

2024 Climate Change Adaptation Implementation Plan Addendum

Office of Air and Radiation

I. Introduction

This addendum supplements the Office of Air and Radiation (OAR) Climate Change Adaptation Implementation Plan that was released in October 2022.¹ OAR's Implementation Plan is designed to address adaptation of OAR's programs in response to climate change and, specifically, to consider how OAR's programs will continue to strive to protect public health and the environment given a changing climate. It is intended to be a living document that will evolve and be updated to reflect the priorities of the Agency and OAR.

OAR will continue to exercise its authorities under the Clean Air Act, including new investments under the Inflation Reduction Act (IRA), Bipartisan Infrastructure Law (BIL), and the American Innovation in Manufacturing Act (AIM) to reduce greenhouse gases (mitigation), the primary pollutants that cause climate change. Climate change will have inherently unequal impacts on people and communities, who will have varying adaptive capacities and resilience. As a result, OAR will need to consider these inequitable climate impacts as it identifies ways to continue, improve upon, and extend the reach of its programs to all communities. While OAR is a leader in mitigating greenhouse gases, OAR coordinates with the American Indian Environmental Office (AIEO) and the Office of Policy (OP) to consider Tribal perspectives. Notably, OAR will participate in AIEO's quarterly Indigenous Knowledge (IK) and Climate Change discussions and implement at least one action that incorporates Tribal perspectives in climate adaptation actions. OAR will report actions to the AIEO who will, in turn, report to OP quarterly on our behalf. OAR will continue to seek opportunities to create new Tribal partnerships, provide technical monitoring assistance to Tribes, and build resiliency into the long-term air quality monitoring infrastructure (e.g., Clean Air Status and Trends Network [CASTNET], National Atmospheric Deposition Program [NADP]).

OAR is committed to implementing the following Priority Actions, and successful implementation will depend on availability of necessary resources (i.e., staff and funding). These Priority Actions reflect OAR's role in providing national program leadership and are intended to complement climate adaptation activities being undertaken by EPA regional offices as we continue to integrate climate adaptation into all programs and activities.

¹ EPA (2022). [OAR Climate Change Adaptation Implementation Plan](https://www.epa.gov/climate-adaptation/climate-adaptation-plans). Available at: <https://www.epa.gov/climate-adaptation/climate-adaptation-plans>

II. 2024 Priority Actions

OAR has five overarching priority actions for FY2024 that are supported by a suite of sub-actions. Each of the proposed actions and sub-actions will support the EPA-wide Priority action to integrate climate adaptation into all programs, policies, and operations.²

1. Planning and Implementation: Strengthen climate change adaptation across OAR through planning, evaluation, and coordination across OAR offices and programs.

- Update the Climate Adaptation Implementation Plan.
- Coordinate OAR web areas with Climate Adaptation microsite and link to adaptation information, resources, tools, etc. as appropriate.
- Share OAR's Climate Adaptation Training with other National Programs and Regions.

2. Outreach and Education: Work within EPA and with external stakeholders, as necessary, to review and revise information for citizens, especially at-risk populations, on the impact of climate change and associated events on ambient and indoor air quality, including ozone and particulate matter (PM) health impacts.

- Engage with SmartWay partners on adaptation and resilience topics by reaching out to some of our large, multinational SmartWay partner companies to learn about how they are including climate as a threat in their risk management and/or sustainability plans and share adaptation resources. If a partner company is taking that step, work with them to develop a SmartWay feature that would highlight their planning and work.
- Address the public health impacts from wildfire smoke, which impacts millions of people each year, by communicating trusted information about air quality conditions and health impacts and manage how fire emissions (wildfire and prescribed fire) are considered in the broader context of the nation's air quality programs.
- Develop or update existing indoor air guidance on climate change adaptation strategies to further equip stakeholders to build adaptive capacity in communities.
- Help ports build capacity to develop climate action plans to reduce air pollutants and improve resilience at U.S. ports. EPA's Office of Transportation and Air Quality (OTAQ) will develop, curate, and share resources for conducting a resilience assessment. Educate stakeholders on funding opportunities for developing climate action plans, including through IRA Clean Ports Program.

² EPA (2021). [U.S. EPA Climate Adaptation Action Plan](https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf). Available at: <https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf>

3. Technical Assistance and Adaptive Capacity: Strengthen resilience and adaptive capacity of federal, state, local, and tribal stakeholders to climate change impacts on ambient and indoor air quality, through enhanced technical assistance and training.

- Collaborate with internal and external stakeholders to improve building and infrastructure resilience to the impacts of climate through improved building codes and practices, and enhanced adoption of design, construction, and maintenance practices.
- Provide training and technical assistance on climate change adaptation strategies to mitigate impacts on indoor air quality with the aim of building adaptive capacity in communities.
- Develop wildfire-related implementation tools.
- Promote participation in the PM2.5 & Ozone Advance program as proactive approach to integrating actions to improve air quality and address climate change.
- Protect infrastructure funded through OTAQ financial assistance programs from climate change and severe weather impacts by including adaptation considerations in the development of Diesel Emissions Reduction Act (DERA), BIL Clean School Bus, IRA Clean Ports, and IRA Clean Heavy Duty programs.
- Provide grant funding to improve indoor air quality and strengthen resilience of buildings to climate change impacts.

4. Research and Integration: Promote, foster, and integrate research and improved data collection, internally and externally, on climate change adaptation and related effects on OAR programs.

- Incorporate adaptation scenarios into climate change impact and risk analyses (including in the Climates Impacts and Risk Analysis [CIRA] project and Framework for Evaluating Damages and Impacts [FrEDI] reduced-complexity impacts/damages model), and other appropriate applications.
- Promote research and collaboration, including within the environmental research community, to improve the understanding of the relationship between climate change, indoor air quality, and human health.
- Build monitoring resiliency into the CASTNET infrastructure, including ongoing network modernization efforts, enabling the Agency to enhance the capacity to monitor the interactions of climate change with air quality to better assess public health and environmental impacts across the U.S.
- Collaborate with the environmental research community and long-term monitoring community on climate change interactions with atmospheric deposition of pollutants and impacts to natural and managed ecosystems.

5. Modeling and Analysis: Advance climate change science through modeling and analysis activities.

- Develop modeling capabilities to evaluate sensitivity of indoor-outdoor air exchange and indoor air chemistry to changes in ambient temperature and humidity, and projected changes in infiltration indoors of outdoor air pollutants under varying climate scenarios.

- Continue to utilize, refine, and further develop a meteorological adjustment procedure to assess the impact of long-term changes in meteorological conditions on trends in surface ozone levels.
- Integrate climate change impacts into power sector modeling tools.

III. Grant Programs and Funding Opportunities

OAR is taking steps to ensure the outcomes of investments using the Inflation Reduction Act or Bipartisan Infrastructure Law funds are resilient to the impacts of climate change. OAR will continue to explore opportunities to integrate climate change considerations into its financial assistance programs in order to expand support for projects that increase climate resilience while delivering co-benefits for public health, the mitigation of greenhouse gases, and the reduction of other pollution. OAR will also provide technical assistance to recipients of Inflation Reduction Act and Bipartisan Infrastructure Law funds to help them make climate smart infrastructure investments.

The first series of Bipartisan Infrastructure Law and Inflation Reduction Act funded grants managed by OAR's Office of Transportation and Air Quality are beginning to be awarded in 2024. Specifically, the notices of funding opportunity (NOFOs) for the Diesel Emissions Reduction Act Grant (\$60 Million), Clean School Bus (\$1 Billion), Clean Ports (\$3 Billion), and Clean Heavy Duty Vehicle (\$1 Billion) programs each include new evaluation criteria relating to resiliency and climate adaptation planning, assuring funding priority to applicants which propose clear plans to protect grant funded investments from climate impacts. Grant awardees will provide updates (as guided in each grant's Terms and Conditions) throughout the grant period on implementation progress and project outputs and outcomes, including those related to climate impact resiliency planning. Each of these programs included similar evaluation and reporting criteria related to resiliency planning. Some examples of resiliency guidance and eligible projects from the Clean Ports Program NOFOS are included in the following paragraph.

The Clean Ports Program Climate and Air Quality Planning NOFO and Zero Emissions Technology Deployment NOFO were announced on Feb 28, 2024, and received applications through May 28, 2024. The *Zero Emissions Technology Deployment Competition* (approximately \$2.8 billion) includes an evaluation criterion relating to protecting program investments from the impacts of climate change, which will prioritize funding for applicants which demonstrate the ability to protect grant investments from climate impacts. In addition, *The Climate and Air Quality Planning Competition* (approximately \$150 million) will fund climate and air quality planning activities at U.S. ports including emissions inventories, strategy analysis, community engagement, and resiliency measure identification, all of which will build the capacity of port stakeholders to continue to reduce pollution and transition to zero-emissions (ZE) operations over time. Resiliency activities funded by the Climate and Air Quality Planning Competition will enable ports to identify resiliency measures they can adopt to increase port resilience to climate impacts. Across both Clean Ports Program competitions, at least \$750 million is available for projects in nonattainment areas for PM_{2.5} or ozone, and each competition anticipates awarding a minimum of two awards to tribal applicants. EPA plans on awarding grants under both of these competitions by December 2024.

Finally, the [Climate Pollution Reduction Grant \(CPRG\) program](#) is a new program funded through the Inflation Reduction Act for states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gases and other harmful air pollution. Administered by OAR with assistance from the EPA Regions, this two-phase program provides \$250 million for noncompetitive planning grants and approximately \$4.6 billion for competitive implementation grants. While a climate mitigation-focused program, CPRG nonetheless supports the goals of climate adaptation and resilience as CPRG planning and implementation grantees are encouraged to consider the potential for climate impacts to affect their projects. Incorporating future conditions into planning and implementation helps embed resilience into decarbonization pathways and promotes climate-informed investment of CPRG funds.

OAR is also administering two new grant programs, which are intended to promote indoor air quality resilience in communities across the nation: the [Inflation Reduction Act Schools Air Quality Grants Program](#) and the [Wildfire Smoke Preparedness in Community Buildings Grant Program](#). Funded through the Inflation Reduction Act, the Schools Air Quality Grants Program will address indoor air pollution in schools, and will assist K-12 schools in low-income, disadvantaged, and Tribal communities in the development and adoption of comprehensive indoor air quality (IAQ) management plans to address air pollution and energy efficiency consistent with EPA's recommended best practices. This includes funding to assist schools in reducing greenhouse gas emissions.

EPA's Wildfire Smoke Preparedness in Community Buildings Grant Program aims to improve the capability and capacity of community buildings to respond to wildfire smoke events, including through improvements to building infrastructure and capacity building and training for the staff who operate and maintain them. Several of the selected applications target interventions to improve resiliency to wildfire smoke in schools, preschools, youth centers, and other community buildings that serve children. The program provides grants to states, federally recognized Tribes, public pre-schools, local educational agencies, and non-profit organizations for the assessment, prevention, control, and/or abatement of wildfire smoke hazards in community buildings and related activities. EPA anticipates award of nine grants, ranging from approximately \$350,000 to \$2 million – totaling over \$10 million.

IV. Climate Adaptation Training

OAR has provided training to enhance staff and management awareness and knowledge of relevant climate change impacts and adaptation approaches. The training was designed to focus on raising awareness of the effects of climate change in general, and how climate change is likely to impact our mission and specific topics critical to OAR's work.

In Summer of 2023, OAR held three interactive climate change adaptation trainings for staff and management with a total of ~ 400 employees attending. OAR recorded these trainings and have made them available to all staff. New employees were especially encouraged by their management to attend. These trainings provided information on the climate impacts affecting mission topics essential to OAR's

programs and activities and highlighted examples of what offices across OAR are doing to integrate climate change adaptation into their work. Topics discussed reflected priorities across OAR offices including transportation, air quality and monitoring, indoor air, environmental justice, wildfires, heat islands, and climate change impacts and risk analysis. Topics were presented in such a way as to show how staff and regions can think about climate adaptation and air activities.

OAR will continue to encourage staff engagement and awareness of adaptation by updating its training, as appropriate, to reflect the latest climate impacts and adaptation information. OAR is encouraging new and existing staff to take the Climate Adaptation 101 training produced by the Office of Policy.