existing background materials** – As a first step, members of the subgroup conducted a document review and literature search regarding the various elements and approaches/methodologies for developing a maturity model. In addition to drawing from this research, the subgroup reviewed maturity models developed by other federal agencies, including those shared through the Evaluation Officer Council and Max.gov.
- 2. Scope maturity model elements** – After identifying the maturity model domains, the maturity model subgroup developed a definition for each domain to help clarify the types of activities that would encompass each domain. The definitions were assessed to ensure consistency with EPA’s draft Evaluation Policy, the Evidence Act, and OMB Circular definitions. The definitions for each domain are below.

EPA's Maturity Model

EPA's Draft Maturity Model addresses five domains, described in the draft definitions below:

1. **Evaluation** is an assessment using systematic data collection and analysis of one or more programs, policies, and organizations. The purpose of evaluation is to make recommendations to improve, advance, or modify existing programs, policies, projects, or operations.
2. **Data Use** ensures the right people are aware of, have appropriate access to, and have the necessary tools and skills to use the data they need to answer important policy or programmatic questions.
3. **Statistics** and statistical activities are the collection, compilation, processing, or analysis of data from a sample of a population for the purpose of describing or making estimates concerning that population. This includes the development of methods or resources that support those activities. Statistical evidence is the information produced from statistical activities.
4. **Research and Development** activities are defined as creative and systematic work undertaken to develop new data, information, and technologies to support credible decision-making to safeguard human health and ecosystems from environmental pollutants and to enable implementation of programs and policies designed for this purpose. These activities involve both environmental and public health research to better understand and characterize the risks associated with exposure to environmental pollutants; sources, fate, and transport of pollutants in the environment; and solutions to monitor, prevent or mitigate environmental pollutant exposures. Further, Agency decision-making also includes social science and economic research and analysis regarding policy options.
5. **Lean Management** is an approach to managing an organization that supports continuous improvement by using Lean principles and tools paired with routine measurement, visual management, and regular engagement between management and staff to identify and solve problems, realize and sustain process improvements, and more effectively achieve Agency priorities.

Next, the maturity model subgroup identified the number of maturity model levels (steps in maturity) and fleshed out the attributes (e.g., qualities, standards, and performance) for each domain. Where appropriate, the dimensions of coverage, quality, methods, independence, and effectiveness were integrated into the model. Draft maturity models were developed for Evaluation, Data Use, Research, Statistics, and Lean Management. Since analysis significantly overlaps with activities in the other domains, and the types of analyses conducted by EPA are numerous, the subgroup agreed that a separate maturity model domain for general analysis is not appropriate. Instead, additional discussions are underway to explore whether a maturity model for a specific type of analysis (e.g., regulatory analysis) would add value in terms of supporting the Agency's mission.

Although a draft of each model is complete, they have not undergone stakeholder review. The maturity models will be included in the final submission after they have been fully vetted and stakeholder review has been integrated.

3. **Identify key stakeholders** – An initial list of internal EPA experts was compiled for each maturity model domain. These stakeholders represent centers of expertise (organizations/offices) and individuals that will bring subject matter experience and professional perspective, identify potential data sources and constraints, and increase the quality of the final product. A Draft Charge to

Reviewers was drafted to facilitate discussion and illicit feedback regarding the appropriateness of each maturity model (levels and attributes).

Maturity Model Rollout/Approach, Timing of Activities and Progress to Date

Progress to Date

January 2021: Maturity Model Subgroup Convened

February 2021: Maturity Model Domains Defined

March/April 2021: Maturity Models Drafted (Levels and Attributes completed), Charge to Reviewers and Communications Package Drafted, Stakeholder Engagement Approach Reviewed by Evidence Act Workgroup

May 2021: Executive Management Council Briefing

June 2021: Communications Subgroup

Next Steps

May – September 2021: Gather feedback from internal EPA stakeholders via listening sessions, interviews, and written comments

June – August 2021: Pilot the maturity model with a targeted set of EPA organizations with expertise in the domain areas

September – December 2021: Conduct the Agencywide Capacity Assessment; submit drafts to OMB

February 2022: Issue as part of the *FY 2022-2026 EPA Strategic Plan*

Stakeholder Engagement

Stakeholder engagement is a critical aspect of ensuring Agencywide support and use of the maturity model. Appropriate senior leader awareness and buy-in is crucial for culture change. Over the next several months, continued engagement with EPA's leadership will provide for an important component of stakeholder outreach.

In addition, EPA has identified an initial list of key stakeholders for each maturity model domain. Engagement has been hampered in part due to the complex nature of the topic and the novelty of maturity models within EPA.

Anticipated Agency-Specific Challenges and Proposed Solutions to Developing and Using the Maturity Model to Support Agency Priorities

Communication regarding the maturity model has been one of the more challenging aspects of this task. The complex nature of the subject and its novelty within the Agency requires a strategic approach to communicating the various components of the maturity model, how it will be used, by whom, and its benefits. To this end, the maturity model subgroup has taken steps to develop communications materials for use by subgroup members and others. These materials will be piloted and then used widely with stakeholders. In addition, the Agency will work closely with a communications specialist to implement a communications strategy to help translate the benefits of the maturity model in terms that are meaningful for multiple audiences including managers and staff.

The maturity model subgroup continues to discuss the rollout of the models both narrow and broad. Stakeholder input will provide critical feedback regarding how and at what level the responses for the maturity model domains will be aggregated.

Lessons Learned

[NOTE: In the spirit of continuous improvement, EPA will reflect on its experience and will summarize any lessons learned to inform future efforts and the efforts of other CFO Act agencies.]

II. The Role of the Data Skills Assessment Survey

Data Skills Assessment

Since data and analytics are increasingly becoming part of everyday business, with different jobs requiring different types of data skills, scientists and data specialists may require advanced technical skills to support data gathering, conversion, cleansing, and analysis; while non-specialists often need to interpret data, communicate its importance, and use it to make decisions.

In support of the Evidence Act and Federal Data Strategy requirements, EPA launched an Agencywide Data Skills Survey on April 19, 2021 to gain input on staff use of data to perform their work. The survey was designed to identify strengths and gaps related to critical data skills, assess staff capacity for those skills, and take actions to ensure its workforce is prepared to support evidence-building activities. In addition to skills questions, questions regarding attitudes and perceptions of EPA's overall culture with respect to data were included in the survey. The survey consisted of the following six categories:

- Respondent Office, Role, and Data Responsibilities;
- Awareness of Options to Access, Share, and Manage Data;
- Skills to Interpret Data and/or Analysis;
- Skills to Visualize Data;
- Skills to Communicate; and
- Organization Value/Use of Evidence.

A total of 2,665 EPA staff completed the survey. Of this number 2,015 answered all of the questions while 650 completed a portion (one percent – 98 percent). The current analysis only includes completed surveys. Preliminary survey results are currently under review by EPA's Data Governance Council (DGC) and will not be included in this submission. Upon the completion of the DGC review, a dashboard will be developed and options for communicating the survey results and findings Agencywide will be explored. Details regarding the potential limitations, timing of activities, challenges, findings, and lessons learned — as described below — will be included in the December submission.

III. Summary and Findings

Context

This section will bring together the work described in Sections I-II to present an overall summary and findings. EPA will describe the process used to: (1) identify the data sources, methods and data collection instruments needed to assess Agency maturity across the domains; (2) identify and develop the criteria needed to understand the progression from one level to the next in the maturity model; (3) conduct a comparison of the information collected, interpret and summarize the data to identify

existing capabilities, deficiencies, and areas where gaps exist, and prepare a report presenting the findings; and (4) develop and present the model based on the scoping effort, indicators, and analysis.

Methodology

EPA will summarize the methodology employed to bring together the information from assessing EPA's ability to answer the questions in the Agency Learning Agenda; from assessing EPA's skills, capability, and capacity based on a maturity model; and information from the data skills survey.

- *Final Capacity Assessment Approach, Timing of Activities and Progress to Date: EPA will describe internal major milestones and document progress to date.*
- *Stakeholder Engagement: EPA will describe activities undertaken receive input and feedback on the Final Assessment.*
- *Anticipated Agency-Specific Challenges and Proposed Solutions to conducting and using the Capacity Assessment to Support Agency Priorities: Any existing or potential challenges associated with the execution of the approach described above will be highlighted. For each challenge, the Agency will document a proposed mitigation strategy.*
- *Lessons Learned: In the spirit of continuous improvement, EPA will reflect on its experience and will summarize any lessons learned to inform future efforts and the efforts of other CFO Act agencies.*