

Responses to Spring 2022 RTOC Action Items

	Action Item	Tribal Contact	EPA Contact	Responses
1	Climate Infrastructure Funding (EV Charging Stations): Tribes have been told that EPA will not allow EV charging stations in GAP grants. Why is this and how can EPA assist tribes in this area?	So Cal - Rob Roy, Teresa Romero, Syndi Smallwood	Ruben Mojica Hernandez	EPA Region 9 has determined that buying an EV charging station could potentially be done if the vehicle is being used for GAP-program activities and if the Tribe took on the responsibility of dealing with any NEPA processes. Depending on what is needed for the EV station, it might be considered construction and need HQ approval. We would also ask the Tribe to justify building a new charging station vs using existing nearby stations. As with any equipment or infrastructure costs, EPA will need to assess the reasonableness with costs before making a funding determination.
2	Hazardous Substance Cleanup on Tribal Lands: There is a lack of funding for environmental cleanups. How can EPA assist with the pollution of tribal lands caused by issues like illegal cannabis grows or other environmental cleanups?	So Cal - Rob Roy, Teresa Romero, Syndi Smallwood	Peter Guria, Jose Garcia	<p>Angela Sandoval discussed during the Spring RTOC plenary and Juliann Schroeder emailed the following information with Rob Roy, Teresa Romero, and Syndi Smallwood on 5/6/22:</p> <ul style="list-style-type: none"> •EPA R9 Emergency response section is available to tribes for cleanup of illegal marijuana grows when containerized pesticides, hazardous substances have contaminated soil or debris. Petroleum discharges that threaten Waters of the US can be addressed via the USCG emergency response program. EPA does not deal with the marijuana itself or its derivatives such as honey oil – these substances must be addressed by law enforcement. •Removals at hazardous substance contamination sites do not include restoration of the land itself unless EPA staff or contractors needed to excavate areas to complete the removals. •Cleanup of solid waste (nonhazardous debris) at abandoned illegal grow site can be funded under GAP. •We can follow up further site specific responses with potential Brownfields funding, if applicable. <p>This is being considered as a session during the Tribal EPA conference. (Co-Leads: Peter Guria, Jose Garcia)</p>
3	Federal, State and Tribal Coordination with EPA: How is EPA coordinating with other federal and state agencies to assist and address tribal needs and concerns? Follow-up comment: At the RTOC meetings sometimes tribal representatives ask EPA about things which EPA cannot work on and we wondered if EPA was coordinating with other agencies and passing on those questions or needs.	So Cal - Rob Roy, Teresa Romero, Syndi Smallwood		We will discuss this during the Summer RTOC. (e.g. climate change). Workgroup leads also can address how best to elevate media-specific issues and concerns to other agencies.

4	Nonpoint Source Program Base Funding: The 319 base program funding levels are too low to be able to do much beneficial work and competitive funding can be hard to receive. What progress can EPA report on being able to increase this funding in the near future?	So Cal - Rob Roy, Teresa Romero, Syndi Smallwood	Jason Brush	<p>319 funding was discussed during the Spring RTOC budget session (see slides 32-34): https://www.epa.gov/system/files/documents/2022-04/r9-rtoc-budget-presentation-by-division-directors-2022-04.pdf</p> <p>Information shared from Steve Epting (EPA HQ, epting.steve@epa.gov)</p> <p>1.EPA issues a national NPS program policy memo in September 2021, in which the program committed to exploring opportunities to increase tribal 319 funding: https://www.epa.gov/system/files/documents/2021-10/equity-in-the-nps-program-section-319-policy-memo-signed.pdf</p> <p>2.Since September, EPA NPS program has been leading a robust engagement effort with 319 grantees, including tribes, states and territories, to inform national program actions to advance equity in the 319 program. This engagement process has included quarterly calls with all grantees (December, March), 4 all grantee and 4 Tribal grantee listening sessions (Jan-Feb), and now a set of EPA/Grantee workgroups (including 1 Tribal-specific workgroup) that are working to develop options for EPA to consider to address challenges to advancing equity in the program. The next All Grantee quarterly call is at the end of June, when workgroups will be reporting out.</p> <p>3.The President's FY2023 Budget Request to Congress includes +\$7 million for the Tribal 319 set-aside. The EPA/Tribal 319 grantee workgroup is using this budget scenario to help develop potential options for potential updates to the Tribal 319 set-aside.</p> <p>4.EPA also initiated a Tribal consultation at the end of March with all federally recognized tribes to better understand how the national NPS program can better support tribes through action(s) in the CWA §319 program. The consultation will remain open through 9/30/22. Comment Period #1 ends 5/27: https://www.epa.gov/nps/forms/tribal-nonpoint-source-program-consultation</p> <p>5.EPA increased the base funding amount for the CWA 319 program for the upcoming grant cycle by 20%.</p>
5	Consultation Resources for Tribal Programs: Consultation and coordination between EPA and Tribes is incredibly important, but tribal environmental programs lack the necessary staff to adequately engage with EPA. Can EPA provide additional FTE for tribal staff to more effectively participate in coordination and consultations?	So Cal - Rob Roy, Teresa Romero, Syndi Smallwood	Ruben Mojica Hernandez	Although there is no dedicated source of funding for consultation and coordination, GAP funds can be used for personnel time on consultation work that is related to EPA administrated programs. See capacity indicator(s) B.6.5, B.6.7, B.6.8, B.6.9, B.7.6 in the GAP guidance.
6	There is a county project to break levees and create more marsh/wetlands adjacent to the tribal trust property. If an area is turned back into wetlands, how would these flood easements affect tribal water quality standards and implementation of the clean water act for the Tribe. How should we add these to our existing tribal water standards?	Temashio Anderson, Robinson Rancheria	Kate Pinkerton	Kate Pinkerton reached out to Temashio Anderson from Robinson Rancheria to discuss. A follow-up email was sent on 5/6/22.
7	Superfund: County of Lake dredging, concern with areas the County has slated for dredging and the proximity to the superfund site. Request a conversation with Superfund staff familiar with tribal programs on this project.	Temashio Anderson, Robinson Rancheria	Carter Jessop	Temashio Anderson contacted Carter Jessop to discuss this specific issue. A follow-up email was sent on 5/6/22. EPA appreciates the recommendation that we look into this and we are coordinating with the County Dept of Water Resources.
8	Drought concerns: What is EPA doing to prepare the Tribes for this 3rd year of drought and what outreach is being done to make sure tribes secure funds for drought needs?	Kerri Vera, Tule River Reservation	Jason Brush	Please see the attached factsheet from Winter 2022 RTOC Action Item #7 on available resources.

9	<p>Air Program Training Needs - Tribal programs are required to have a training plan for air program staff and currently these plans are piecemealed together from a variety of resources. Some of these resources have been inaccessible to tribes during the pandemic because no remote option exists. Can EPA develop a Tribal Online Air Academy to provide baseline training for tribal air program staff? One online academy would be valuable resource for all tribes to build tribal air programs, beyond the region, and help with tribal staff turnover. The online academy would need ongoing quality control support to ensure content, links, etc. are accurate and up-to-date.</p>	Air Workgroup	Kate Harper	<p>EPA has recently revamped its online air training website called: AirKnowledge.gov. This is a public training site that replaces the former Air Pollution Training Institute. Many helpful courses exists on AirKnowledge website, for example https://airknowledge.gov/SI/AMBM208-SI.html covers QA for Air Pollution Measurement Systems. Please visit AirKnowledge.gov for more information.</p> <p>Additionally, ITEP offers online air program training via: https://www7.nau.edu/itep/main/training/training_air and https://www7.nau.edu/itep/main/training/archive_webinars_air), much of it is available to take at any time.</p> <p>If you have any questions please contact the Region 9 Tribal Air Coordinators: Edward Holman (holman.edward@epa.gov) and Kate Harper (harper.kathryn@epa.gov).</p>
10	<p>(Refining the Regulatory Monitoring Issue) Regulatory Monitoring - QA Manager Role Assistance - Tribal programs with regulatory air monitoring have on-going issues with establishing a separate staff member to fulfill the QAM role. The QAM role must be a separate staff person who is knowledgeable and trained in air monitoring programs. Tribes have been creative in identifying solution including seeking assistance from other tribes and establishing inter-department policies but each of these solutions rely upon knowledgeable staff retention, internal and external to the program/tribe. In addition, funding limitations prohibit hiring contractors to fulfill the QAM role. Can EPA establish a QAM role within EPA R9 tribal program or TAMS Center to provide consistent support to Tribes? This would be a significant resource to help all tribal air monitoring programs to generate quality data.</p>	Air Workgroup	Kate Harper / Audrey Johnson	<p>The Regulations for Clean Air Act Regulatory programs requires an independent person to fill the Quality Assurance (QA) Manager role. This request for a QA Manager role within EPA R9 or TAMS Center has been raised at the national level in an effort to better support tribes with regulatory programs. We will follow this discussion and keep tribes informed. In Region 9, due to unchanged Congressionally allocated funding levels for tribal air funding, resources limit the deployment of an EPA R9 or TAMS Center QAM. If Region 9 were to receive more tribal air funding, the role of a QAM could be revisited via RTOC and/or Air workgroup.</p> <p>EPA R9 QA office is committed to working with Tribes based on their specific circumstances. With coordination between the tribal program, project officer, and QA office, many creative solutions have been put into practice to fulfill the regulations. If your tribe has specific concerns with QA please raise this issue with the project officer assigned to your grant and the conversation can be started with the QA office to develop a solution.</p>

11	Can Tribes get training to conduct their own NPEP/NPAP audits?	Air Workgroup	Randall Chang	<p>Tribes need to be authorized by the OAQPS (EPA Office of Air Quality Planning and Standards) to perform their own NPAP (National Performance Audit Program)/PEP (Performance Evaluation Program) audits. Training would be available through OAQPS as well.</p> <p>If a tribe has already begun discussing regulatory monitoring with EPA R9 and would like to discuss training to self implement their own NPAP/PEP they can reach out to R9 (Randy Chang, Larry Biland (Biland.Larry@epa.gov), or Shaye Hong (hong.shaye@epa.gov)) and OAQPS (Dennis Crumpler (crumpler.dennis@epa.gov) for the PEP program and Trisha Curran (curran.trisha@epa.gov) for NPAP program, depending on whether NPAP and/or PEP audits would be needed.</p> <p>To clarify, NPAP/PEP audits are required for regulatory air monitoring only. It is not required for informational monitoring. Please find attached a presentation from the 2020 RTOC that provides more information or reach out to Randy Chang (chang.randall@epa.gov) with questions.</p>
12	Is there a decision making tool/guidance document to help tribes decide which types of air monitoring to take on? (i.e. low cost, EPA certified, informational/regulatory)?	Air Workgroup	Randall Chang, Kate Harper	Please find attached a PowerPoint (particularly slides 4 – 8) that goes through a decision making process to help air programs determine which level of air monitoring is appropriate for tribe based on capacity and air program goals. The Air Workgroup can review existing materials to go over informational vs. regulatory monitoring.
13	Provide Tribal Caucus with the statistical information provided during EPA Regional Administrator Opening Remarks.	Tribal Caucus	Juliann Schroeder	Juliann Schroeder emailed Mervin on 5/6/22. The metrics in the RA's opening remarks are within EPA's Strategic Plan and are highlighted in the attachment (on pages 16, 24, 50, 92).
14	Climate Change Session during RTOC Plenary - to schedule future meetings for additional discussions.	Mervin Wright	Suzanne Marr	There will be a Climate Change discussion at the Summer RTOC plenary. Please reach out to Suzanne Marr with any climate change meeting requests or if you would like her to speak at a future RTOC. Her contact info: Marr.suzanne@epa.gov. She would be happy to speak individually with tribes or speak with a larger group, based on the request.

15	During the Tuesday 4.26.22 Session on “Discussion on MOUs regarding Indigenous Sites and Treaty Rights” , to get information on their meetings, interagency meeting and their subgroup meetings. Also the USDA or Forest Service received funding to administer a database of treaties. We need to know how they are determining when treaty and reserved rights and resources are affected by Agency actions.		Jared Hautamaki	Juliann Schroeder reached out to Jared Hautamaki on 5/6/22 to provide more information. Jared responded that he suggest tribes follow the White House Council on Native American Affairs web page (https://www.bia.gov/whcnaa) for upcoming information on meetings. Regarding the database, It is up to agencies to reference those treaties through researching in the database when agency actions, either regulatory or decision-making, may impact treaty rights. Please reach out to Jared if you have more specific questions, hautamaki.jared@epa.gov or (202) 564-4229
16	Recycling - Angela Sandoval to provide additional information on the National Recycling Strategy	Sally Manning	Angela Sandoval	Angela Sandoval reached out to Sally Manning directly after the Spring RTOC meeting to share information. The presentation on the strategy is also available online: https://www.epa.gov/system/files/documents/2022-04/r9-rtoc-stakeholder-outreach-smm-grants-and-nrs-2022-04-26.pdf
Carryover from Earlier RTOCS				
	Will EPA work with Tribes and consortia at hosting GAP, CWA, and other EPA approved training? We think it would be more cost-efficient and practical, if a Tribe or consortia hosted training, rather than travelling to expensive San Francisco. The conference sessions are helpful as awareness level training, but they don’t do a thorough job at training new tribal staff. (Action Item from Summer 2021 RTOC)	Cliff Banuelos, ITCN	Cliff Banuelos & Ruben Mojica Hernandez	<p>Ruben Mojica Hernandez and Clifford Banuelos met on 8/26/21 to discuss GAP trainings. During this discussion Ruben and Clifford reviewed the current training opportunities that exist like the RTOC, Conference, GAP webinar, etc. Clifford highlighted some extra support in trainings that tribes would benefit from, specifically highlight trainings on GAP grants for new environmental directB17:E21ors. Clifford voiced that he prefers an in-person training. To conclude, Ruben committed to looking into the possibility of doing a GAP 101 course for new environmental directors and will develop an outline or plan for the training. Clifford provided some resources to help develop this plan, which Ruben will review. Ruben will work w Clifford for input to assess the need and possibility of the training. He is currently assessing needs this fiscal year for a FY23 training.</p> <p>Also a note that there used to be in-person trainings for new environmental directors as add-ons to RTOC. The RTOC planning team is considering opportunities for these trainings for future RTOCs. The Summer RTOC is including training/extra technical sessions to follow this model (on Monday and Friday).</p>

Action Item Report Out from Fall RTOC Drinking Water Program

- Kashia Tribe had to implement their Drought Contingency Plan due to low levels of potable water. Although Kashia resolved their issue, there is concern that there are some Tribes who do not have those resources. The request is for EPA to develop resources for Tribes which include information from EPA, States, Indian Health Service, etc. (Example provided was Kashia having to haul potable water for the Community).

Response: The California state water board can support emergency drinking water needs (e.g. bottled water, hauled water) for tribal communities. To apply for funding, Tribes can submit a single application [Urgent Drinking Water Needs Application](#) to DFA-CAA@waterboards.ca.gov. EPA tribal drinking water staff and TA providers can assist tribes with completing the application and liaising with the state board staff.

The Indian Health Service has limited funding available to support emergency water supply needs and water hauling projects. The best points of contact are IHS SFC area directors.

Drought contingency planning and other drinking water program capacity building activities can be supported with EPA GAP funds.

EPA can fund long-term solutions to water supply deficiencies through the drinking water tribal set aside program <https://www.epa.gov/tribal/region-9-drinking-water-tribal-set-aside-program>

This includes funding for both planning and construction activities (e.g. identification of a new groundwater well, etc.). Tribal drinking water team program managers are available to assist water systems with scoping funding and emergency resources to address drought.

- When new drinking water or wastewater systems are installed (or replaced), O&M needs and requirements become additional issues.
- Future repair costs need to be understood at the start of the projects

Response: EPA agrees that the operation and maintenance costs of new water infrastructure projects should be well developed and understood prior to funding and construction. For EPA funded projects, we require that project proponents develop a preliminary engineering report (PER) that includes a life cycle cost analysis for each alternative that is considered. The life cycle cost analysis covers a 20-year planning period and compares the initial capital costs and the annual recurring costs of operating the new infrastructure. Tribes are encouraged to review the analysis and provide feedback to the agency developing the PER to ensure that it accurately reflects O&M and future repair costs, and to ensure it agrees with the selected alternative. EPA will look more closely at O&M and future repair costs when evaluating project proposals for EPA funding.

- The differences in the IHS and EPA project scoring systems create unmet need issues that could have been mitigated before disaster strikes (fire/flood/etc.).

Response: EPA is open to revising its ranking system for Region 9's Drinking Water Tribal Set Aside (DWTSA) selection based on RTOC input. Region 9's current project solicitation and ranking system was developed to more effectively prioritize projects with the greatest health-based needs. The ranking system was developed in response to a direct request from the RTOC and subsequent consultation with tribes who had expressed concern about relying solely on IHS's SDS list for project selection, as many other EPA regions do.

Tribal Air Monitoring



Randall Chang
USEPA, Region 9
August 13, 2020
RTOC



Introduction

- Assessing Potential Ambient Air Quality Issues
- Ambient Air Monitoring Objectives
 - Setting Data Quality Objectives
 - Monitoring for “Informational Purposes”
 - Monitoring for “Regulatory Purposes”
- Key Air Monitoring QA Requirements
- EPA Expectations for Air Monitoring Programs

Assessing Potential Ambient Air Quality Issues

- Understanding Emissions Sources
 - Identifying types of emissions sources
 - Developing an emissions inventory
- Ambient Air Monitoring
 - Reviewing existing monitoring data
 - Implementing an air monitoring program
- Air Quality Modeling



Ambient Air Monitoring Objectives

- Setting Data Quality Objectives
 - Why are data needed?
 - How will the data be used and by whom?
 - What measurements are required (e.g. which pollutants)?
 - How much uncertainty can the data have, while still meeting your data needs?

Ambient Air Monitoring Objectives

- Monitoring for “Informational Purposes”
 - Initial assessment of air quality
 - Identify potential sources
 - Provide public information/outreach/notification
 - Characterize high pollution episodes
 - Support research studies
 - Evaluate effectiveness of air pollution control measure/strategies

Ambient Air Monitoring Objectives

- Benefits of Monitoring for “Informational purposes”
 - Informational air quality data can be used for state/local/tribal policy and regulation
 - Increased flexibility in implementation (e.g. monitoring equipment, location, and duration)
 - Fewer requirements + More flexibility = Appropriate information that costs less
 - Informational monitors enable greater spatial coverage and can help determine locations for siting regulatory monitors

Ambient Air Monitoring Objectives

- Monitoring for “regulatory purposes”
 - For a very specific objective
 - Data from “regulatory” monitors is required for specific EPA regulatory actions (e.g. NAAQS* designations decisions, attainment/Clean Data findings).

* National Ambient Air Quality Standards

Ambient Air Monitoring Objectives

- Benefits of monitoring for “regulatory purposes”
 - Tribe specific data can be used for regulatory actions
 - Tribal lands are currently designated non-attainment along with surrounding area, but information sources (e.g., informational monitoring) indicate air quality on the reservation is different (attaining the NAAQS).
 - Tribal lands are currently designated attainment along with surrounding area, but information sources (e.g., informational monitoring) indicate NAAQS violations on the reservation.

Key Air Monitoring QA Requirements

(Regulatory Monitoring)

- Key Considerations:
 - A strong quality assurance program must be in place so that national decisions on air quality with respect to the NAAQS are consistent and based on data that is technically and legally defensible.
 - Primary Quality Assurance Organization (PQAO)
 - Approved by EPA as a PQAO or
 - Joining with an already established PQAO
 - Regulatory monitoring is **very** resource intensive: personnel, equipment, O&M, contract services (e.g. audits, PM_{2.5} filter weighing laboratory)

Key Air Monitoring QA Requirements

(Regulatory Monitoring)

- Regulatory monitoring requires strict adherence to 40 CFR Parts 50, 53, 58 and related appendices:
 - 40 CFR Part 50 (NAAQS)
 - 40 CFR Part 53 (FRM/FEM methods)
 - 40 CFR Part 58, and Appendices A, C, D, & E
- Additional key EPA documents:
 - EPA QA Handbook Volumes II and IV
 - EPA QA Guidance Documents
 - EPA Technical Assistance Documents (TAD)

Key Air Monitoring QA Requirements (Regulatory Monitoring)

- Perform all required QC checks including:
 - One point QC checks (O_3 , NO_2 , SO_2 & CO)
 - Monthly/quarterly flow verifications (PM_{10} , $PM_{2.5}$ & Pb)
- Perform all required QA audits including:
 - Annual/quarterly performance evaluations (O_3 , NO_2 , SO_2 & CO)
 - Semi-annual flow audits (PM_{10} , $PM_{2.5}$ & Pb)
- Monitoring instruments must be designated FRM or FEM
- Certifications for reference standards (reference gas, zero air, flow, temperature, RH) must be NIST-traceable and recertified regularly and appropriately.

Key Air Monitoring QA Requirements (Regulatory Monitoring)

- Documents to be submitted to EPA for review and approval:
 - QA documents (in place prior to start of monitoring), reviewed/revised annually or for significant changes/updates:
 - Quality Management Plan (QMP)
 - Quality Assurance Project Plan (QAPP)
 - Standard Operating Procedures (SOPs) – part of the QAPP
 - Annually submit a Network Plan (ANP)
 - Every five years, submit a Network Assessment (with the ANP)

Key Air Monitoring QA Requirements

(Regulatory Monitoring)

- Data Requirements

- Valid design value requires 3 Years* of complete data
 - Pollutant data “completeness” requirements defined in CFR
- A robust data review process is needed to ensure that data used for regulatory purposes is technically and legally defensible.
- Failure to adhere to QA requirements can result in invalidation of data.
- Monitor data and QA/QC data must be submitted to AQS quarterly

* Except for CO

Key Air Monitoring QA Requirements (Regulatory Monitoring)

- Participate in EPA Technical Systems Audits (TSA) every three years.
- Region 9 tribal TSAs:
 - Generally last 2-3 days depending on size of the network
 - EPA issues a TSA report
 - Tribe must submit to EPA for approval, Corrective Action Plans (CAPS) to address all TSA findings and implement the approved CAPS.

Key Air Monitoring QA Requirements

(Regulatory Monitoring)

- Grant funds* for participating in EPA National QA programs
 - National Performance Audit Program (NPAP) (O₃, NO₂, SO₂ & CO)
 - Performance Evaluation Program (PEP) (Pb and PM_{2.5})

*Funds held back from grant

Key Air Monitoring QA Requirements

- Monitoring for “informational purposes” does not require strict adherence to 40 CFR Parts 50, 53, 58 and related appendices.
- QA/QC requirements still apply but are dependent on the specific monitoring purpose and associated data quality objectives.

EPA Expectations for Air Monitoring Programs

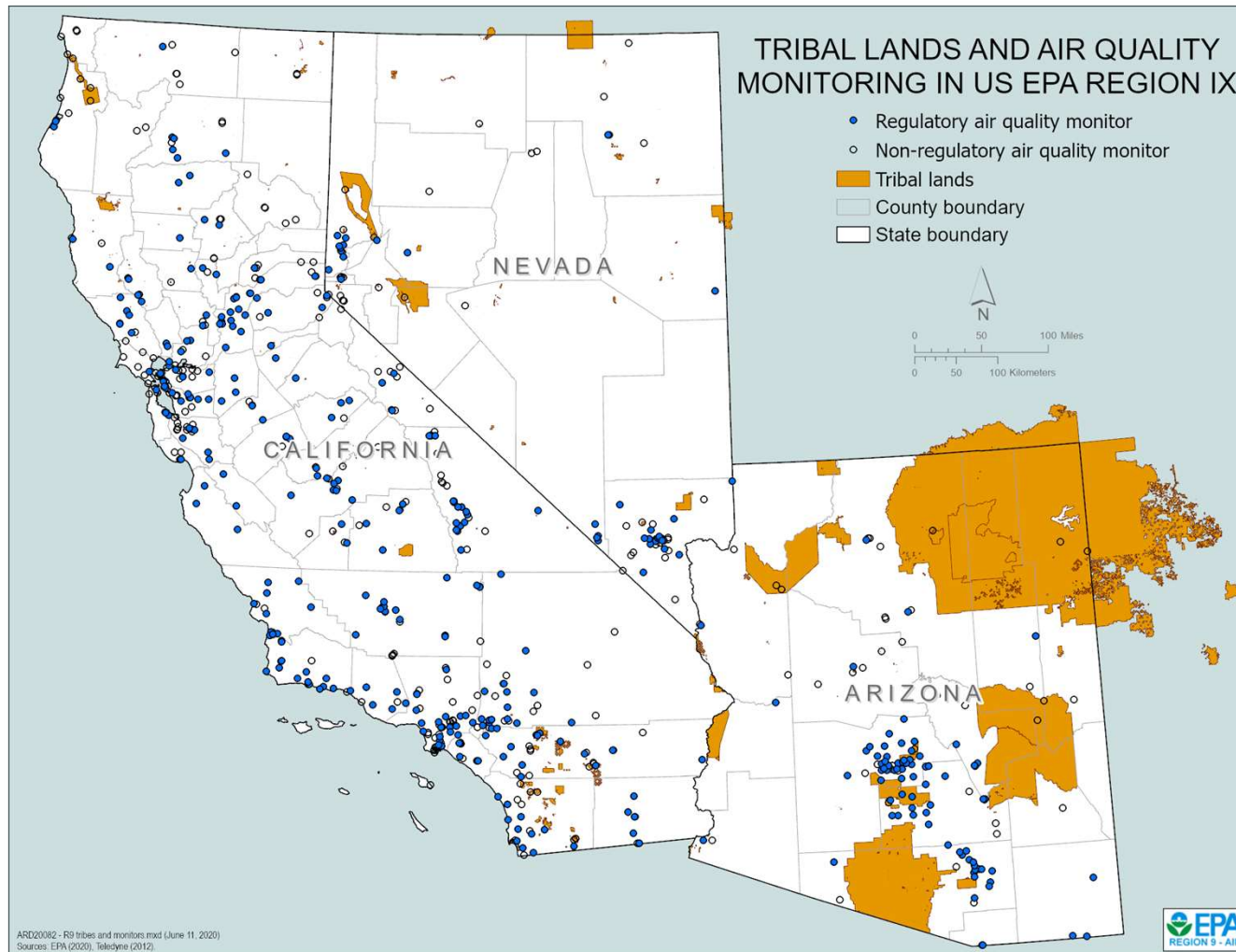
- Regardless of monitoring objective, tribal monitoring programs should:
 - Have clear expectations and understanding of the purpose of the monitoring program
 - Efficiently and effectively implement program requirements
 - Establish a strong quality assurance program that includes documentation, QA personnel, and processes
 - Submit data to EPA via AQS
 - Regularly communicate and work with EPA Air Quality Analysis Office

Thank you for your time and interest!

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Additional Information

Region 9 Ambient Air Monitoring Network



Key Regulations and Requirements Documents

- Key regulations:
 - 40 CFR Part 50 (NAAQS),
 - 40 CFR Part 53, and
 - 40 CFR Part 58, and Appendices A, C, D, & E
- Additional key EPA requirements documents
 - List of Designated Reference and Equivalent Methods
 - EPA QA Handbook Volumes II and IV
 - EPA QA Handbook Volume II, Appendix D, Measurement Quality Objectives and Validation Templates
 - EPA QA Guidance Documents 2.10 (PM₁₀), and 2.12 (PM_{2.5})
 - EPA Technical Assistance Documents (TAD)

NPAP and Pb-PEP Program

- NPAP
 - Audits of 20% of PQAOs sites (primary monitors for all gaseous pollutants) every year, 100% in six years
- Pb-PEP
 - One audit/year for PQAOs with \leq five Pb sites
 - Two audits/year for PQAOs with $>$ five Pb sites
- Approximate EPA/ESAT contractor cost = \$3000/audit
- PQAOs that desire to self-implement NPAP/PEP must receive approval from EPA

PM_{2.5} PEP Program

- Five valid audits/year for PQAOs with \leq five PM_{2.5} sites
- Eight valid audits/year for PQAOs with $>$ five PM_{2.5} sites
- Approximate EPA/ESAT contractor cost = \$3000/audit
- PQAOs that desire to self-implement NPAP/PEP must receive approval from EPA

Useful Web Links

- Sources of monitoring data
 - AirNow: www.airnow.gov
 - AIRNow-Tech: www.airnowtech.org
 - EPA AirData: <http://www.epa.gov/outdoor-air-quality-data/>
 - AQS: <http://www.epa.gov/aqs>
- Ambient Monitoring Technology Information Center (AMTIC) <https://www.epa.gov/amtic>

Useful Web Links (cont.)

- Emissions
 - <https://www.epa.gov/air-emissions-inventories>
- Air quality modeling
 - EPA Support Center for Regulatory Atmospheric Modeling (SCRAM): www.epa.gov/scram

EPA AirData

The screenshot displays the EPA AirData website interface. At the top, the browser address bar shows the URL `epa.gov/outdoor-air-quality-data`. Below the browser window, the EPA logo and navigation menu are visible. The main heading reads "Air Data: Air Quality Data Collected at Outdoor Monitors Across the US". A "Daily Air Quality Tracker" section features a line graph with a blue line representing current data and a brown line for historical data. The graph shows a peak in the blue line, with the word "MODERATE" overlaid in yellow. To the right of the graph, a sidebar lists links: "CONTACT US", "SHARE" (with Facebook, Twitter, and Email icons), "The tools below are connected directly to EPA's [Air Quality System Data Mart](#)", "[Basic Information](#)", and "[Frequent Questions](#)". Below the graph, a paragraph states: "This website provides access to outdoor air quality data collected from state, local and tribal monitoring agencies across the United States." At the bottom, three sections are highlighted: "Download Data" with a "Pre-generated Data Files" link and a "FILES" icon; "Monitor Locations" with a map icon; and "Air Data Updates" with an RSS icon and text: "Subscribe to our RSS feed to keep up with the latest news, including scheduled system".

Air Data: Air Quality Data Collected at Outdoor Monitors Across the US

Daily Air Quality Tracker
The new [daily air quality tracker](#) lets you compare recent AQI values with historical data.

MODERATE

1 2 3

CONTACT US
SHARE

The tools below are connected directly to EPA's [Air Quality System Data Mart](#).
[Basic Information](#)
[Frequent Questions](#)

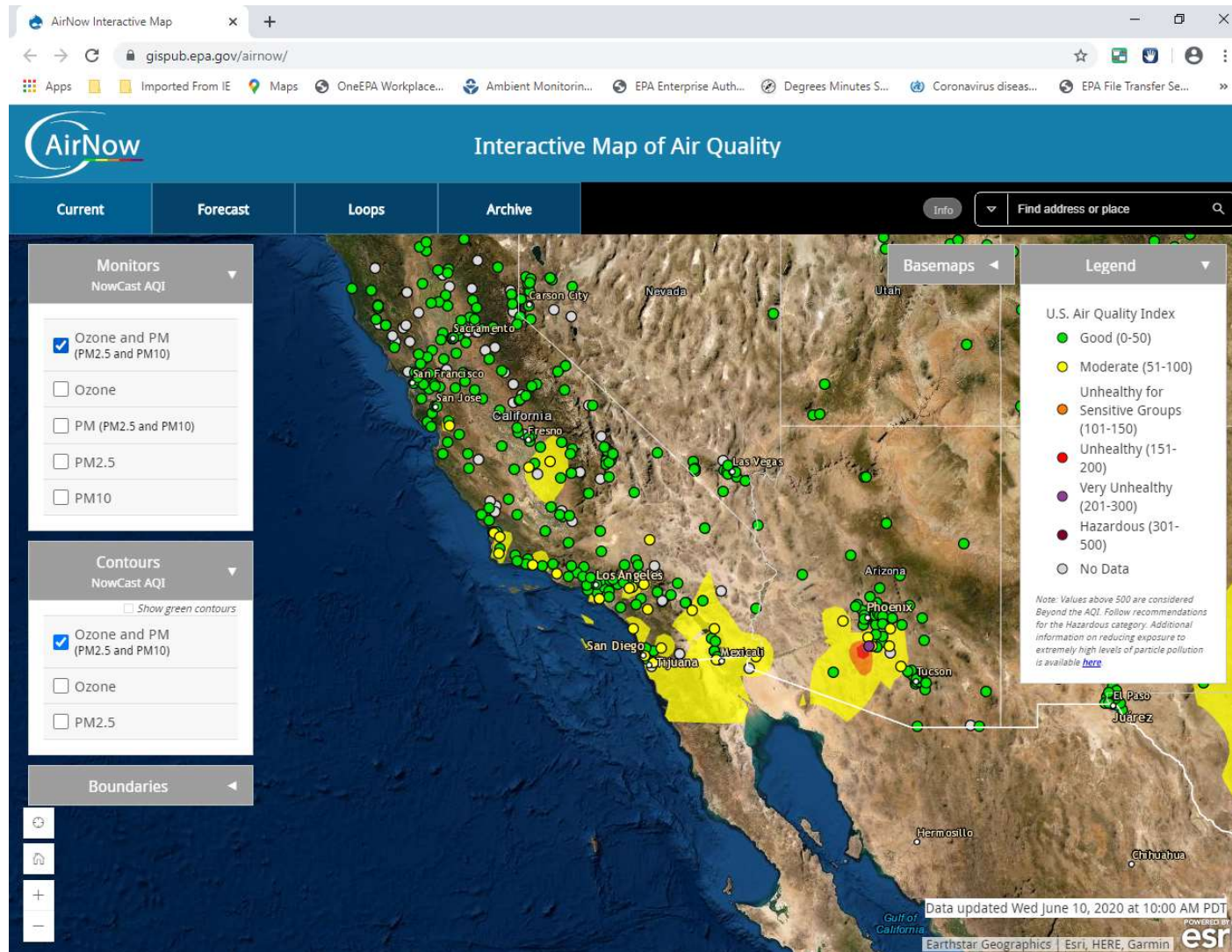
This website provides access to outdoor air quality data collected from state, local and tribal monitoring agencies across the United States.

Download Data
 [Pre-generated Data Files](#)

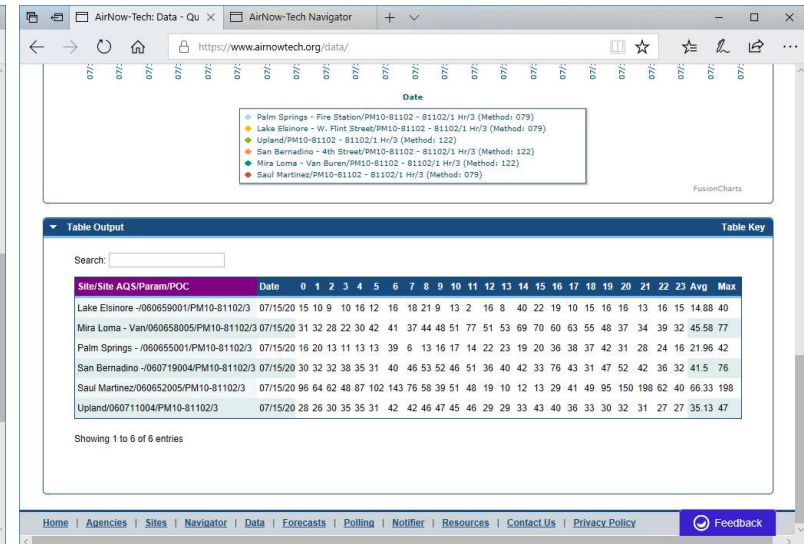
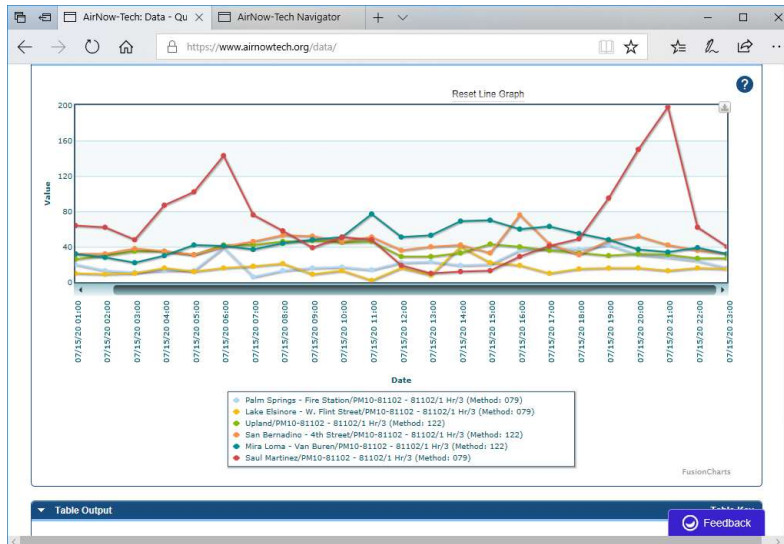
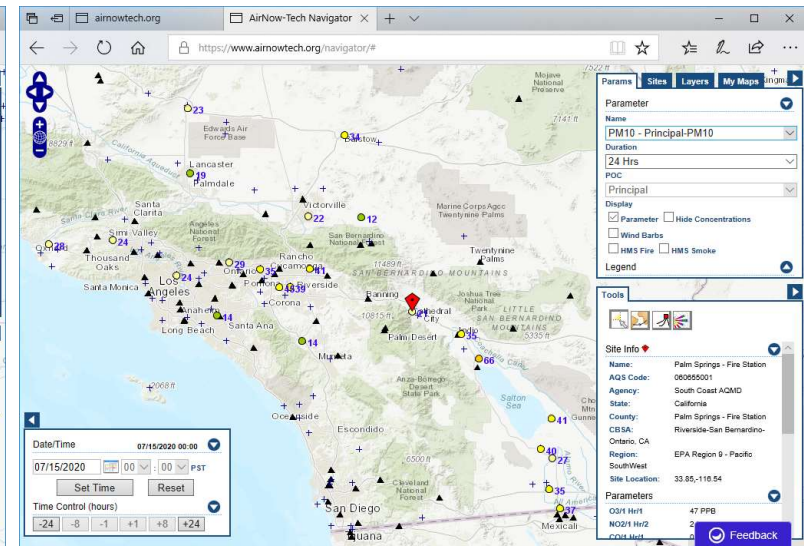
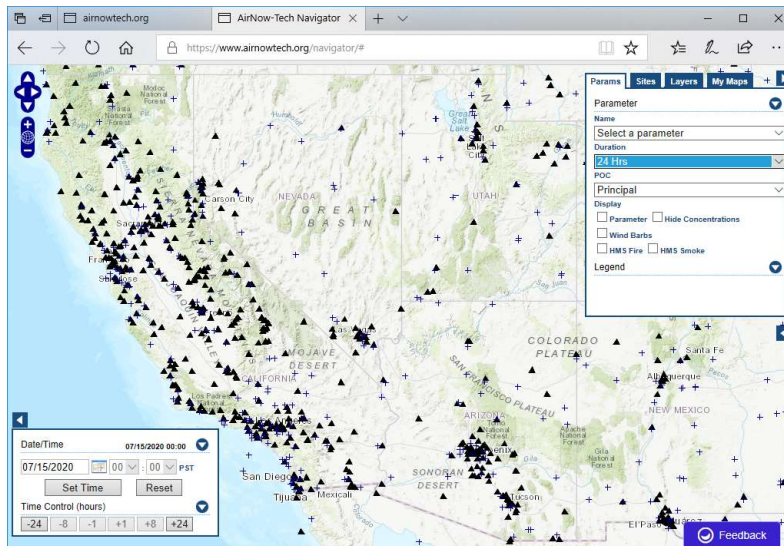
Monitor Locations

Air Data Updates
 Subscribe to our RSS feed to keep up with the latest news, including scheduled system

AirNow – Air Quality Index (AQI): Region 9

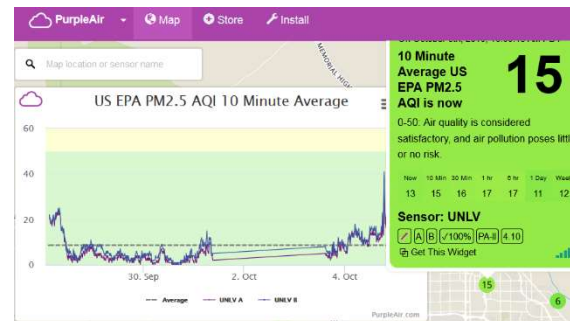


AirNow-Tech: Region 9



Sensor Considerations and Resources

- Key Considerations for Using Sensors for AQ Measurements
 - Not a replacement for regulatory grade, high quality monitors
 - Must be selected to fit a purpose
 - Quality assurance is critical
 - Requires more sophisticated data recovery and manipulation software. Data collection often results in millions of data points!
 - Allows for partnerships and engagement with government, academia, and the public are important



Sensor Resources

- EPA Air Sensor Toolbox web page provides citizen scientists and others resources on air sensors
- Air Sensor Guidebook is one of the most popular resources in the Toolbox
 - <https://www.epa.gov/air-sensor-toolbox>
- The South Coast AQMD Air Quality Sensor Performance Evaluation Center (AQ-SPEC) also provides a wealth of resources on sensors, including laboratory and field performance sensor evaluations
 - <http://www.aqmd.gov/aq-spec>

The image shows two web pages. The top page is the EPA Air Sensor Toolbox, which features a navigation bar with links to Environmental Topics, Laws & Regulations, and About EPA. The main content area includes a section for 'New Educational Videos on Air Sensors Released' with a 'Watch the videos' link, and a 'How to Use Air Sensors' section with a video thumbnail. The bottom page is the AQ-SPEC (Air Quality Sensor Performance Evaluation Center) website, which includes a 'Sensor Description' section for the Aeroqual Model AQY v0.5, listing pollutants as Ozone and measurement range as 0 - 200 ppb. It also features an 'Evaluation Summary' and 'Field Evaluation Highlights' sections.

EPA Air Sensor Toolbox

United States Environmental Protection Agency

Environmental Topics | Laws & Regulations | About EPA

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New Educational Videos on Air Sensors Released

The videos can be used to learn how the Agency collects and uses air quality data, how air quality health risks are communicated and how to interpret data collected using air sensors.

• [Watch the videos](#)

How to Use Air Sensors

What Do My Sensor Readings Mean?

What is EPA Doing?

Resources and Funding

AQ-SPEC

Air Quality Sensor Performance Evaluation Center

Sensor Description

Manufacturer/Model: Aeroqual Model AQY v0.5

Pollutants: Ozone

Measurement Range: 0 - 200 ppb

Type: Gas Sensitive Semiconductor (GSS)

Evaluation Summary

- Overall, the three Aeroqual AQY sensors showed decreased accuracy with increasing ozone concentration; with accuracy ranging from 11.4% at the highest ozone concentration to 79% at the lowest ozone concentration. They underestimated the FEM ozone measurements for a concentration range between 0 to 400 ppb.
- The three Aeroqual AQY sensors exhibited high precision for most of the tested T/RH combinations in the environmental chamber.
- Aeroqual AQY sensors showed low intra-model variability in the field deployment and low to moderate intra-model variability in the laboratory testing.
- Aeroqual AQY sensors had good data recovery (76-100 % for 5-min average in the field, and 100% for 1-min average in the laboratory).
- For ozone, the Aeroqual AQY sensors showed high correlation with the reference instrument from both the field ($R^2 \sim 0.96$) and laboratory studies ($R^2 > 0.97$).

Field Evaluation Highlights

- Deployment period 12/22/2017- 03/27/2018: the Aeroqual AQY sensors (units IDs: 130, 131, 132, 134) correlated well with ozone concentration changes as monitored by the FEM instrument.
- The units showed > 92% data recovery as well as low intra-model variability.

Aeroqual AQY vs FEM Ozone

FY 2022-2026 EPA Strategic Plan

FY 2022-2026 EPA Strategic Plan

March 28, 2022

Table of Contents

Administrator Regan’s Message	3
Introduction	6
Goal 1: Tackle the Climate Crisis	9
Objective 1.1: Reduce Emissions that Cause Climate Change	10
Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts	16
Objective 1.3: Advance International and Subnational Climate Efforts	19
Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights	22
Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels....	24
Objective 2.2: Embed Environmental Justice and Civil Rights into EPA’s Programs, Policies, and Activities	27
Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns	31
Goal 3: Enforce Environmental Laws and Ensure Compliance	33
Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable	34
Objective 3.2: Detect Violations and Promote Compliance.....	37
Goal 4: Ensure Clean and Healthy Air for All Communities	40
Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts	41
Objective 4.2: Reduce Exposure to Radiation and Improve Indoor Air	45
Goal 5: Ensure Clean and Safe Water for All Communities	48
Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.....	50
Objective 5.2: Protect and Restore Waterbodies and Watersheds.....	55
Goal 6: Safeguard and Revitalize Communities	60
Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities	62
Objective 6.2: Reduce Waste and Prevent Environmental Contamination	66
Objective 6.3: Prepare for and Respond to Environmental Emergencies	69
Goal 7: Ensure Safety of Chemicals for People and the Environment.....	71
Objective 7.1: Ensure Chemical and Pesticide Safety	72
Objective 7.2: Promote Pollution Prevention	76
Cross-Agency Strategies	78
Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making	79
Cross-Agency Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations.	83
Cross-Agency Strategy 3: Advance EPA’s Organizational Excellence and Workforce Equity.....	86
Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement	92
EPA Learning Agenda: Summary	97
EPA Capacity Assessment: Summary	99

Administrator Regan’s Message

The Biden-Harris Administration is deeply committed to protecting human health and the environment for all Americans, including those historically marginalized, overburdened, underserved, and living with the legacy of structural racism. I am proud to present the *FY 2022-2026 EPA Strategic Plan* that will serve as the foundation to achieve the Biden-Harris Administration’s priorities and the critical mission of this Agency for years to come.



Growing up in eastern North Carolina, I suffered from asthma that was exacerbated by the car exhaust from heavy traffic and hog farm processing activities. From an early age, I understood that living near sources of pollution meant lost school days or being unable to enjoy spending time outdoors with my father and grandfather. I know I am not alone in this experience. The life-changing impact that pollution can have on an individual happens all too often in underserved communities. Not long after arriving at EPA, I had the privilege of meeting with underserved communities throughout the Southeast region that have been heavily affected by environmental injustices. I toured neighborhoods severely impacted by pollution and met with environmental justice leaders to discuss ways to address these deep-rooted problems. These discussions made it very clear that EPA has a responsibility to pursue justice as we jointly confront environmental and climate challenges with our federal, Tribal, state, and local partners, including through the vigorous enforcement of civil rights. That’s why, in this *Strategic Plan*, we are taking the principles first outlined by EPA Administrator William Ruckelshaus to follow the science, follow the law, and be transparent, and adding a fourth foundational principle for the Agency: advance justice and equity. As President Biden stated in announcing the Administration’s management agenda, “While we have plenty of work ahead to build an equitable, effective and accountable government that delivers results for all, we are building on a strong foundation, and the possibilities before us are limitless.”

This *Strategic Plan* is bold and unprecedented in its commitment to advancing environmental justice and civil rights, and tackling climate change. We sought to be more inclusive and accessible in developing the *Plan*. For the first time, we conducted early outreach to hear from both traditional and new partners and stakeholders on what is important and how we can work more effectively together. We considered this input as we crafted our strategies and developed measures. We added new performance measures on drinking water and sanitation and adjusted our strategy for solid waste management programs and infrastructure. To support public comment on the *Draft Plan*, we translated the Strategic Plan Communications Fact Sheet into eight languages. We received and considered comments from Tribes, state agencies, local governments, associations, advocacy groups, businesses, and individuals, and have incorporated feedback to make our *Plan* even stronger.

We will employ the full array of policy and legal tools at our disposal to incorporate environmental and climate justice considerations in our analysis, rulemaking, permitting, enforcement, grantmaking, operations, disaster response and recovery, and other activities. From replacing lead pipe drinking

water service lines to targeting enforcement in communities impacted by harmful air pollutants, communities that have been plagued by multiple sources of pollution for decades should finally see progress. The historic investment in EPA from the Bipartisan Infrastructure Law¹ will expand our capacity to deliver for the American people.

EPA will also support the Administration’s Justice40 initiative by prioritizing benefits to underserved communities in developing requests for grant applications and in making grant award decisions, to the extent permitted by law. We have already seen an increase in external civil rights cases being referred to the EPA, and we are investigating them to ensure that recipients of EPA dollars do not discriminate based on race, color, national origin, sex, disability, age, or retaliation.

EPA plays a critical role in the Biden-Harris Administration’s whole-of-government approach to tackling climate change. In 2021, EPA issued a rule to phase down production and consumption of hydrofluorocarbons, a potent greenhouse gas. EPA will further reduce greenhouse gas emissions by issuing rules to reduce pollution from the power sector, setting vehicle emission standards, and partnering with the public and private sectors to increase energy and resource efficiency in the residential, commercial, and industrial sectors. In addition, the Agency’s Climate Adaptation Action Plan describes our commitment and the steps we will take to help the country anticipate, prepare for, and avoid disruptive impacts due to climate change. EPA will lead by example and refocus our internal operations on carbon pollution-free energy use and net-zero emissions in line with federal sustainability goals.

In addition, we will continue to advance EPA’s goal to protect public health and the environment from per- and polyfluoroalkyl substances (PFAS), long-lasting “forever chemicals” that are present in our water, soil, air, and food, exposing most people in the United States.² To safeguard communities and ecological systems from PFAS contamination, EPA will leverage the full range of statutory authorities, developing technologies, and partnerships with other federal agencies to prevent PFAS from entering air, land, and water; accelerate the cleanup of PFAS contamination; and invest in the necessary research.

How we work is critical to achieving the goals in EPA’s *Strategic Plan*. EPA will renew our Tribal government-to-government relationships, expand our intergovernmental collaboration with our state and local government partners, and reach out to the regulated community and key stakeholders. We are committed to improving on-the-ground community engagement, enhancing our collaboration with the business community, delivering high-impact environmental education programs, and increasing public trust and transparency. We will protect our most vulnerable, especially children, where they live, learn, play, pray, and work, to ensure their lifelong health and well-being. We will strive for organizational excellence by working more effectively, efficiently, securely, equitably, and with a smaller carbon footprint. We will secure fair, equitable, and transparent acquisitions. And most importantly, we will build a workforce of the future that is representative of our diverse American population.

¹ The Infrastructure Investment and Jobs Act was signed into law on November 15, 2021. It is referred to as the Bipartisan Infrastructure Law (BIL) in the *Strategic Plan*.

² For more information, see: <https://www.epa.gov/pfas/pfas-explained>.

This is a transformational opportunity, and we are prepared to meet the moment. Working with the talented and committed EPA team and our partners across this beautiful country, I have great confidence that we will accomplish these ambitious goals together.

A handwritten signature in black ink that reads "Michael S. Regan". The signature is written in a cursive, flowing style with a large initial "M".

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. EPA also adds a fourth foundational principle: advance justice and equity. It is time to include 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 its operations and decision making now and into the future.

Building on work already begun under President Biden's Executive Orders,³ and in alignment with the Administration's whole-of-government approach, EPA is charting a course in this *Strategic Plan* where tackling climate change and advancing environmental justice and civil rights are integral to all the Agency does in carrying out the mission. In accordance with these priorities, EPA has established new strategic goals on addressing climate change and environmental justice to signal the importance of these issues. The Agency will embed this focus in its work toward the five programmatic strategic goals for enforcement and compliance, air quality, water quality, land revitalization, and chemical safety.

The four cross-agency strategies describe the essential ways EPA will carry out its mission. These strategies include reinforcing science as foundational to Agency decision making; protecting children's environmental health; building back EPA's workforce with particular

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

³ 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/>.

attention to equity and enhancing mission-support functions to achieve organizational excellence; and renewing EPA’s commitment to its trust responsibility to Tribal nations⁴ and 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 the Agency will achieve for each strategic objective and cross-agency strategy by 2026. LTPGs will help to understand, monitor, and tell the story of progress being made to partners and stakeholders, Agency employees, and the public. LTPGs provide the means for accountability.

In addition, EPA has 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 (HFCs);
- Deliver tools and metrics for EPA and its Tribal, state, local, and community partners to advance environmental justice and external civil rights compliance; and
- Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of 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 2018.⁵ The goal is to achieve a culture of evidence-building, continuous learning, and evaluation in EPA’s operations and decisions. The Learning Agenda will address key questions across priority areas by leveraging high-quality data. The Capacity Assessment will guide Agency efforts to develop the skills, expertise, and infrastructure that support routine, rigorous use of data. The Agency 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 federal, Tribal, state, and local government partners and the Agency’s many stakeholders is an integral part of strategic planning. For the first time, EPA conducted early outreach prior to issuance of the *Draft Plan*. Through this engagement, the Agency sought to understand what matters most to its Tribal and state partners and stakeholders as it works to achieve the mission and find ways to work together to achieve the goals. EPA issued a *Federal Register* notice and used www.regulations.gov to encourage and share feedback on the *Draft Plan*. EPA sent notification of the availability of the *Draft Plan* to partner and stakeholder organizations. The Agency also initiated consultation with Tribal partners and Congress. As a result of this concerted outreach, EPA received and considered comments from a wide range of organizations and individuals,⁶ which has made this *Strategic Plan* stronger and more inclusive.

⁴ In this Strategic Plan, the terms “Tribe” and “Tribal nation” are 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.

⁵ Full-text of the Foundations for Evidence-Based Policymaking Act of 2018: <https://www.congress.gov/bill/115th-congress/house-bill/4174/text>.

⁶ Public comments are available at: <https://www.regulations.gov/docket/EPA-HQ-OA-2021-0403/comments>.

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 peoples.⁷ 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.](#)

⁷ EPA. 2021. Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts. U.S. Environmental Protection Agency, EPA 430-R-21-003.

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 (GHGs) from human activities are the most significant driver of observed climate change since the mid-20th century.⁸ 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 in 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 publishes GHG emissions data and applies tools such as the social cost of greenhouse gases, multipollutant analysis, reviews of environmental impact statements, permitting, and technical assistance. EPA also promotes recycling and encourages reducing 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 greenhouse gas (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 (GHG) emissions by 545 million metric tons of carbon dioxide equivalent (MMTCO₂e). EPA's climate partnership programs reduced 518.6 MMTCO₂e of annual GHG emissions in 2019.

⁸ 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 HFCs will be 10% below the baseline⁹ of 303.9 million metric tons of carbon dioxide equivalent (MMTCO₂e) consistent with the HFC phasedown schedule in the American Innovation and Manufacturing (AIM) Act and codified in the implementing regulations. A 10% reduction would decrease the U.S. consumption limit to less than 273.5 MMTCO₂e in 2023.

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 2020,¹⁰ EPA will phase down the production and import of 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 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-duty 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 testing motor vehicles, heavy-duty engines, nonroad engines, and fuels that enter the

⁹ 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 determined 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 Global Warming Potentials included in IPCC (2007). Therefore, one million metric tons of carbon dioxide equivalent (MMTCO₂e) is numerically equivalent to one MMTEVe. EPA is using the measurement MMTCO₂e in this document since the public is more familiar with this term than MMTEVe. For more information, see: <https://www.epa.gov/climate-hfcs-reduction/final-rule-phasedown-hydrofluorocarbons-establishing-allowance-allocation>.

¹⁰ For more information about the American Innovation and Manufacturing Act, see: <https://www.epa.gov/climate-hfcs-reduction/aim-act#:~:text=The%20AIM%20Act%20directs%20EPA,transition%20to%20next%2Dgeneration%20technologies>.

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 GHG emissions. Approximately 62 percent of U.S. electricity comes from burning fossil fuels, mostly coal and natural gas.¹¹ Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*¹² directs EPA to revise and address, as appropriate, the regulation of GHGs 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 and implement rules to reduce GHG pollution from fossil-fuel fired power plants and work closely with Tribes, states, and local agencies to implement them.

The oil and natural gas industry is the largest industrial source of U.S. emissions of methane, a potent GHG, and its facilities and operations also emit smog-forming volatile organic compounds and toxic air pollutants such as benzene. As part of the Administration's comprehensive approach to tackling the climate crisis, EPA will issue and implement 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 associated credit trading systems. Separately, EPA will continue work with partners on programs to control emissions from marine and aircraft engines, which are significant contributors to U.S. and global GHG emissions.

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 by publishing scientific assessments of climate impacts and responses, including those developed through the Climate Impacts and Risk Analysis (CIRA) project and by EPA's research and development program, quantifying and monetizing the risk of climate change on 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 social cost of GHGs to reflect the best available climate science and economics. This

¹¹ Electricity Explained – Electricity in the United States: <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php>.

¹² 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/>.

metric—a range of estimates, in dollars, of the long-term damage imposed by one ton of GHG emissions—combines climate science and economics to help policy makers and the public understand the benefits of reducing GHG 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 share GHG emissions and supply data with stakeholders, including state and local governments, industry, academia, the research community, and the public in general.

EPA will continue to compile and publish the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*¹³ 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 Contribution¹⁴ under the Paris Agreement.¹⁵ 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

¹³ Inventory of U.S. Greenhouse Gas Emissions and Sinks: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>.

¹⁴ The United States of America Nationally Determined Contribution: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/United%20States%20NDC%20April%2021%202021%20Final.pdf>.

¹⁵ For more information on the Paris Agreement, see: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

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 percent reduction in black carbon emissions by 2028. Globally, emissions from household energy/cookstoves are the largest controllable source of black carbon (>50 percent). 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. These activities are also a significant source of air pollutants that adversely affect public health, especially of women and children.¹⁶ 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.¹⁷ Over one-third of the food produced in the United States is never eaten, wasting the resources used to produce it and creating a myriad of environmental impacts. Food waste is the single most common material landfilled and incinerated in the U.S., comprising 24 and 22 percent of landfilled and combusted municipal solid waste, respectively. Reducing and preventing food waste can increase food security, foster productivity and economic efficiency, promote resource and energy conservation, and address climate change.¹⁸ 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,¹⁹ 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 U.S. will be positioned to find more productive and sustainable ways to extract, use,

¹⁶ For more information, see: <https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>.

¹⁷ International Resource Panel's *Global Resources Outlook 2019*: <https://www.resourcepanel.org/reports/global-resources-outlook>.

¹⁸ For more information, see: <https://www.epa.gov/land-research/farm-kitchen-environmental-impacts-us-food-waste>.

¹⁹ The National Recycling Strategy is at: <https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf>.

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.

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, electric heat pumps for space and water heating, 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. EPA is also promoting the adoption of electric heat pump technologies in residential and commercial buildings through ENERGY STAR and other partnership programs.
- **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 and indigenous peoples, states, territories, and communities across the nation.

Climate change poses significant risks to EPA's ability to fulfill its mission and affects how the Agency 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, damage to estuaries and ecosystems, health impacts, 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 20 National Program and Regional Climate Adaptation Implementation Plans to account for the impacts of the changing climate on human health and the environment.²⁰
- By September 30, 2026, assist at least 400 federally recognized Tribes to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.
- By September 30, 2026, assist at least 450 states, territories, local governments, and communities, especially communities that are underserved and disproportionately at risk from climate change, 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

²⁰ These plans are available at: <https://www.epa.gov/climate-adaptation/climate-adaptation-plan>.

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 programs and regions will update or develop 20 Climate Change Adaptation Implementation Plans to align with and advance the five priorities in the 2021 EPA Adaptation Action Plan. Program and regional plans will focus on program- or region-specific issues (e.g., the implications for water quality of more frequent and intense storms on agricultural lands). Each plan 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 empower Tribes, states, and communities across the nation 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 peoples. EPA will actively engage with organizations representing overburdened and underserved communities, such as the National Environmental Justice Advisory Council, the National Tribal Operations Committee, 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 peoples, states, territories, local governments, regional programs, 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 (e.g., nature-based solutions and green infrastructure) 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 federal 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 communities with environmental justice concerns 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 Plan²¹ to advance climate assistance internationally at the national, city, and local levels, including climate assistance to indigenous peoples, and provide leadership on the global stage to address climate change.

EPA support will increase partner countries' ability 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, implement 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 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 so would derive even greater protections from 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 make a difference in:

- 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.

²¹ For more information, see <https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf>.

- 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 countries' 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 the International Criminal Police Organization 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 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 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 federal 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 Rights²²

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. This will hold as true for communities within the contiguous 48 states as it will for communities in the non-contiguous states and all other territories and protectorates of the United States. 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 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; reductions of harmful exposures in communities by assessing and cleaning up contaminated sites; better health outcomes in impacted communities; and increased public participation in critical decision making.

This goal includes three objectives that focus EPA on: (1) increasing the capacity of Tribes, states, and communities working to address environmental justice and civil rights concerns; (2) embedding

²² 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.

environmental justice and civil rights in the Agency’s core work; and (3) strengthening civil rights enforcement in communities overburdened by pollution. 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 permitting actions, responding to emergencies, and cleaning up contamination. EPA recognizes that environmental justice and external civil rights programs and their authorities are distinct and 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 EPA’s 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 E.O.s 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. The E.O.s also provide the platform for interagency collaboration since many objectives benefit from actions by other federal agencies. EPA will take these and any other opportunities to use the Administration’s whole-of-government approach to implementing environmental justice.

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 country²³ 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.²⁴
- By September 30, 2026, include commitments to address disproportionate impacts in all written agreements between EPA and Tribes and states (e.g., grant work plans) implementing delegated authorities.
- By September 30, 2026, EPA programs with direct implementation authority will take at least 100 significant actions that will result in measurable improvements in Indian country.

²³ Indian country is defined at 18 U.S.C. § 1151 to mean: (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. See EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples: <https://www.epa.gov/sites/default/files/2017-10/documents/ej-indigenous-policy.pdf?VersionId=fETfCeyPmIV.T5FztQcZWMsw.a5JgCG>.

²⁴ First year activities of this LTPG will focus on definition and scope of program participation and what qualifies as capacity-building resources.

- By September 30, 2026, all state recipients of EPA financial assistance will have foundational civil rights programs in place.²⁵
- By September 30, 2026, increase by 40% the number of Office of Research and Development (ORD) activities related to environmental justice that involve or are applicable to Tribes, states, territories, local governments, and communities.²⁶

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. E.O. 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 meet this goal but exceed it. EPA's programs – particularly regulatory programs whose policies and activities must be responsive to the realities of communities with EJ concerns – will actively engage and support impacted communities to influence program implementation and maximize the benefits from the investment of resources to achieve meaningful change on the ground. 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 for these programs to listen and respond to community voices. 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 this 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 with an aim to increase accountability across the board.

²⁵ For reference only, and as an example from a smaller subset of state recipients - EPA's proactive initiative involving foundational civil rights programs of state agencies in Regions 1, 5, and 7, which consisted of 14 state agencies, the baseline from the proactive initiative in FY 2020 was 6.5%.

²⁶ Baseline to be developed in FY 2022.

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)²⁷ and Section 309 of the Clean Air Act, EPA will promote robust consideration and mitigation of environmental impacts on overburdened, underserved communities in the review of other federal agencies' environmental impact statements. Proposed actions may include 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. When the Agency directly implements federal environmental programs the agency also advances environmental justice for federally recognized Tribes.

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 many communities face a legacy of environmental justice issues — such as toxic chemical exposure, hazardous facilities siting, and lack of safe drinking water — these same communities may also face a rapidly growing set of impacts from climate change. For example, the majority of Superfund sites are located near communities with environmental justice concerns, and many of these communities 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.

²⁷ National Environmental Policy Act: <https://www.epa.gov/nepa>.

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 in 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 programs. EPA must follow and implement the Civil Rights Act as equally as environmental statutes. 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 analyses that identify disproportionate impacts.
- Building EPA capacity to support community-driven approaches to developing healthy, sustainable, and climate-resilient communities.
- Ensuring consideration of civil rights by EPA programs (as distinct from civil rights enforcement under Objective 2.3).

Long-Term Performance Goals

- By September 30, 2026, reduce disparities in environmental and public health conditions represented by the indicators identified through the FY 2022-2023 Agency Priority Goal.²⁸
- By September 30, 2026, 80% of significant EPA actions with environmental justice implications will clearly demonstrate how the action is responsive to environmental justice concerns and reduces or otherwise addresses disproportionate impacts.²⁹
- By September 30, 2026, all EPA programs that work in and with communities will do so in ways that are community-driven, coordinated and collaborative, support equitable and resilient community development, and provide for meaningful involvement and fair treatment of communities with environmental justice concerns.³⁰

²⁸ EPA will monitor progress through a holistic system that tracks the actions and responsibilities individual national programs have identified to support reducing disparities through the implementation of their statutory authorities, coordinated efforts of regulatory partners, support for community action, and other key actions.

²⁹ 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.

³⁰ 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.

- By September 30, 2026, all EPA programs and regions will identify and implement areas and opportunities to integrate environmental justice considerations and achieve civil rights compliance in their planning, guidance, policy directives, monitoring, and review activities.
- By September 30, 2026, all EPA programs and regions will implement program and region-specific language assistance plans.
- By September 30, 2026, all EPA programs and regions will implement program and region-specific disability access plans.

FY 2022-2023 Agency Priority Goal (APG)

- **Deliver tools and metrics for EPA and its Tribal, state, local, and community partners to advance environmental justice and external civil rights compliance.** By September 30, 2023, EPA will develop and implement a cumulative impacts framework, issue guidance on external civil rights compliance, establish at least 10 indicators to assess EPA's performance in eliminating disparities in environmental and public health conditions, and train staff and partners on how to use these resources.

Strategies

Making 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 believes that setting such ambitious goals that speak to priority environmental justice issues is critical to stimulating a deeper assessment of the use of all EPA authorities and the Agency's 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 towards achieving such ambitious 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 prevalence of asthma for children living in families below the federal 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.
- Reducing harmful exposures in communities by assessing and cleaning up contaminated sites.
- Reducing pesticide exposure to farmworkers, their families, and the agricultural community.

Ensuring that EPA Decision Making Incorporates Meaningful Community Involvement and Analyses that Identify 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 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.³¹

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 conduct analyses that identify disproportionate impacts. One way 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.³²

Building EPA Capacity to Support Community-Driven Approaches to Developing 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 ensure that its programs fully integrate the key principles of effective community-driven work and over time increase the number of collaborative partnerships centered on community priorities initiated or supported through EPA activities.

Ensuring Consideration of Civil Rights and Environmental Justice by EPA Programs: As a federal agency charged with enforcing federal civil rights laws, EPA must ensure that all Agency programs and activities comply with and implement civil rights obligations and integrate environmental justice considerations. To do so, EPA must recognize that in addition to the enforcement and implementation of federal civil rights laws 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 and environmental justice 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 will communicate requirements and expectations to agency staff through education, training, outreach, and technical assistance. This training will enhance civil rights enforcement awareness and ability to integrate environmental justice considerations, strengthen intra-Agency collaboration, and help the agency identify whether recipient programs and activities are abiding by civil rights laws or

³¹ National Environmental Justice Advisory Council Recommendations: <https://www.epa.gov/environmental-justice/national-environmental-justice-advisory-council-recommendation-reports-0>.

³² EJSCREEN: Environmental Justice Screening and Mapping Tool: <https://www.epa.gov/ejscreen>.

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, including their responsibility to develop and implement program and region-specific 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, gender, 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 45 proactive post-award civil rights compliance reviews to address discrimination issues in environmentally overburdened and underserved communities.³³
- By September 30, 2026, complete 305 audits to ensure EPA financial assistance recipients are complying with nondiscrimination program procedural requirements.³⁴
- By September 30, 2026, complete 84 information sharing sessions and outreach and technical assistance events with overburdened and underserved communities and environmental justice advocacy groups on civil rights and environmental justice issues.³⁵

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 laws authorize 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 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.

³³ For comparison, EPA did not initiate a civil rights compliance review in FY 2021.

³⁴ For comparison, EPA completed no such audits in FY 2021.

³⁵ For comparison, EPA completed five such sessions and events in FY 2021.

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 outreach, information sharing, and technical assistance sessions 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, 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 collaborate with Tribes, states, and territories to 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. In addition to EPA’s other core work, this 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 Compliance Initiatives,³⁶ 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 (GHGs) 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 hydrofluorocarbons (HFCs), which are chemicals with potent global warming potential, and pursue violators of the Renewable Fuel Standard.

³⁶ More information on National Compliance Initiatives, see: <https://www.epa.gov/enforcement/national-compliance-initiatives>.

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, reduce to not more than 93 the number of open civil judicial cases more than 2.5 years old without a complaint filed.³⁷

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. During the time it takes to achieve case resolutions, EPA will endeavor to provide early injunctive relief and monitoring, where appropriate, and will increase communication to affected communities about the progress of enforcement efforts.

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 GHGs or other compounds that contribute to or exacerbate the effects of climate change.

³⁷ 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:³⁸ 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 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.³⁹
- Seeking restitution for victims of environmental crimes.⁴⁰

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

³⁸ 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>.

³⁹ For more information on Supplemental Environmental Projects, 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.

⁴⁰ Memoranda: Strengthening Enforcement in Communities with Environmental Justice Concerns (April 30, 2021)

<https://www.epa.gov/sites/default/files/2021-04/documents/strengtheningenforcementincommunitieswiththeconcerns.pdf>; and Strengthening Environmental Justice through Criminal Enforcement (June 21, 2021) <https://www.epa.gov/system/files/documents/2021-07/strengtheningeithroughcriminal062121.pdf>.

Superfund sites, ensuring that viable, liable PRPs clean up sites, rather than taxpayers, and by recovering costs if the EPA expends Superfund-appropriated dollars to clean up sites.⁴¹

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 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 pollution caused by contaminants of emerging concern (e.g., per- and polyfluoroalkyl substances (PFAS), which are a current priority), the 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.

⁴¹ Memorandum: Strengthening Environmental Justice through Cleanup Enforcement Actions (July 1, 2021). <https://www.epa.gov/system/files/documents/2021-07/strengtheningenvironmentaljustice-cleanupenfaction070121.pdf>.

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. EPA works with co-regulators to achieve the shared goals of considering environmental justice concerns in its enforcement and compliance work and timely returning violators to compliance with environmental laws.

Achieving high rates of compliance with environmental laws and regulations is aided by the use of other compliance tools, including technical assistance to the regulated community (e.g., Enforcement Alerts and Compliance Advisories), and sharing information with affected communities to help them monitor compliance.

Long-Term Performance Goals

- By September 30, 2026, send 75% of EPA inspection reports to facilities within 70 days of inspection.⁴²
- By September 30, 2026, conduct 55% of annual EPA inspections at facilities that affect communities with potential environmental justice concerns.⁴³

Strategies

Through its ongoing process of selecting National Compliance Initiatives in collaboration with Tribes, states, and territories, EPA will focus its work on critical areas of noncompliance. Recent examples include National Compliance 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.

⁴² For comparison, 46% of inspection reports were sent within 70 days of inspection at the end of FY 2018.

⁴³ The baseline for this measure is 27% based on average of FY 2017 - FY 2019.

EPA's Compliance Assistance Centers Program (CACCP) and Local Government Environmental Assistance Network (LGEAN) also help to improve compliance with environmental laws and regulations, and EPA will continue to fund the CACCP and LGEAN grants.

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.

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 would directly benefit 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.

Focusing Compliance Assurance Activities on Communities, Especially Those with Environmental Justice Concerns: 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. EPA is also continuing to expand its Compliance Advisor Program (formerly known as the Circuit Rider Program) to help small drinking water and wastewater systems – many in communities with environmental justice concerns – to return to, and maintain, compliance. EPA has found that many such systems are unable to maintain compliance due to lack of technical, managerial, and financial capacity as well as aging infrastructure, workforce shortages, and declining rate bases. 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 systems' capacity, including those in vulnerable communities and Indian country.

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, Tribes, states, and the public. This will enhance EPA’s efforts to address compliance concerns in underserved communities and help EPA and authorized Tribes and 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, Tribes, 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 GHGs 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, 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 2000.⁴⁴

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 2020.⁴⁵ 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.⁴⁶ 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.⁴⁷ Neighborhoods with the highest poverty rates had 14 percent higher PM_{2.5} levels in 2016 compared with neighborhoods with the lowest poverty rates.⁴⁸ 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.⁴⁹

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.

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 390,354 tons.

⁴⁴ Our Nation’s Air: Trends through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

⁴⁵ Our Nation’s Air: Trends through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

⁴⁶ 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>.

⁴⁷ 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.

⁴⁸ 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.

⁴⁹ National Air Toxics Assessment: <https://www.epa.gov/national-air-toxics-assessment>.

- 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 (NAAQS).
- By September 30, 2026, ensure U.S. consumption of hydrochlorofluorocarbons (HCFCs) is less than 76.2 tons per year of ozone depletion potential.⁵⁰

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.⁵¹ 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 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.⁵² 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.

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*

⁵⁰ The U.S. HCFC consumption baseline is 15,240 ODP-weighted metric tons effective as of January 1, 1996.

⁵¹ For more information on the Clean Air Act, see: <https://www.epa.gov/clean-air-act-overview/clean-air-act-text>.

⁵² Our Nation's Air: Trends Through 2020: <https://gispub.epa.gov/air/trendsreport/2021/#home>.

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 and, as appropriate, with other federal agencies to develop improved measurement methods (e.g., for woodsmoke, PM emissions, PFAS, and air toxics, such as ethylene oxide) and emissions data (e.g., for agricultural sources and for air toxics). 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 the 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 greenhouse gas 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 support and oversee projects for the replacement of existing school buses with low- or zero-emission school buses funded under the Bipartisan Infrastructure Law, which will be implemented in alignment with Justice40.

EPA will implement its Air Toxics Strategy⁵³ 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 in the United States. By 2022, U.S. consumption of hydrochlorofluorocarbons, 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 ozone-depleting substances, 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.⁵⁴ In partnership with other federal partners, 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.

⁵³ EPA Air Toxics Strategy: <https://www.epa.gov/haps/air-toxics-strategy>.

⁵⁴ 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, states, 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.⁵⁵ 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.⁵⁶ 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,⁵⁷ 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,

⁵⁵ National Research Council. 1999. Health Effects of Exposure to Radon: BEIR VI. Washington, DC: The National Academies Press. Report available for purchase at: <https://doi.org/10.17226/5499>.

⁵⁶ 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.

⁵⁷ 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);⁵⁸ Safe Drinking Water Act (SDWA);⁵⁹ and Marine Protection, Research, and Sanctuaries Act.⁶⁰ 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 and implement programs 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. The Bipartisan Infrastructure Law directs significant investments in the health, equity, and resilience of American communities. With unprecedented funding to support upgrades to our aging national infrastructure, and in alignment with Justice40, EPA will improve people’s health and safety, help create good paying jobs, and increase climate resilience throughout the country.

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

⁵⁸ For more information on the Clean Water Act, see: <https://www.epa.gov/laws-regulations/summary-clean-water-act>.

⁵⁹ For more information on the Safe Drinking Water Act, see: <https://www.epa.gov/sdwa>.

⁶⁰ For more information on the Marine Protection, Research and Sanctuaries Act, see: <https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act>.

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.

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.⁶¹

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 March 31, 2021 from 752 to 500.⁶²
- 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, leverage an additional \$45 billion in non-federal dollars through EPA's water infrastructure finance programs (CWSRF, DWSRF and WIFIA).
- By September 30, 2026, in coordination with other federal agencies, provide access to basic sanitation for an additional 36,500 American Indian and Alaska Native homes.
- By September 30, 2026, provide 2,203 Tribal, small, rural, or underserved communities with technical, managerial, or financial assistance to improve operations of their drinking water or wastewater systems.

⁶¹ For more information on the Clean Watersheds Needs Survey 2012 Report to Congress, see:

<https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-2012-report-and-data>.

⁶² This baseline is a subset of the 3,508 systems, including systems in Indian country, that have been in long-term noncompliance since September 30, 2017.

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 10 communities to help achieve clean and safe water and reduced exposures to hazardous substances.

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.⁶³ This federal investment is designed to be used in concert with other sources of funds to address water quality needs. 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 SDWA requirements, protect public health, and support state and local efforts to protect and provide drinking water. EPA works in close partnership with states to build on the federal investment to protect public health, safeguard valuable aquatic resources, and meet environmental standards benefiting hundreds of millions of people. 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.

⁶³ For additional information, see: <http://www.epa.gov/cwsrf>.

EPA also will support water sector efforts to strengthen the workforce by providing assistance to state agencies and external stakeholders and promoting the importance of water operators, who are critical to providing safe drinking water. EPA will ensure that the water sector is aware of threats posed by cyber-attacks and will provide 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 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 supported by the BIL and in alignment with Justice40 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. In 2021, EPA completed the review of the Lead and Copper Rule Revision under Executive Order 13990 and announced the development of a new regulation, Lead and Copper Rule Improvements (LCRI), to better protect communities from exposure to lead in drinking water. 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 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 developed the PFAS Strategic Roadmap⁶⁴ – laying out a whole-of-agency approach that maximizes the use of existing authorities and scientific capacity to research, restrict, and remediate PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits to bolder new policies to safeguard public health, protect the environment, and hold polluters accountable. As described in the Roadmap, 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 has determined that

⁶⁴ For additional information, see: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>.

effluent limitation guidelines under the CWA 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; supporting those least able to access technical assistance, filtration, and other control and remediation solutions; and working 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 EPA's 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 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 the nation's public health and communities requires that the nation's 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 its 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 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 41,000 square miles the area of watersheds with surface water meeting standards that previously did not meet standards.⁶⁵

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 Water⁶⁶ 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.
- Ensure the protection of ecosystems, endangered and threatened species, and designated critical habitat by continuing to consult on discretionary federal actions with National Marine Fisheries Service and Fish and Wildlife Service (the Services) under the Endangered Species Act.

⁶⁵Draft July 2021 baseline: 425,198 square miles of watersheds with surface water meeting standards and 652,609 square miles of watersheds with surface water not meeting standards. Final baseline will be available the second half of FY 2022.

⁶⁶For additional information, see: <https://internetofwater.org/>.

- Review and update regulations, such as:
 - Work with the Department of the Army to revise the definition of “waters of the United States”. This process anticipates completing and implementing two rulemakings: a foundational rule to restore 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 and support green infrastructure and nature-based solutions 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.
- Use geographic partnership programs to implement consensus-based actions that address critical issues such as climate resiliency and water equity in watersheds and communities.

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 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 and Marine Protection, Research, and Sanctuaries Act 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 WQSs 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 communities face.

EPA and its partners will accelerate progress to protect and restore ecologically, economically,⁶⁷ and intrinsically valuable watersheds across the nation through its place-based and geographic programs such as the National Estuary Program and the Urban Waters Federal Partnership, 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

⁶⁷ The economic value of coastal recreation in the United States – for beach going, angling, bird watching, and snorkeling/diving – has been estimated by the National Oceanic and Atmospheric Administration to be in the order of \$20 billion to \$60 billion annually.

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. Sixty-one percent of the United States population, including 62 percent of children under the age of five, live near sites where EPA assesses and restores contaminated land. While there is no single way to characterize communities located near contaminated sites, the legacy of pollution disproportionately affects communities of color, 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. The Bipartisan Infrastructure Law (BIL), implemented in alignment with Justice40, advances these efforts by investing in the health, equity, and resilience of American communities. With unprecedented funding to clean up Superfund sites, scale-up community-led brownfields revitalization, and support local waste management infrastructure and recycling programs, EPA will improve people's health and safety, help create good paying jobs, and increase climate resilience throughout the country.

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)⁶⁸ in responding to large-scale emergencies that involve chemicals, oil, biological agents, radiation, or natural disasters. As part of the framework, EPA supports other federal agencies on significant incidents, and works with Tribes, states, and local planning and response organizations. Due to their proximity to facilities, frontline 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.

⁶⁸ For more information about the National Response Framework, see: <https://www.epa.gov/emergency-response/national-response-framework-nrf>.

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, groundwater, and sub-slab vapor intrusion into indoor air space 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. 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,⁶⁹ 56 percent are people of color, and seven percent are linguistically isolated. Children are disproportionately exposed to health risks and safety hazards, especially from lead in soil. 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 people of color. 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.⁷⁰

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.⁷¹ 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.⁷²

Long-Term Performance Goals

- By September 30, 2026, bring human exposures under control at an additional 60 Superfund sites.
- By September 30, 2026, complete 225 Superfund cleanup projects that address lead as a contaminant.
- By September 30, 2026, clean up an additional 650 brownfields properties.

⁶⁹ 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.

⁷⁰ 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>.

⁷¹ U.S. EPA, Office of Land and Emergency Management 2020. FY 2020 program accomplishments from EPA’s ACRES Database.

⁷² 2020 Environmental Benefits of Brownfields Redevelopment — A Nationwide Assessment. For more information, see: <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, conduct an additional 35,000 cleanups at Leaking Underground Storage Tank facilities.

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. Under this Agency Priority Goal, EPA plans to engage with communities that are overburdened and underserved to provide technical assistance supporting community-identified needs addressing water and clean-up challenges.

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.⁷³ 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. EPA also will work with Tribal and state agencies to advance cleanup of abandoned uranium mining impacted lands. In addition, EPA will consider climate change and weather science as part of standard operating practices in Superfund cleanup projects⁷⁴ and take steps to reduce the carbon footprint of Superfund remedies.

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 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

⁷³ For more information, see: <https://www.epa.gov/leadactionplanimplementation/implementation-status-report-epa-actions-under-december-2018-federal>.

⁷⁴ For more information, see: <https://www.epa.gov/superfund/superfund-climate-resilience>.

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 EPA 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 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),⁷⁵ 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, including 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 resources available for cleanup. A 2016 study⁷⁶ 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

⁷⁵ 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.

⁷⁶ 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>.

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.

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 permit decisions, including decisions to issue, renew, or deny 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,⁷⁷ 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.⁷⁸

Long-Term Performance Goal

- By September 30, 2026, increase the percentage of updated permits at RCRA facilities to 80% from the FY 2021 baseline of 72.7%.

⁷⁷ For more information on the National Recycling Strategy, see: <https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf>.

⁷⁸ 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 and 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.

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 and implemented 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 2016,⁷⁹ 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.⁸⁰ 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 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.

⁷⁹ For more information about the Water Infrastructure Improvements for the Nation Act (WIIN Act), see: <https://www.epa.gov/coalash/permit-programs-coal-combustion-residual-disposal-units>.

⁸⁰ For information about the Energy Policy Act of 2005, see: <https://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks-usts>.

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 annual emergency response and removal exercises that EPA conducts or participates in incorporate environmental justice.

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 Tribes, states, local communities, and industry 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.

Exercises are a key component of EPA's preparedness – they provide an opportunity to plan and assess capabilities needed to accomplish EPA's prevention and readiness objectives and address areas for

improvement. Results of these exercises identify strengths and areas for improvement that enhance the Agency's emergency response capabilities. Unannounced preparedness exercises at facilities subject to EPA's Facility Response Plan (FRP) requirements are an essential compliance monitoring activity performed by EPA Regions. For example, these field exercises help assess whether a facility is prepared to respond to a discharge of oil. As part of these exercises, EPA recognizes the importance of reflecting the needs and interests of communities with environmental justice concerns.

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 Clean Air Act 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, Tribal, 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 to children, the elderly, and those with environmental justice concerns (including low income, people of color, and Indigenous peoples) 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 Americans use daily and are present in the environment and people's 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 and 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 5,⁸¹ EPA assumed responsibility for making safety determinations in its review of hundreds of new chemical submissions annually. Under Section 6,⁸² 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), EPA is charged with protecting people and the environment from the risks that pesticide use can pose. EPA reviews and makes determinations on whether to register new pesticides and new uses for existing pesticides and other registration requests in accordance with statutory requirements. EPA also makes 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. In addition, under the registration review process the Agency reevaluates pesticides that are already in the market against current scientific standards for human health and the environment. Under the Endangered Species Act (ESA),⁸³ 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.

⁸¹ Actions under TSCA Section 5: <https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/actions-under-tsca-section-5>.

⁸² 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>.

⁸³ 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 to the FY 2020 baseline of one.
- By September 30, 2026, initiate all TSCA risk management actions within 45 days of the completion of a final existing chemical risk evaluation.
- By September 30, 2026, review 90% of past risk mitigation requirements for TSCA new chemical substances decisions compared to the FY 2021 baseline of none.
- By September 30, 2026, recertify before the expiration date 36% of lead-based paint Renovation, Repair, and Painting (RRP) firms whose certifications are scheduled to expire compared to the FY 2021 baseline of 32%.
- By September 30, 2026, complete 78 pesticide registration review cases with statutory due dates that fall after October 1, 2022.
- 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 27%.
- By September 30, 2026, support Agricultural Worker Protection Standard (WPS) pesticide safety training for 20,000 farmworkers annually compared to 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. 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 the agency'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.

Consistent with its statutory responsibilities,^{84 85 86} 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 every 15 years 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)⁸⁷ 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, including reduced use of pesticides. 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)*⁸⁸ and the *Certification of Pesticide Applicators (CPA)*⁸⁹ 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,⁹⁰ 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

⁸⁴ Summary of Federal Insecticide, Fungicide, and Rodenticide Act: <https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act>.

⁸⁵ Summary of the Federal Food, Drug, and Cosmetic Act: <https://www.epa.gov/laws-regulations/summary-federal-food-drug-and-cosmetic-act>.

⁸⁶ Pesticide Registration Improvement Extension Act of 2018 (PRIA 4): <https://www.epa.gov/pria-fees>.

⁸⁷ Pesticide Environmental Stewardship Program: <https://www.epa.gov/pesp>.

⁸⁸ Agricultural Worker Protection Standard: <https://www.epa.gov/pesticide-worker-safety/agricultural-worker-protection-standard-wps>.

⁸⁹ Revised Certification Standards for Pesticide Applicators: <https://www.epa.gov/pesticide-worker-safety/revised-certification-standards-pesticide-applicators>.

⁹⁰ For additional information on the Endangered Species Protection Program, see: <https://www.epa.gov/endangered-species/about-endangered-species-protection-program>.

may be affected. Where risks are identified in a biological evaluation, EPA will work with the Services through a consultation⁹¹ process to ensure these new or existing pesticide registrations also will meet the ESA standard.⁹² 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 received submissions for new 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.

In addition, 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 as resources allow, EPA will strive to improve its ability to track trends using available pesticide incidence data sources (e.g., NIOSH SENSOR-Pesticides data).

⁹¹ For additional information, see: <https://www.epa.gov/endangered-species/assessing-pesticides-under-endangered-species-act>.

⁹² For additional information on how EPA protects endangered species from pesticides, see: <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) practices under the Pollution Prevention Act of 1990⁹³ 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 (GHGs) 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 hazardous releases to air, water, and land; hazardous materials use; GHG generation; and water use. EPA's Toxics Release Inventory (TRI)⁹⁴ tracks implementation of pollution prevention activities by reporting releases from 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 6 million metric tons of carbon dioxide equivalent (MMTCO₂e) 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

EPA will focus on carrying out sector-focused P2 National Emphasis Areas⁹⁵ and enabling the replication and leveraging of business successes. This work will be supported by the annual funding for administering P2 grants provided through 2026 by the Bipartisan Infrastructure Law, implemented in alignment with Justice40. The Agency will customize, develop, and deliver training to identify and deploy source reduction 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,⁹⁶ which advances chemical safety by increasing the availability and identification of products containing ingredients that meet stringent health and environmental criteria, through a notice and comment process after

⁹³ Summary of the Pollution Prevention Act: <https://www.epa.gov/laws-regulations/summary-pollution-prevention-act>.

⁹⁴ Toxics Release Inventory Program: <https://www.epa.gov/toxics-release-inventory-tri-program>.

⁹⁵ P2 National Emphasis Areas: <https://www.epa.gov/p2/p2-national-emphasis-areas-neas>.

⁹⁶ For additional information on Safer Choice, see: <https://www.epa.gov/saferchoice>.

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 offer technical assistance to businesses to help custodial staff and house cleaning companies gain access to protections from occupational exposure-related conditions (e.g., asthma) and 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.⁹⁷

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 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 also will 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 through the Green Chemistry Challenge Awards, which raise the profile and credibility of innovative green and sustainable chemistry technologies. This initiative has 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.⁹⁸ EPA will continue research on tools that can quickly and accurately identify vulnerable communities near TRI facilities, which would support prioritization of P2. 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 and participation in P2 activities can be driven by economic conditions, the regulatory climate, and public pressure for industry to adopt P2 solutions such as safer alternatives to chemicals and products currently in the marketplace. The program will continue to engage with public and private sector stakeholders to facilitate adoption — and 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.

⁹⁷ Safer Chemical Ingredients List: <https://www.epa.gov/saferchoice/safer-ingredients>.

⁹⁸ TRI for Communities: <https://www.epa.gov/toxics-release-inventory-tri-program/tri-for-communities>.

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. EPA is committed to restoring the public's trust in government through scientific integrity and science-based decision making. As both a producer and user of scientific information, data, and evidence, EPA is responsible for delivering scientific research and analyses to inform science-based decision making and for using the best available scientific information, data, and evidence to inform decisions and develop environmental policies, guidance, and regulations. EPA's cross-agency strategy will strengthen EPA's culture of scientific integrity, advance the delivery of rigorous and independent scientific evaluation and analyses, and ground EPA's actions in the best available science.

Science touches all parts of EPA, 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 and use science to inform regulations and national compliance and enforcement initiatives. A major component of EPA's science enterprise is the research and development program,⁹⁹ which focuses on delivering leading-edge research to meet near-term and long-term science needs of the Agency, informing EPA decisions, and supporting the emerging needs of Tribal, state, and community partners.

Long-Term Performance Goals

- By September 30, 2026, increase the annual percentage of Office of Research and Development (ORD) research products meeting partner needs to 95% from a baseline of 93% in FY 2021.
- By September 30, 2026, implement 126 actions for scientific integrity objectives that are certified by Deputy Scientific Integrity Officials in each EPA program and region.

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 advance and strengthen a culture of scientific integrity across the Agency by ensuring

⁹⁹About the Office of Research and Development: <https://www.epa.gov/aboutepa/about-office-research-and-development-ord>.

adherence to the scientific and ethical standards outlined in EPA’s Scientific Integrity Policy.¹⁰⁰ EPA will make sure that 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 improve and strengthen the Agency’s culture of scientific integrity, EPA’s national program offices and regional offices will 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,¹⁰¹ which helps to guard against inadequate science and flawed analyses, and proactively taking action to enhance implementation of EPA’s Scientific Integrity Policy throughout the Agency. EPA will also continue to provide employees and officials with access to a network of deputy scientific integrity officials to whom they can turn for advice to prevent lapses in scientific integrity or to report allegations of a loss of scientific integrity.

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. The Agency carries out this effort 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.

As part of its overall portfolio of scientific work, the 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. EPA will conduct climate-related research in its laboratories and centers, support research through its grants program, conduct policy-relevant assessments, communicate research and assessment results, and deliver innovative and sustainable solutions. EPA will conduct scientific research on cumulative impacts to better inform decisions aimed at advancing environmental justice. For example, EPA will conduct scientific research to improve understanding of disproportionate impacts that can arise from unequal environmental conditions and exposure to multiple chemical and non-chemical stressors, as well as how to evaluate interventions that would mitigate or eliminate such disproportionate impacts. EPA will also provide tools, training, and technical support to advance

¹⁰⁰ EPA’s Scientific Integrity Policy: https://www.epa.gov/sites/default/files/2014-02/documents/scientific_integrity_policy_2012.pdf.

¹⁰¹ 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.>

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 childhood lifestages and other vulnerable populations 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 program¹⁰² provides the framework for planning, implementing, documenting, and assessing work performed by EPA, contractors, and grantees and for carrying out required quality assurance and quality control activities. EPA’s quality program also includes the Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency,¹⁰³ which contain EPA’s policy and procedural guidance for ensuring and maximizing the quality of information the Agency disseminates. Independent peer review is integral to ensuring the rigor of Agency analyses, methodologies, and scientific and technical products. EPA’s Peer Review Handbook¹⁰⁴ provides a roadmap to ensure the Agency’s peer review policy¹⁰⁵ is implemented effectively and that the integrity of its peer review activities can be demonstrated transparently to the public. EPA’s Public Access Plan¹⁰⁶ 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*¹⁰⁷ promotes the development of clearance procedures that are transparent, clear, timely, predictable, and consistent.

Under the Foundations for Evidence-Based Policymaking 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: To restore public trust in EPA’s decision making, the Agency is committed to reinforcing science as foundational to decision making. This means that EPA will strive to use and communicate science with honesty, integrity, and transparency and to make this information accessible to the public, including to overburdened and underserved communities. EPA is committed to ensuring that scientific integrity is upheld when conducting scientific, technical, or risk assessments and analyses and in the decisions that are informed by such assessments and analyses. Scientific assessments and analyses are of particular importance for informing the development of many decisions and include, but are not limited to, health or environmental effects, exposure, and impact or

¹⁰² How EPA Manages the Quality of its Environmental Information: <https://www.epa.gov/quality>.

¹⁰³ Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency: <https://www.epa.gov/quality/guidelines-ensuring-and-maximizing-quality-objectivity-utility-and-integrity-information>.

¹⁰⁴ EPA’s Peer Review Handbook: https://www.epa.gov/sites/default/files/2020-08/documents/epa_peer_review_handbook_4th_edition.pdf.

¹⁰⁵ EPA’s Peer Review Policy: https://www.epa.gov/sites/default/files/2015-01/documents/peer_review_policy_and_memo.pdf.

¹⁰⁶ Plan to Increase Access to Results of EPA-Funded Scientific Research: <https://www.epa.gov/sites/default/files/2016-12/documents/epascientificresearchtransperancyplan.pdf>.

¹⁰⁷ 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.

risk assessments; cost-benefit analyses; and other technical support documents. These assessments and analyses use, evaluate, and integrate existing and emerging information and data from diverse scientific disciplines to form scientific conclusions. Because of their importance to evidence-based decision making, EPA is committed to following well established, scientifically rigorous protocols and guidelines for conducting scientific, technical, or risk assessments or analyses, which help to guard against political interference and bias and promote consistency in scientific assessments and analyses. 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 that incorporate new advancements in science.

Restoring public trust and confidence in EPA's actions also means being transparent about how EPA makes decisions, including being transparent about the use of science in Agency actions. EPA will strive to clearly articulate the role of science in every major action the Agency undertakes. This includes identifying the science EPA considered and clearly describing how EPA evaluated and used the science and the confidence the Agency has in the resulting scientific conclusions. It also includes allowing for public review and comment on EPA's use of science in regulatory decisions (with appropriate protections for privacy). 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. Throughout its programs, EPA strives 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, assess and consider environmental health information and data for children at all life stages for all 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 Children¹⁰⁸ 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 Committee¹⁰⁹ 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.

¹⁰⁸ For more information on the President's Task Force on Environmental Health Risks and Safety Risks to Children, see: <https://ptfceph.niehs.nih.gov/>.

¹⁰⁹ 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 depends 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.

In support of Executive Order 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*,¹¹⁰ the Agency will strengthen workforce planning of mission-critical positions and continue to prioritize equity and diversity across all aspects of work life at EPA including recruitment, hiring, development, and succession management for the next generation of workers. Additionally, the Agency will work to implement the Agency’s Gender Equity and Equality Action Plan to create a more gender equitable workforce.

In support of the President’s Management Agenda,¹¹¹ EPA will modernize information technology systems, improve Agency permitting efficiencies by developing and implementing automation solutions, enhance the physical workplace for a hybrid workforce, support employee-friendly work policies, and transition to a paperless work environment. EPA will implement efficient and effective processes across the Agency. The use of proven techniques and training will equip staff to solve problems, make improvements, and enhance EPA’s ability to accomplish its 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, EPA will be in full compliance with the five high-priority directives in Executive Order 14028: *Improving the Nation’s Cybersecurity*.¹¹²
- 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.

¹¹⁰ 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/>.

¹¹¹ President’s Management Agenda, <https://www.performance.gov/pma/>.

¹¹² Adoption of Multifactor Authentication and Encryption; Encryption of Data at Rest and Data in Transit; Adoption of Enhanced Logging; and Adoption of Zero Trust Architecture.

- By September 30, 2026, EPA will achieve the highest Diversity, Equity, Inclusion and Accessibility (DEIA) Maturity Level of “Leading and Sustaining” as defined by the November 2021 *Government-wide Strategic Plan to Advance DEIA in the Federal Workforce* and achieve all EPA goals identified in the Agency’s Gender Equity and Equality Action Plan.
- By September 30, 2026, automate all priority internal administrative processes.
- By September 30, 2026, automate the major EPA permitting programs.
- By September 30, 2026, improve 1,000 operational processes.

Actions

Fostering Diversity, Equity, Inclusion, and Accessibility in EPA’s 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. 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.

In implementing Executive Order 14035 and in support of the *Government-Wide Strategic Plan to Advance Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*,¹¹³ EPA will develop an EPA Diversity, Equity, Inclusion, and Accessibility (DEIA) Plan. EPA’s DEIA Plan will set goals for cultivating a balanced work-life-wellness environment for employees and establish 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. EPA will use a maturity model to assess implementation across three levels of compliance as established in the *Government-Wide Strategic Plan To Advance Diversity, Equity, Inclusion, And Accessibility In The Federal Workforce*. The maturity model methodology will support EPA in effectively building an infrastructure for supporting DEIA according to EPA’s specific structure and needs.

¹¹³ Government-Wide Strategic Plan To Advance Diversity, Equity, Inclusion, And Accessibility In The Federal Workforce (November 2021): <https://www.whitehouse.gov/wp-content/uploads/2021/11/Strategic-Plan-to-Advance-Diversity-Equity-Inclusion-and-Accessibility-in-the-Federal-Workforce-11.23.21.pdf>.

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.

EPA will implement the Federal Data Strategy to leverage federal data in carrying out the Agency’s work.¹¹⁴ 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.

¹¹⁴ For more information on the Federal Data Strategy, see: <https://strategy.data.gov/>.

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 administrative and programmatic functions. 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.

EPA will advance the paperless transformation through the automation of permit application, review, and issuance processes for EPA's permitting programs.¹¹⁵ 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*,¹¹⁶ 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 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).¹¹⁷ EPA will accomplish this by eliminating barriers to its procurement processes

¹¹⁵ Broad statutory frameworks for the permitting programs are found in Sections 165, 173, and 502 of the Clean Air Act (42 U.S.C. §§ 7475, 7503, and 7661a), Section 402 of the Clean Water Act (33 U.S.C. § 1342), Section 3006 of the Resource Conservation and Recovery Act (42 U.S.C. § 6926), and Section 1422 and Section 1425 of the Safe Drinking Water Act (42 U.S.C. §§ 300h and 300h-4).

¹¹⁶ 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/>.

¹¹⁷ Small Business Administration's HUBZone Program: <https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program>.

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. Specifically, EPA will work to implement the goals established in Executive Order 14057: *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*.¹¹⁸ 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 challenges 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 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. EPA competes with the private sector as well as other federal agencies for the diverse talent pool with skills needed for tomorrow’s workforce. Additionally, there may be barriers to federal employment that disproportionately impact underserved populations and

¹¹⁸ Executive Order 14057: *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (December 8, 2021): <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/>.

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, built on a foundation of public trust and transparency, including through timely responses to information requests. 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, consider Tribal treaty rights as part of 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 to the FY 2021 baseline of 1,056.

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*,¹¹⁹ 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.

¹¹⁹ Executive Order 13175: *Memorandum on 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 Tribes.¹²⁰ 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 for 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 community-led data generation 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.

¹²⁰ 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 Program¹²¹ 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 System¹²² and the Multipurpose Grant Program,¹²³ 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.

¹²¹ Exchange Network Grant Program: <https://www.epa.gov/exchangenetwork/exchange-network-grant-program>.

¹²² National Environmental Performance Partnership System: <https://www.epa.gov/ocir/national-environmental-performance-partnership-system-nepps>.

¹²³ 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. EPA will continue its commitment to give appropriate consideration to small business needs, interests, and impacts during policy and rule development. 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)¹²⁴ and is charged with achieving the environmental education objectives and supporting public understanding of the Agency. EPA will ensure that environmental education 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 environmental education as a tool to achieve environmental justice, climate equity, and economic prosperity. EPA will ask the National Environmental Education Advisory Council (NEEAC)¹²⁵ 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)¹²⁶ 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

¹²⁴ National Environmental Education Act: <https://www.epa.gov/education/national-environmental-education-act>.

¹²⁵ National Environmental Education Advisory Council: <https://www.epa.gov/education/national-environmental-education-advisory-council-neeac>.

¹²⁶ National Environmental Education Foundation: <https://www.neefusa.org>.

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.

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.

Use of scientific data generated by the public, as covered by the Crowdsourcing and Citizen Science Act of 2016,¹²⁷ is an emerging issue that includes a broad range of activities and projects, from those originating in academic and government institutions that engage 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 such 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 crowd-sourced and community-based science and research.

¹²⁷ 15 USC 3724: Crowdsourcing and citizen science: <http://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title15-section3724&num=0&edition=prelim>.

EPA Learning Agenda: Summary

Overview

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) provides a framework to promote a culture of evaluation, continuous learning, and decision making using the best available evidence. EPA's Strategic Plan incorporates learning priority areas for the first time as required by the Evidence Act, which is a significant part of developing this culture. EPA has identified four learning priority areas and associated priority questions through robust engagement with relevant EPA staff and external experts and stakeholders.

Learning Priority: Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices

Priority Questions

1. How can EPA more comprehensively characterize the health benefits associated with improved air quality?
2. How can EPA improve our approach for quantifying and valuing air pollution effects among populations most susceptible and vulnerable to poor air quality?
3. How can EPA better account for disproportionate impacts and distribution of disease burden within the exposed population?

Learning Priority: Drinking Water Systems out of Compliance

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?

Learning Priority: Workforce

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?

Learning Priority: Grant Commitments Met

Priority Questions

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools (1) effectively track grantee progress towards meeting workplan grant commitments including outputs and outcomes and/or (2) support communication of national program level outputs and outcomes?
3. Are the commitments established in EPA's grant agreements achieving the intended environmental and/or human health results, particularly for environmental justice and underserved communities?

To view EPA's full Learning Agenda, see: <https://www.epa.gov/evaluate/evidence-act>.

EPA Capacity Assessment: Summary

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 its first Capacity Assessment in the Strategic Plan can be broadly described in two phases:

- The initial phase focuses on assessing EPA's ability to answer the priority questions in the Agency Learning Agenda.
- The second phase focuses on assessing EPA's 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 Phase

The initial phase assessed whether the Agency has the skills and resources to answer the priority questions in the Learning Agenda.

In 2019, EPA established three of the four¹²⁸ learning priority area workgroups focusing on key topics of interest to develop and implement the Agency's Learning Agenda. In 2021, as part of the initial Capacity Assessment, the Agency conducted a survey and focus groups of the learning priority area workgroup members to examine whether the Agency has access to the skills and resources to answer the questions in these three learning priority areas. The survey respondents and focus group participants included members of the workgroups for the three initial learning priority areas: Drinking Water Systems Out of Compliance, Workforce, and Grant Commitments Met.

Preliminary Take-Aways: All three priority area workgroups expressed concern about data availability, data access, and available resources beyond FY 2022. Although these concerns remain, considerable progress is being made to answer the learning agenda questions. Key priorities for these workgroups include: communications and change management; engaging with states to fulfill data needs; and ensuring collaboration with various internal and external stakeholders throughout this effort.

Development of the Maturity Model Approach for the Agencywide Assessment

The second phase of the capacity assessment will be an Agencywide assessment based on a maturity model approach. The assessment will examine EPA's skills, organizational structure, resources, expertise, and infrastructure (e.g., access to training, hiring capability and contract vehicles) to conduct evidence building activities, as well as to implement the Evidence Act across the Agency.

EPA's maturity model addresses five domains: Evaluation, Data Use, Research, Statistics, and Lean Management. For each domain, the maturity model considers dimensions such as coverage, quality, methods, independence, and effectiveness. The final maturity model can be found in Appendix A of the FY 2022 Capacity Assessment Report.

To view EPA's full Capacity Assessment Report, see: <https://www.epa.gov/evaluate/evidence-act>.

¹²⁸ The following three learning priority areas were initiated in December 2019: Drinking Water Systems Out of Compliance; Workforce; and Grant Commitments Met. The fourth learning priority area, Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices, was added to the Agency Learning Agenda in April 2021 after the capacity assessment survey was underway.