



Climate Adaptation Implementation Plan

Environmental Protection Agency
Office of Policy

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Front Cover Description: The cover photograph shows a community gathering at the site of a major green infrastructure project in Atlanta, GA. The Clear Creek Basin project is a two-acre stormwater detention pond in Atlanta's Historic Fourth Ward Park. The Basin protects the surrounding neighborhood by reducing Atlanta's increasing flood risk and saved the city more than \$15 million compared with the cost of installing conventional gray infrastructure drainage alternatives. The Basin supports compliance with Atlanta's Combined Sewer Overflow consent decree from the Environmental Protection Agency (EPA). This innovative project received a National Award for Smart Growth from EPA's Office of Policy. Photo Credit: John Becker, Atlanta Georgia

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DEPUTY ADMINISTRATOR

Preface

Climate change is threatening communities across the nation. Millions of Americans feel the destructive effects of climate change each year when the power goes down, rivers and lakes go dry, homes are destroyed by wildfires and communities are flooded by hurricanes. Underserved communities are especially vulnerable to the climate crisis and are more likely to experience the negative health and environmental effects of extreme weather events.

The Biden-Harris Administration is actively confronting the climate crisis while also advancing environmental justice. As part of a whole-of-government approach, the U.S. Environmental Protection Agency is strongly committed to taking the actions necessary to protect human health and the environment and to increase the resilience of the entire nation, even as the climate changes.

The EPA's commitment to action is reflected in its FY 2022-2024 Strategic Plan and in the 2021 Climate Adaptation Action Plan. Both documents present priority actions the agency will take to ensure that its programs, policies and operations remain effective under future climate conditions while we work to support states, territories, tribes and communities in increasing their own adaptive capacity and resilience to climate change impacts.

From flooding at Superfund sites, to wildfires causing air pollution, to sea-level rise affecting water quality and infrastructure, the EPA will boldly address climate impacts in both its programs and the communities it serves. We recognize the importance of tribal, state and local government partnerships in efficient, effective and equitable implementation of climate change adaptation strategies. Our plans were informed and improved by input we received in listening sessions we held to engage these and other partners as we developed these plans.

To ensure we are addressing the climate crisis in a comprehensive way, each of our national program and regional offices has developed individual Climate Adaptation Implementation Plans that outline how the EPA will attain the agencywide goals described in the broader Climate Adaptation Action Plan. These plans describe how programs and regions will integrate climate adaptation into their programs, partnerships and operations. They also describe how they will help partners build their resilience and capacity to adapt, while delivering co-benefits, including curbing greenhouse-gas emissions and other pollution, and

promoting public health, economic growth and climate justice. Of course, the EPA has a major role to play on emissions reductions as well, though that is not the focus of these plans. Indeed, we must focus on both climate adaptation and mitigation to ensure our nation and communities thrive in an era of climate change.

As part of this effort, we will empower our staff and partners by increasing awareness of how climate change may affect our collective ability to implement effective and resilient programs. We will also provide them with the necessary training, tools, data, information and technical support to make informed decisions and integrate climate adaptation into our work.

The EPA will work to modernize its financial assistance programs to encourage climate-resilient investments across the nation. We will also focus on ensuring that investments funded by the Bipartisan Infrastructure Law, the Inflation Reduction Act and other government programs are resilient to the impacts of climate change. Finally, as our knowledge advances and as impacts continue to develop, our response will likewise evolve. We will work to share these developments to enhance the collective resilience of our nation.

The actions outlined in these implementation plans reflect the EPA's commitment to build every community's capacity to anticipate, prepare for, adapt to and recover from the increasingly destructive impacts of climate change. Together with our partners, we will work to create a healthy and prosperous nation that is resilient to the ever-increasing impacts of climate change — which is vital to the EPA's goal of protecting human health and the environment and to ensuring the long-term success of our nation.



Janet G. McCabe

A Message from Associate Administrator for Policy Vicki Arroyo

The impacts of climate change are affecting people in every region of the country, threatening lives and livelihoods and damaging infrastructure, ecosystems, and social systems in communities across the nation. Climate change is also challenging the EPA's ability to accomplish its mission of protecting human health and the environment. EPA's Office of Policy (OP) is committed to working across EPA's programs and regions to help the agency and our nation adapt. This OP Climate Adaptation Implementation Plan charts a course for us to coordinate climate change adaptation actions across the agency to secure clean air, clean water, clean land, and chemical safety for all Americans, even as the climate changes. I am honored to lead EPA's adaptation work to build resilience across EPA programs, regions, and partnerships.

The climate crisis presents new and cascading threats to human health and our environment that EPA must work to address in new and innovative ways. OP is uniquely positioned to meet this challenge by reaching across the agency's many programs and regions. OP's Climate Adaptation Program leads and coordinates activities across the entire agency through the Cross-EPA Work Group on Climate Change Adaptation. A major focus of this effort is the integration of climate adaptation into the agency's programs, policies, rules, environmental permitting, economic analyses, and operations, with a particular focus on advancing climate justice. OP leads and supports the agency's efforts to strengthen the adaptive capacity of states, tribes, territories, local governments, communities, and businesses to increase the resilience of the nation in ways that support attaining the agency's mission. Within OP, this work takes many forms due to the breadth of our portfolio. For example, we provide technical support and promote community engagement in our Office of Community Revitalization and Office of Environmental Justice (soon to be its own national program). OP also works to incorporate these considerations in reviews of environmental impact statements and permits through our review of National Environmental Policy Act assessments and permits in our Office of Federal Activities. We work to ensure that climate impacts are considered in agency rulemaking, guidance, and economic analysis through our coordination of rulemaking efforts in our Office of Regulatory Policy and Management and our National Center for Environmental Economics, and through the development of codes and standards and industry partnerships. OP also leads EPA's "whole of government" engagement in many interagency efforts across the federal family, including workgroup efforts promoting climate adaptation and resilience, sustainability, and more.

Whether providing tools, training, or technical assistance, OP is focused on ensuring that our EPA colleagues and external partners and stakeholders consider current and future impacts of climate change in planning and implementation of their work. For example:

- As temperatures rise and wildfires increasingly pollute our air, EPA is helping schools become cleaner-air and cooling centers in Western communities.
- As sea levels rise, tools such as EPA’s Adaptation Resource Center and EPA’s CREAT tool are being used by coastal communities and utilities to evaluate the performance and costs of adaptive measures and investments that address the risks posed by climate change.
- As extreme weather increases, EPA is collaborating with state, local, and tribal partners to provide technical assistance to design green infrastructure projects as well as resilience hubs that can help protect residents and the local economy from disasters.

As OP takes the actions outlined in this Implementation Plan and coordinates across the agency and with key partners – and provides new investment made possible through the Bipartisan Infrastructure Law and the Inflation Reduction Act, we will focus on real-world results that advance resilience and equity.

A handwritten signature in black ink that reads "Vicki Arroyo". The signature is written in a cursive, flowing style.

Vicki Arroyo

Contents

Preface.....	3
A Message from Associate Administrator for Policy Vicki Arroyo.....	5
Part 1 - Introduction	8
Overview.....	8
Climate Justice and Tribal Considerations.....	9
Climate Resilient Investments	10
Part 2 – Assessment of Climate Vulnerabilities.....	11
OP and EPA’s Climate Vulnerabilities	11
EPA’s Associate Administrator (AA) for Policy	12
OP Operations	12
Climate Adaptation Program (CAP).....	13
Office of Community Revitalization (OCR).....	15
Office of Regulatory Policy and Management (ORPM)	16
National Center for Environmental Economics (NCEE).....	17
Office of Federal Activities.....	18
Office of Environmental Justice (OEJ).....	19
Smart Sectors Program.....	21
EPA Standards Executive	22
Part 3 – Priority Actions.....	23
1. Lead and coordinate climate change adaptation across EPA.....	23
2. Advance climate justice through adaptation	25
3. Address climate risk in policies, regulations, and economic analyses.....	27
4. Build resilience through collaboration with other federal agencies.....	29
5. Work with partners across the nation to enhance adaptive capacity.....	30
6. Catalyze climate resilient investments	32
Part 4 – Training Plan	34
4.1 Climate Adaptation Training Plan	34
4.2 Tracking Training Plan Progress.....	35
Part 5 – Science Needs.....	35
Conclusion.....	36

Part 1 - Introduction

Overview

OP is committed to advancing the capacity of the agency and its partners to adapt to climate change. Guided by the EPA *Climate Adaptation Action Plan (Action Plan)* and the agency's assessment of program and operational vulnerabilities, this Implementation Plan identifies six priority actions OP commits to undertake in FY 2022 and FY 2023 to address the challenges that climate change poses to the work of OP:

1. Lead and coordinate climate change adaptation across EPA
2. Advance climate justice through adaptation
3. Address climate risk in policies, regulations, and economic analyses
4. Build resilience through collaboration with other federal agencies
5. Work with partners across the nation to enhance adaptive capacity
6. Catalyze climate resilient investments

The devastating and diverse impacts of climate change such as more intense storms, increasing drought, growing number of wildfires, and additional flooding threaten communities and affect agency policies, programs, regulations, and priorities that OP is responsible for implementing or for which it makes significant contributions. Further, OP plays a critical role in ensuring that EPA addresses the needs of vulnerable populations by decreasing environmental burdens, increasing environmental benefits, and working collaboratively to build healthy, sustainable communities.

Background

The OP Associate Administrator has been designated as the agency's *Senior Climate Change Adaptation Official*¹ and is responsible for working with EPA programs and regions to develop and carry out the activities described in the Action Plan. EPA's Senior Advisor for Climate Adaptation, a career staff member in OP, chairs the Cross-EPA Workgroup on Climate Adaptation² to guide and coordinate the agency's climate adaptation activities. Located in the Office of the Administrator, OP is the primary policy arm of EPA and works with EPA colleagues to support agency priorities and enhance decision-making. This unique role enables OP to support and advance EPA's adaptive capacity in critical areas such as regulatory policy and management, environmental economics, community revitalization, environmental justice, National Environmental Policy Act compliance, environmental permitting, stakeholder engagement with key economic sectors, and working with Voluntary Consensus Standards (VCS) bodies and other private sector standards organizations (both domestic and international).

¹ U.S. Environmental Protection Agency Policy Statement on Climate Change Adaptation, May 26, 2021

² The *Cross-EPA Work Group on Climate Adaptation* was founded in 2011 and has continued to guide agency-wide activities, coordinate across programs and regions, and share experiences and strategies related to climate adaptation. As of this writing, the Work Group membership includes representatives from over 30 EPA offices including each of the National Environmental Program Offices, National Support Offices, and 10 Regional Offices.

In September 2021, the EPA released its current *Action Plan* which focuses agency attention on priority actions it will take to fulfill EPA's mission and increase human and ecosystem resilience even as the climate changes. This Implementation Plan outlines priority actions OP will take to attain the agency-wide goals described in the broader *Action Plan*.

A key to success will be ensuring an informed OP staff that understands the challenges climate change presents to EPA, and OP in particular, and to their respective roles within OP. Towards this end, this Implementation Plan presents an OP Climate Adaptation Training Plan to foster and support an OP workforce that understands how climate change affects their work, in order to inspire creative solutions and new approaches to meet the challenge of the climate crisis. The plan also identifies several areas where OP would like to collaborate further with the Office of Research and Development (ORD) to advance its ability to increase the adaptive capacity of OP and EPA staff.

Climate Justice and Tribal Considerations

OP is committed to advancing environmental justice (EJ) through the adaptation actions outlined in this plan. EPA defines EJ as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. Overburdened and underserved communities are already disproportionately affected by environmental, health, and economic issues, and are particularly vulnerable to any climate impacts. The intersection of environmental justice and climate adaptation is framed in this plan as "climate justice," defined as the fair treatment and meaningful involvement of all communities and stakeholders that are particularly vulnerable to the impacts of climate change. This includes the development and implementation of policies and strategies for anticipating, preparing for, adapting to, and recovering from climate impacts. Certain communities and individuals can be particularly vulnerable to the impacts of climate change, including low-income communities, communities of color, very young children, the elderly, people with disabilities and chronic health conditions, and tribes and indigenous people. Climate justice ensures that all people, regardless of existing vulnerabilities, presence of disproportionate burdens or threats to their public health, resources, and capabilities, can anticipate, prepare for, adapt to, and recover from climate change impacts and the policies to mitigate or adapt to them. This goal will be achieved when everyone: has equal access to decision-making processes; benefits equitably from investments and policies to address climate impacts; and enjoys the same degree of protection from the impacts of climate change.

Where OP's work interfaces with tribes, it will consider the Traditional Ecological Knowledge (TEK) of those tribes and how TEK contributes to effective climate adaptation strategies. OP will also consider tribal treaty rights. Under the Constitution, treaties with tribal nations are part of the supreme law of the land, establishing unique sets of rights, benefits and conditions for the treaty-making tribes who were forced to cede millions of acres of their homelands to the United States, in return for recognition of property rights in land and resources as well as federal protections. Tribal treaty rights have the same legal force and effect as federal statutes and they should be integrated into and given the fullest consideration throughout EPA's collective work. Reserved rights are the rights tribes retain that were not expressly granted to the United States by tribes in treaties. Treaty and reserved rights, including but not limited to the rights to hunt, fish and gather, may be found both on and off-reservation lands. Agencies should consider treaty and reserved rights in developing and implementing climate adaptation

plans in order to protect these rights and ensure the agencies meet their legal and statutory obligations and other mission priorities as we work to combat the climate crisis.

In September 2021, EPA joined 16 other federal agencies in signing a Memorandum of Understanding (MOU) that committed those parties to identifying and protecting tribal treaty rights early in the decision-making and regulatory processes. Accordingly, EPA will consider and protect treaty and reserved rights in developing and implementing climate adaptation plans through strengthened consultation, additional staff training and annual reporting requirements.

Climate Resilient Investments

The Bipartisan Infrastructure Law (BIL) is a historic investment in the water infrastructure improvements, pollution cleanup initiatives, and workforce opportunities necessary to transform communities around the country. Much of the federal assistance provided through BIL will scale up EPA's existing grant and loan programs, such as the State Revolving Fund Programs and Brownfields Grants. It will also be delivered through the creation of new low-interest financing programs, primarily for tribes and rural or disadvantaged communities. The Inflation Reduction Act (IRA) is a historic investment in domestic energy production and manufacturing, aimed at reducing carbon emissions by roughly 40 percent by 2030. EPA will administer federal assistance provided through IRA to reduce climate and air pollution while advancing environmental justice. With these significant influxes of capital from BIL and IRA, it will be more important than ever for EPA – and state, tribal, and local governments – to invest in resilient projects that withstand climate change for decades to come. EPA's National Program and Regional Offices will work through the programs that received BIL and IRA funding to encourage resilient outcomes across the country. Internally, EPA is taking steps to consider how its policies, operations, and program activities can be better aligned to accelerate resilient projects, with an emphasis on the most vulnerable communities. EPA will take steps to ensure that its financial assistance programs support resilient investments that consider anticipated climate change impacts. It will also be critical that EPA's technical assistance programs are readily accessible to stakeholders as they take intermediate steps to make climate-informed investments. EPA will support its external stakeholders by providing technical assistance opportunities for BIL and IRA-funded projects to help build their adaptive capacity. Consistent with EPA's *Action Plan*, EPA's Offices will seek opportunities to engage with other federal agencies, external stakeholders, and federal funding recipients to achieve climate-resilient infrastructure.

OP will coordinate across EPA to take steps to ensure the outcomes of investments using BIL and IRA funds are resilient to the impacts of climate change. OP will work across EPA to explore opportunities to integrate climate change considerations into EPA's 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. OP will also work across EPA to encourage, where appropriate, provision of technical assistance to recipients of BIL and IRA funds to help them make climate smart investments.

Part 2 – Assessment of Climate Vulnerabilities

OP and EPA’s Climate Vulnerabilities

OP serves as EPA’s focal point on climate adaptation as well as the primary policy arm of EPA. OP works with colleagues across programs and regions and contributes to core activities such as rule writing, permitting, stakeholder engagement, standards setting, and advancing environmental justice. Accordingly, OP’s roles and responsibilities are sensitive to all the wide-ranging vulnerabilities³ identified in the Action Plan including those related to:

Air quality – Climate change makes it more difficult to attain air quality standards and protect the air we breathe, posing higher risks to public health, and especially overburdened and vulnerable populations. Climate change can increase the ground-level ozone and particulate matter, worsen indoor air quality, make stratospheric ozone layer recovery more difficult, exacerbate atmospheric deposition of pollutants, and hinder the ability to measure, communicate and model air quality.

Water quality – Climate change makes it more difficult to meet the challenge of protecting the nation’s water quality. Climate change degrades water quality through many pathways (e.g., stream flow, runoff). Sea level rise, higher temperatures, increasingly frequent and intense storm events, and acidification are degrading coastal ecosystems and reducing water supplies. Changes in snowpack and precipitation will affect water supplies. Climate change is already harming water infrastructure.

Contaminated sites – Climate change complicates cleaning up contaminated sites and ensuring the safety of industrial facilities. Wildfire, more intense flooding and coastal storms, and sea level rise can release pollution from contaminated sites and/or industrial facilities. Increased temperatures and changes in runoff can adversely affect cleanups. Unexpected, climate-driven conditions can compromise the effectiveness of cleanup remedies selected without those impacts in mind. Climate impacts can increase the amount of debris sent to landfills and can also encroach on the landfills.

Chemical safety and pollution prevention - Rising temperatures, changes in precipitation, runoff, and soil moisture, and shifts in ecosystems can affect the presence and concentration of chemicals in the environment. Climate change and subsequent alteration of ecosystems will likely result in changes in where crops are grown and in the presence of pests and diseases.

³ U.S.EPA, Climate Adaptation Action Plan, October 2021 (pages 3-6)

The Action Plan also noted that “Limitations in the adaptive capacity and resilience of our partners, the disproportionate impacts climate change has on certain communities, and the costs associated with implementing changes are also vulnerabilities for EPA across all program areas.”⁴

A brief description of the major vulnerabilities of each OP program to climate change is briefly discussed below.

EPA’s Associate Administrator (AA) for Policy

OP’s AA for Policy serves as EPA’s senior adaptation official and is supported by OP’s Climate Adaptation Program. OP’s AA advises the Administrator and Deputy Administrator and leads the Office of Policy overseeing staff and programs with wide-ranging scope covered in this plan. OP’s AA also serves as the Senior NEPA Official, setting policy for EPA and overseeing reviews of all draft Environmental Impact Statements (EIS) prepared by other federal agencies, as well as certain other federal actions. OP uses these reviews to integrate considerations of climate change into EISs, including the implications of greenhouse gas emissions and the risks posed by climate change such as extreme weather and sea-level rise. OP’s AA is also EPA’s Senior Regulatory Official, working across the agency on rulemakings and coordinating with the White House Office of Management and Budget on regulatory reviews, and works to integrate climate change considerations into the rulemaking and analytical process. OP’s AA also oversees all the work of OP, integrating climate adaptation considerations into regulatory policy and management, environmental economics, community resilience and sustainability, environmental justice, permitting, and standards and stakeholder engagement. These functions of OP are discussed in more detail below.

OP Operations

OP’s Operations Staff (Staff) plays a key role in supporting each of the office’s programs. The Staff leads and supports management and administrative functions including overall strategic planning, budget, human resource, information technology, and contracts and grants management activities. As OP expands its capacity to support climate adaptation across the agency, the Staff will be critical to successfully implementing this *OP Climate Change Implementation Plan*. In particular, the Staff will be called upon to provide administrative support associated with meeting Goal 1/Objective 2 of EPA’s FY22-26 Strategic Plan -- Accelerate Resilience and Adaptation to Climate Change Impacts; advertise and fill relevant FTE positions in an efficient and timely manner; and help meet several of the Priority Actions through grant and contracting activities.

⁴ U.S.EPA, [Climate Adaptation Action Plan](#), October 2021 (page 3)

Climate Adaptation Program (CAP)

CAP staffs and supports the *EPA Senior Climate Adaptation Official*, guides and oversees EPA's climate adaptation activities across all EPA programs and regions - including formulating and managing EPA's climate adaptation budget and develops and maintains training and tools to advance the adaptive capacity of EPA and the nation's 40,000 communities. CAP's specific activities include directing implementation of the Action Plan, chairing the *Cross-EPA Workgroup on Climate Adaptation*, leading development and implementation of regional and program *Climate Change Adaptation Implementation Plans* (such as this one), promoting consistency and efficiency of climate adaptation activities across and among programs and regions, and developing and maintaining EPA's Climate Adaptation Resource Center (ARC-X).⁵

Joel Scheraga (PhD), the EPA Senior Advisor for Climate Adaptation, is designated as the senior career leader responsible for overseeing the climate adaptation activities contained in the *OP Implementation Plan*. Dr. Scheraga leads CAP. He is also a member of the OP leadership team and routinely works with executives and staff across OP programs. As the leader of OP's Climate Adaptation Program and chair of the *Cross-EPA Workgroup on Climate Adaptation*, Dr. Scheraga is also intimately familiar with EPA's climate adaptation activities.

As EPA's focal point for climate adaptation, CAP's fundamental role is to help ensure the EPA meets its vision to "... fulfill its mission of protecting human health and the environment even as the climate changes and disruptive impacts increase."⁶ Thus, the climate change vulnerabilities of the agency are also relevant vulnerabilities for CAP. Climate change also presents specific challenges to CAP's role as it works to advance the adaptive capacity of EPA and its partners.

As the understanding of climate change continues to advance, CAP continues to coordinate with ORD and support its efforts of ensuring EPA programs and regions have access to the latest science in a useable format and a timely manner to assess vulnerabilities and make programmatic changes. As an example, CAP is requiring a "Science Needs" section in all Implementation Plans.

EPA regions and programs are developing individual Climate Change Adaptation Implementation Plans to set priorities. The separate plans enable programs and regions to target actions and activities that are most relevant to their specific vulnerabilities and needs. This approach calls for enterprise-wide coordination to avoid inefficiencies across organizations, duplication of efforts, and lost opportunities

⁵ ARC-X is a free interactive resource to help local governments effectively deliver services to their communities even as the climate changes. Decision makers can create an integrated package of information tailored specifically to their needs. ARC-X can be accessed here: <https://www.epa.gov/arc-x>

⁶ U.S.EPA, *Climate Adaptation Action Plan*, October 2021 (page 2)

for sharing information and lessons learned. One of the ways CAP provides this coordination is through chairing the *Cross EPA Workgroup on Climate Adaptation* which meets at least monthly to guide climate adaptation efforts and increase consistency and sharing of information.

To respond to climate change, EPA needs its personnel and partners to adopt new ways of achieving its mission.⁷ To help EPA build its adaptive capacity, CAP supports agency-wide education and training. For example, CAP developed and is revising the *EPA Climate Change Adaptation Introductory* training course for EPA staff. The course is an internally focused on-line training designed to raise awareness of how climate change affects EPA programs and is mandatory for all new employees. CAP is working with Program Offices to develop program-specific trainings that are expected to be available by the end of FY 23.

As many of EPA's programs are implemented by states and local communities, the adaptive capacity of our partners and communities can influence EPA's ability to deliver programs resilient to the changing climate. As such, CAP is working to build the adaptive capacity of EPA's partners. For example, the web-based ARC-X is designed to help all 40,000 communities across the nation anticipate, prepare for, and adapt to the impacts of climate change. ARC-X can support local government officials throughout the country, from those with extensive experience and expertise dealing with the impacts of climate change, to those working in communities just beginning to meet those challenges. ARC-X provides users with an integrated package of information tailored specifically to their needs, based on where they live and the issues of concern to them. Users are given an opportunity to self-identify by indicating the region of the country in which they live and the specific issues of concern to them. The system then provides them with a complete package of information that includes insights about the implications of climate change based on the specific community context and concerns of the ARC-X user; adaptation strategies to address the community's specific risks posed by climate change; case studies that illustrate how other localities with similar concerns have already successfully adapted, along with instructions on how to replicate their successful efforts; tools available from EPA to help implement the adaptation strategies; and sources of funding from EPA and other federal agencies. Users can follow a thread through the package, eliminating the need to figure out how all the relevant information fits together. ARC-X includes training resources including a [Local Government Climate Adaptation Training](#) and the aforementioned OW and OLEM offerings.

The agency places special emphasis on working with overburdened and vulnerable populations to increase their resilience to climate change. Such populations include communities of color, low-income communities, children, persons with disabilities, the elderly, tribes, and indigenous people. These groups and individuals may be especially vulnerable to climate change impacts due to a variety of factors including higher pollution burdens, disproportionate exposure to environmental contaminants, lack of financial resources, limited access to quality health care, and other barriers. CAP works to advance EPA's efforts of meeting the needs of the most vulnerable through its leadership of the *Cross EPA Workgroup on Climate Adaptation* and strategic plan goal setting and tracking responsibilities. For example, EPA will actively engage with community-based organizations from overburdened and underserved communities

⁷ U.S.EPA, [Climate Adaptation Action Plan](#), October 2021, "Enhance Climate Literacy of the EPA Workforce and Our Partners (page 24)

that are more vulnerable to climate impacts to ensure National Program and Regional Office Implementation Plans reflect the principles of environmental justice and equity.

Office of Community Revitalization (OCR)

OCR supports locally led, community-driven efforts to revitalize local economies, support equitable development, and improve environmental and human health outcomes. OCR collaborates with: EPA programs; federal agencies; regional, state, and local governments; and a broad array of nongovernmental and private-sector partners to bring additional resources to communities and to leverage public- and private sector investments. In response to requests from communities, states, tribes, or other entities, OCR provides assistance on issues including: transportation solutions, such as clean transportation options and green and complete streets, that reduce greenhouse gas emissions and other pollution; climate adaptation and disaster resilience strategies that bring multiple community benefits; reuse and redevelopment of abandoned and underused properties; and diversifying economies and revitalizing Main Streets using community assets such as local and regional food systems, outdoor recreation, broadband infrastructure investments, and light manufacturing.

OCR produces tools, research, case studies and other information on a variety of topics, provides planning and technical assistance, shares examples of community strategies and projects that can be models for other places, convenes diverse interests to encourage better growth and development, and co-leads EPA's Community Work Network.

OCR helps communities achieve their environmental, health, equity, economic, and other goals through smarter land use, growth, and development. Some of OCR's help focuses on relatively short-term activities such as developing a diversified economic base that supports community revitalization or adding green infrastructure to neighborhoods to reduce localized flooding and extreme heat. Some of this assistance helps communities plan for development that might take several years to build out and will be on the ground for decades, locking in investment and development patterns that could be difficult to adapt as climate conditions change. Thus, projected short- and long-term climate change impacts, as well as current climate conditions, affect OCR's work with communities. If OCR does not consider climate adaptation in its assistance to communities, it could be giving them strategies that will not serve them well as climate change impacts intensify—and might even encourage development in more-hazardous areas. To make sure that the assistance it offers communities will help them thrive in current and future climate conditions, OCR is working to integrate climate adaptation into its planning and technical assistance projects and its tools and other resources, with a focus on finding solutions for communities that will bring multiple short- and long-term benefits. OCR has some tools focused on climate adaptation, such as [Smart Growth Fixes for Climate Adaptation and Resilience](#), which offers community-level, multi-benefit land use and building strategies for overall adaptation planning and adapting to sea-level rise, extreme weather (e.g., precipitation, flooding, heat), and wildfires. In addition, OCR looks for opportunities to include adaptation considerations in work with communities, such as the Recreation Economy for Rural Communities program, which helps communities use their outdoor recreation assets to revitalize their Main Streets and support environmentally sustainable growth.

OCR has also worked for many years, often in partnership with FEMA through a Memorandum of Agreement, to help communities plan for, recover from, and rebuild after natural disasters by incorporating environmentally sustainable development strategies into pre-disaster planning, post-

disaster recovery, and disaster mitigation activities. For example, OCR developed the *Regional Resilience Toolkit: 5 Steps to Build Large-Scale Resilience to Natural Disasters*, which helps regions plan for disasters, such as those caused by more frequent and intense storms, by working across multiple jurisdictions and with nongovernmental partners. This toolkit is the basis for technical assistance projects in regions across the United States. In FY22 and FY23, OCR is also working with states, tribes, and communities on equitable resilience projects funded through the American Rescue Plan. OCR supports the EPA regional offices, in partnership with EPA's Office of Homeland Security, in mission assignments and interagency agreements with FEMA to provide long-term recovery assistance to states, tribes, territories, and local governments.

OCR is engaged in several interagency efforts that address climate adaptation and/or disaster resilience, including working with individual agencies on specific projects and participating in interagency groups. OCR staff represent the agency on two national Recovery Support Function (RSF) groups: the Community Planning and Capacity Building RSF and Economic Recovery RSF, which involves close coordination with many federal partners, such as EDA and HUD, on providing federal assistance after major disasters. OCR staff support OP leadership on interagency working groups, including the Extreme Heat and Climate-Smart Infrastructure workgroups. In addition, OCR integrates climate adaptation considerations into collaborations with the Department of Energy, Department of Transportation, and other federal agencies.

Office of Regulatory Policy and Management (ORPM)

ORPM manages the regulatory development process for the agency, providing support and guidance to EPA's program and regional offices as they develop regulations. ORPM provides policy and analytical advice and support to these offices, works to ensure compliance with key statutes and Executive Orders relating to regulatory process, and helps to promote analytical consistency and rigor across EPA's regulatory portfolio. ORPM advises the Administrator and other senior agency decision-makers on regulatory and policy development; manages the agency's policy priority agenda; conducts timely and effective policy analysis; and helps ensure that EPA's regulatory decision processes and actions are invested with high quality information. Finally, ORPM manages EPA's action development and review process, provides comprehensive action development training for EPA staff and managers, and provides procedural and analytical support to help EPA consider the impact of its actions on small entities and state and local governments.

As a focal point for EPA's regulatory development activities, the changing climate has significant implications for ORPM. While EPA's program offices lead development of regulatory actions within the statutes that direct their programs, ORPM participates in each rulemaking, sometimes conducting specific analyses to inform regulatory decisions, and oversees implementation of the rule development process. The process includes numerous opportunities to encourage discussion and inclusion of climate change adaptation considerations, both internally and with stakeholders.

ORPM is already beginning to work with colleagues in program and regional offices to help EPA's rule writers better understand how climate change may affect particular regulatory actions. To ensure climate adaptation is considered as a routine practice, ORPM is examining EPA's internal procedures and guidance to identify points where climate change adaptation considerations warrant identification and analysis. ORPM is working with the Climate Adaptation Program to develop training for rule writers on how to incorporate climate adaptation considerations in the rule writing process.

As part of its commitment to advancing environmental justice, ORPM will examine its action development guidance and associated training and will seek to take actions that advance efforts to address the needs of the most vulnerable communities. For example, it will encourage programs to consider the most vulnerable communities from the beginning of the rulemaking process. Meaningful engagement early in the process will help EPA to understand the disproportionate risks of certain communities bear and consider these risks throughout the rulemaking process.

National Center for Environmental Economics (NCEE)

NCEE leads EPA's effort to promote analytic rigor and consistency across the agency in evaluating the economic costs, benefits, and impacts of proposed environmental regulations and policies on the national economy and society. NCEE provides regulatory review support for economically significant rules, trains and shares expertise on economic analysis, assesses exposures and risks, conducts quantitative uncertainty analysis, and advises on related analytic issues. To advance sound economic and risk analysis, NCEE engages in new research and develops improved methods for measuring the economic consequences of environmental changes. NCEE connects with outside experts on priority analytic needs on economic research topics and opportunities to improve analytic methods used by EPA. NCEE also contributes to interagency efforts to incorporate climate change considerations into policies, programs, and regulations across government by calculating the social cost of greenhouse gases. NCEE advances efforts to improve the quality and reliability of economic methods, models, and information and analysis, and to keep EPA analysts abreast of advances in the field. NCEE staff work with economists across the agency to promote consistency and quality in economic studies including developing and continually updating guidance materials such as *Guidelines for Preparing Economic Analyses* and other more specialized guidance documents such as *Assessing environmental justice in regulatory analyses*, *Considerations in valuing benefits to reducing environmental risks to children*, and *Conducting economic analysis of land cleanup and reuse sites and programs*. NCEE seeks the best economy-wide modeling tools to assess the economic effects of environmental regulatory options including methods designed to examine the distribution of regulatory burdens. NCEE collaborates with EPA program and regional offices to analyze relationships between environmental pollution and human health including characterizing morbidity risks to children and adults, as well as investigating the expected benefits of preventing prenatal risks from exposure to pollutants.

Economic analysis plays a central role in informing EPA decision-making. It is critical that EPA effectively captures the impacts of climate change in its regulatory, economic, and policy analyses. As the focal point for consistent and rigorous economic analysis, NCEE can help guide and advise the agency to ensure that the analytic methods and tools used to inform decisions reflect sound and robust assumptions regarding the changing climate. For example, many areas are projected to experience more frequent and intense storms with climate change resulting in increased runoff. The amount of runoff and associated pollution can significantly affect the baseline condition and consequently the estimated costs and benefits of regulatory options. The quality of EPA decisions depends on consideration of the anticipated impacts of climate change.

Office of Federal Activities

OFA has two distinct divisions, the NEPA Compliance Division (NCD) and the Permitting Policy Division (PPD). NCD oversees EPA's review process under section 309 of the Clean Air Act of all other federal Environmental Impact Statements (EIS) prepared under the National Environmental Policy Act (NEPA). As part of the section 309 review, OFA or regional NEPA program offices coordinate across EPA programs to provide written comments made available to the public on the technical adequacy of NEPA documents related to EPA's areas of special expertise or authorities. In addition, OFA oversees EPA's compliance with NEPA for EPA-led actions. OFA also reviews the environmental impact assessments for U.S. non-governmental activities in Antarctica for consistency with the environmental protection protocols of the Antarctic Treaty.

Climate change impacts such as intense storms, additional flooding, and sea level rise affect federal actions subject to NEPA. If climate change impacts are not considered as part of the NEPA analysis nor considered in an agency's informed decision making, investments in proposed projects may not be resilient in the future, and proposed actions could include designs that exacerbate environmental impacts under future conditions.

EPA's Associate Administrator for Policy is the agency's Senior NEPA Official and has directed EPA Regional Administrators and NEPA reviewers to incorporate considerations of climate change adaptation (as well as mitigation opportunities and environmental justice) in our reviews under the Clean Air Act Section 309 authority.⁸ Through its responsibilities under NEPA, OP and OFA are developing guidance and tools to assist NEPA/309 reviewers and EPA programs in considering the impacts of climate change in terms of greenhouse gas emission implications, potential adaptation activities, and potential additional impacts related to climate change on communities with environmental justice concerns. OFA

⁸ Vicki Arroyo, "Memorandum: Addressing Climate Change and Environmental Justice through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act" U.S. Environmental Protection Agency (April 26, 2022). Available at: <https://www.epa.gov/system/files/documents/2022-05/EPA%20Policy%20Memo%20Intergration%20of%20EJ%20and%20Climate%20Change%20into%20NEPA%20309%20review%204-26-2022.pdf>

established a regional NEPA and Climate Change Working Group to support EPA's 309 review program. This group's work has included providing recommendations for the Council on Environmental Quality's (CEQ) proposed updates to the 2016 Greenhouse Gas (GHG) Guidance and identifying and developing tools to support 309 reviewers. OFA represented EPA in an interagency workgroup that is updating the 2016 GHG Guidance and continues to coordinate technical assistance to CEQ on the ongoing updates.

OFA's PPD coordinates across all of EPA's Permitting Program Offices and Regional Offices to support the permitting programs in implementing more efficient permitting processes. PPD is responsible for understanding the unique perspectives of each permitting program and region while identifying national consistencies across permitting programs and regions, as well as identifying additional opportunities to further consistencies.

PPD also coordinates EPA's compliance with cross-cutting issues which play an important role in permitting decisions that are critical to both permitting and non-permitting programs across the entire agency. Some of the cross-cutting issues include Endangered Species Act Section 7 Consultation and compliance with the National Historic Preservation Act.

Because of its unique positioning, PPD is poised to lead the implementation of new Administration priority actions or play a significant supporting role to ensure the implementation of new Administration priorities into permitting actions. PPD is currently leading the agency's efforts on Environmental Justice in Permitting, tracking the timely and synchronized permit issuance within the environmental review process for Fixing America's Surface Transportation (FAST-41) projects, and leading a permit automation effort across the agency. Automation of the permit application process will reduce processing time on issuing permits 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. Through permit automation, PPD will have the ability to ensure climate impacts are considered for all permitting decisions across the agency.

Climate change impacts vary across the nation which makes permitting challenging for each program but in vastly different ways. To ensure that climate adaptation is considered in all permitting decisions, PPD will be approaching this issue in multiple steps. PPD plans to coordinate across all permitting programs and regions to identify how each currently addresses climate change, identify how each plans to address climate change in the future, and identify any gaps or opportunities that exist to increase climate resiliency through permitting.

Office of Environmental Justice (OEJ)

OEJ is the agency focal point for advocating for equity and justice across the agency's policies, programs, and activities. The agency defines environmental justice (EJ) as the fair treatment and meaningful

involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. OEJ works to address the needs of vulnerable populations by decreasing environmental burdens, increasing environmental benefits, and working collaboratively to build healthy, sustainable communities. OEJ works with EPA programs and regions to strengthen their EJ initiatives including: community engagement efforts; identifying, assessing, and considering community issues in EPA's decision-making processes; developing guidance on incorporating EJ into regulatory programs; and conducting robust EJ analyses using equity and justice screening tools such as EJScreen.

OEJ oversees the implementation of *Executive Orders 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* and *14008, Tackling the Climate Crisis at Home and Abroad*, provides support for implementation of *Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, and coordinates activities with other federal agencies covered by the orders. In addition, OEJ manages and has full responsibility for the National Environmental Justice Advisory Council (NEJAC), provides support to the White House Environmental Justice Advisory Council (WHEJAC), and supports and represents EPA on the White House Environmental Justice Interagency Council (EJ IAC).

Externally, OEJ advances EJ priorities by working collaboratively with a variety of partners, including communities, non-profits, academia, industry, states, Tribes, and others to integrate environmental justice considerations into their processes and programs and to jointly identify solutions to challenging environmental justice problems. OEJ also coordinates communication, outreach, education, and training to the public on EJ issues, and provides technical and financial assistance to communities and other external stakeholders.

Climate change 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 are already disproportionately affected by environmental, health, and economic issues, and are particularly vulnerable to any climate impacts. For climate-related events and disasters, communities tend to be treated through the lens of equality, and not equity or justice, resulting in a continuation of the disproportionality of impacts and burdens they do and will continue to face under such circumstances. Communities with EJ concerns aren't starting in the same place as other communities, so climate-related events and disasters hit them even harder. Specific vulnerabilities for these communities include:

- The lack of capacity to apply for and manage financial resources for climate resiliency, adaptation, and revitalization.
- Information about climate issues may not be provided in local languages or with adaptive measures for the disabled.

- In climate emergencies, accessibility to information can be a challenge due to lack of technology (broadband access, internet, cable, other information sources).
- Inaccessibility can lead to lack of information about the emergency itself (what it is, where to go, hazardous waste, pollutants, resources for assistance, etc.).
- The lack of capacity to avoid the impacts of climate change such as fleeing from a disaster event.
- Exacerbated impacts in communities, such as the impact of flooding being compounded by the release of hazardous materials during the flooding event.

For communities with EJ concerns the effects of climate change add to the list of cumulative impacts already experienced by these overburdened communities. Consequently, it is imperative to view each community holistically, to include potential climate change impacts when conducting EJ analyses, and to advance equitable and just responses and policy solutions. This can be difficult when considering all factors impacting a community. To assist with these complexities, OEJ is working with agency partners to implement a cumulative impacts framework.

OEJ includes considerations for climate-related projects that address climate, disaster resiliency, and/or emergency preparedness in EJ grant request for proposals (RFPs). When reviewing submitted grant applications, OEJ may give special consideration to projects that address the needs of underserved and vulnerable communities that have been adversely impacted or are likely to be adversely impacted by natural disasters, including, but not limited to, hurricanes, tornadoes, wildfires, floods, earthquakes, and future pandemics.

OEJ also continues to advocate for and support the use of EJScreen, which is EPA's mapping and screening tool that combines environmental and demographic indicators to better inform EPA decisions. EJScreen has been expanded to include environmental indicators associated with climate change, including wildfire hazard potential, drought, coastal flood hazard, 100-year flood plain, and sea-level rise data, and is adding training content on using these new indicators. OEJ is integrating these new indicators into EJScreen training to show the intersection between EJ and climate change impacts. OEJ will also provide consulting for programs and regions to integrate EJ into planning and implementing into their climate adaptation plans.

Smart Sectors Program

This program provides a platform to collaborate with industry sectors and develop creative solutions that better protect the environment and public health. Currently, the program works with 14 industrial sectors⁹ at the national level and includes a network of Smart Sectors programs in all 10 of EPA's

⁹ As of February 2022, the [Smart Sector Program](https://www.epa.gov/smartsectors/explore-sectors) (<https://www.epa.gov/smartsectors/explore-sectors>) is working with the following sectors: aerospace; agriculture; automotive; cement; chemical manufacturing; concrete; construction; electronics and technology; forestry, wood, and paper products; iron and steel; mining; oil and gas; ports and maritime transportation; and utilities and power generation.

regional offices. Sector leads serve as liaisons with industry stakeholders to facilitate effective communication and engagement with the agency, leading to better environmental outcomes. Key program objectives include: Meaningful collaboration at the national and regional levels with trade associations, individual companies, and other stakeholders to pursue opportunities for improved environmental performance; innovative solutions through the program's collaborative approach which provides an opportunity for government, business, and other stakeholders to explore new and better ways to achieve environmental progress; and a multi-media perspective that complements the work of EPA's land, water, air, and chemical program offices by providing sector-specific expertise and a holistic, multi-media view of industry sectors and their environmental opportunities and challenges.

Just as EPA's own facilities may be affected by the impacts of climate change, so may be those of industrial sectors. The climate impacts most relevant to a particular industrial sector are likely to vary. For example, a particular industry sector may have facilities that operate near water bodies that could be threatened by sea level rise or additional flooding risks as the climate changes. This additional risk may be significant to the sector. Accordingly, the Smart Sectors program may provide an opportunity to collaborate with industry sectors to develop creative solutions that better protect the environment and public health, even as the climate changes.

EPA Standards Executive

The EPA Standards Executive, a senior OP staff member, coordinates the agency's implementation of the National Technology Transfer and Advancement Act (NTTAA)¹⁰ and related Federal policies. NTTAA requires that agencies and departments consult with Voluntary Consensus Standards (VCS) bodies (which may be national or international) and participate with such bodies in the development of standards when consultation and participation is in the public interest and is compatible with their missions, authorities, priorities, and budgetary resources. In voluntary consensus standards development processes, agency participation can be an important contribution to ensuring balance is achieved and to assuring that VCS reflect that Federal research (including forward-looking climate data) and Federal priorities such as climate adaptation. The NTTAA also requires that agencies and departments use VCS as the basis of regulation, voluntary programs, research, procurement and other Federal activities, except where "inconsistent with applicable law or otherwise impracticable." For example, EPA regulations contain over 4,500 references to VCS and other private sector standards. In coordinating EPA's participation in standards development, the EPA Standards Executive collaborates with staff in EPA program and regional offices, other federal agencies and departments, VCS bodies such as the American National Standards Institute (ANSI), and businesses and other organizations participating in the development of voluntary standards.

¹⁰ Summary of the National Technology Transfer and Advancement Act, (<https://www.epa.gov/laws-regulations/summary-national-technology-transfer-and-advancement-act>)

Climate change presents significant challenges to VCS development, just as it has for EPA standards and regulations. VCS and other private sector standards (including model building codes) are adopted as the basis of national and local requirements for buildings, bridges, healthcare facilities and other elements of our nation’s infrastructure. Without adequately considering and incorporating future climatic conditions (e.g., more intense storms, increased flooding, sea level rise, drought, and additional wildfires), these standards may not be adequately resilient to the changing climate and therefore do not achieve their desired results. Consistent with the NTTAA, VCS and other private sector standards often become the basis of Federal and local regulations and requirements. In fact, the Government Accountability Office (GAO) published a report¹¹ recommending improved Federal coordination to facilitate use of forward-looking climate information in design standards, building codes and certifications. Under the leadership of the Standards Executive, EPA is already participating in VCS and other private sector standards where climate impacts may be significant, such as model building codes, and working collaboratively with federal partners to advance the consideration and adoption of more resilient standards and building codes.

Part 3 – Priority Actions

OP will take the following six priority actions to advance climate adaptation:

1. Lead and coordinate climate change adaptation across EPA
2. Advance climate justice through adaptation
3. Address climate risk in policies, regulations, and economic analyses
4. Build resilience through collaboration with other federal agencies
5. Work with partners across the nation to enhance adaptive capacity
6. Catalyze climate resilient investments

1. Lead and coordinate climate change adaptation across EPA

OP will lead the agency to coordinate the integration of climate adaptation across EPA’s programs, offices, and regions. OP’s Climate Adaptation Program will facilitate collaborative action across EPA to ensure human health and the environment are protected even in the face of a changing climate. This priority action will be measured by completion of the following actions:

1. Lead and coordinate climate change adaptation across EPA	
1.1 Integrate adaptation across EPA’s programs and regions	
Timeframe	FY 22 – FY 26

¹¹ GAO, Climate Change: Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certifications, Nov 30, 2016 (GAO-17-3), <https://www.gao.gov/products/gao-17-3>

FY 22 Action	Coordinate the finalization of 20 Climate Adaptation Implementation Plans across EPA's offices and regions, including OP's Climate Adaptation Implementation Plan
FY 23 Action	Complete all FY 23 actions across EPA's 20 Climate Adaptation Implementation Plans, including OP's Climate Adaptation Implementation Plan
Lead	Climate Adaptation Program
Partners	EPA Offices
Vulnerabilities Addressed	Many vulnerabilities with the risk of climate adaptation not being integrated as robustly as possible across EPA's policies, regulations, and programs
Co-Benefits	Assistance to partners, climate-ready workforce and facilities, improved measurement and tracking, science needs addressed
Resources	Existing

1. Lead and coordinate climate change adaptation across EPA	
1.2 Build EPA's adaptive capacity through resourcing the OP Climate Adaptation Program	
Timeframe	FY 22 – FY 26
FY 22 Action	Establish a Climate Adaptation Program organization within OP
FY 23 Action	Fill 80% of permanent Climate Adaptation Program staff positions
Lead	Climate Adaptation Program
Partners	OP Immediate Office
Vulnerabilities Addressed	Many vulnerabilities with the risk of climate adaptation not being integrated as robustly as possible across EPA's policies, regulations, and programs
Co-Benefits	Assistance to partners, climate-ready workforce and facilities, improved measurement and tracking, science needs addressed
Resources	New FTE

1. Lead and coordinate climate change adaptation across EPA	
1.3 Create a culture of climate resilience at EPA by facilitating collaborative, consistent, efficient, and synergistic adaptation strategies.	
Timeframe	FY 22 – FY 26
FY 22 Action	Build a climate adaptation community across EPA offices and EPA regions, facilitating the implementation of key commitments and convening the Cross-EPA Workgroup on Climate Adaptation
FY 23 Action	Produce at least one key cross-agency deliverable from each Subgroup of the Cross-EPA Workgroup on Climate Adaptation Workgroup (i.e., capacity building guidance from the Climate Resilient Investments Subgroup)
Lead	Climate Adaptation Program
Partners	OP Offices and Regions
Vulnerabilities Addressed	Many vulnerabilities with the risk of climate adaptation not being integrated as robustly as possible across EPA's policies, regulations, and programs
Co-Benefits	Assistance to partners, climate-ready workforce and facilities, improved measurement and tracking, science needs addressed
Resources	Existing

1. Lead and coordinate climate change adaptation across EPA	
1.4 Continually improve EPA’s adaptation actions through measurement and evaluation	
Timeframe	FY 23 – FY 26
FY 22 Action	Develop EPA’s climate adaptation measures tracking system
FY 23 Action	Evaluate progress on Long Term and Annual Performance Goals quarterly
Lead	Climate Adaptation Program
Partners	EPA Offices and Regions
Vulnerabilities Addressed	Unable to progress on EPA Strategic Planning measure; Unable to communicate EPA results
Co-Benefits	Assistance to partners, understanding of adaptation progress and needs, coordinated whole-of agency approach, and improved measurement and tracking
Resources	Existing resources

2. Advance climate justice through adaptation

OP will take adaptation actions that advance climate justice and the fair treatment and meaningful involvement of all communities and stakeholders that are particularly vulnerable to the impacts of climate change. This priority action will be measured by completion of the following actions:

2. Advance climate justice through adaptation	
2.1 Help communities who have environmental justice concerns use revitalization to improve their climate resilience	
Timeframe	FY 22 – FY 26
FY 22 Action	Initiate 4 community revitalization planning and technical assistance projects that focus on equity and climate adaptation
FY 23 Action	Complete the 4 FY 22 community revitalization planning and technical assistance projects and initiate 4 more that focus on equity and climate adaptation
Lead	Office of Community Revitalization
Partners	Climate Adaptation Office, Office of Environmental Justice
Vulnerabilities Addressed	Adaptive capacity of communities with environmental justice concerns
Co-Benefits	Environmental, economic, health, and equity benefits associated with community revitalization; building capacity internal and external to EPA
Resources	Existing Resources

2. Advance climate justice through adaptation	
2.2 Help tribal and indigenous communities improve their resilience while achieving other environmental, public health, and equity goals	
Timeframe	FY 22 – FY 23
FY 22 Action	Initiate 1 community revitalization planning and technical assistance project in a tribal community that focus on equity and climate adaptation

FY 23 Action	Complete the 1 FY 22 community revitalization planning and technical assistance project in a tribal community and initiate 1 new project that focuses on equity and climate adaptation
Lead	Office of Community Revitalization
Partners	Office of Tribal and Intergovernmental Affairs, Climate Adaptation Program, Office of Environmental Justice
Vulnerabilities Addressed	Adaptive capacity of tribal and indigenous communities
Co-Benefits	EPA staff capacity building; additional environmental, economic, health, and equity benefits associated with community revitalization
Resources	Existing resources

2. Advance climate justice through adaptation	
2.3 Integrate climate adaptation into EJ Screen	
Timeframe	FY 22 – FY 26
FY 22 Action	Add 2 climate-related measures to EJScreen
FY 23 Action	Complete climate training and provide consulting to at least 10 program and regional offices
Lead	Office of Environmental Justice
Partners	Office of Tribal and Intergovernmental Affairs, Climate Adaptation Program, Office of Environmental Justice
Vulnerabilities Addressed	Addressing needs of most vulnerable
Co-Benefits	EPA and partner capacity
Resources	Existing resources

2. Advance climate justice through adaptation	
2.4 Focus on communities and individuals that are particularly vulnerable to climate change	
Timeframe	FY 22 – FY 26
FY 22 Action	Facilitate the inclusion of EJ measures in all programmatic and regional Climate Adaptation annual performance goals and measure results
FY 23 Action	Facilitate the inclusion of EJ measures in all programmatic and regional Climate Adaptation annual performance goals and measure results
Lead	Climate Adaptation Program
Partners	Office of Environmental Justice
Vulnerabilities Addressed	Addressing needs of most vulnerable
Co-Benefits	Increased EPA staff environmental justice capacity
Resources	Existing

2. Advance climate justice through adaptation	
2.5 Integrate environmental justice into EPA’s Adaptation Resource Center (ARC-X)	
Timeframe	FY 22 – FY 23
FY 22 Action	Develop and publish at least 3 EJ case studies in the ARC-X system
FY 23 Action	Add at least an additional 5 EJ case studies in the ARC-X system
Lead	Climate Adaptation Program
Partners	Office of Environmental Justice
Vulnerabilities Addressed	Building capacity to address the needs of those most vulnerable to climate impacts
Co-Benefits	building capacity internal and external to EPA
Resources	Existing

3. Address climate risk in policies, regulations, and economic analyses

OP will integrate climate change risk and adaptation considerations across EPA’s policies, regulations, and economic analyses. Integrating climate considerations into these key responsibilities will build resilience through EPA policy and regulations ensuring clean air, clean water, clean land, and chemical safety as the climate continues to change. This priority action will be measured by completion of the following actions:

3. Address climate risk in policies, regulations, and economic analyses	
3.1 Integrate adaptation considerations into EPA’s regulatory process	
Timeframe	FY 22 – FY 23
FY 22 Action	Develop climate adaptation questions to ask during rule development
FY 23 Action	Consult four of EPA’s major regulatory programs on the use of climate adaptation questions to ask during rule development
Lead	Office of Regulatory Policy and Management
Partners	Climate Adaptation Program and all EPA regulatory programs
Vulnerabilities Addressed	Climate risk not adequately considered in regulations
Co-Benefits	More resilient regulatory programs, rule writers able to consider climate impacts
Resources	Existing resources

3. Address climate risk in policies, regulations, and economic analyses	
3.2 Build adaptive capacity across EPA’s rule writing community	
Timeframe	FY 22 – FY 26
FY 22 Action	Develop climate adaptation training for rule writers
FY 23 Action	Conduct and record the climate adaptation for rule writers training and make available internally to EPA staff, and integrate adaptation considerations into EPA’s rule development guidance and processes
Lead	Office of Regulatory Policy and Management
Partners	Climate Adaptation Program and all EPA regulatory programs

Vulnerabilities Addressed	Climate risk not adequately considered in regulations
Co-Benefits	More resilient regulatory programs, rule writers able to consider climate impacts
Resources	Existing resources

3. Address climate risk in policies, regulations, and economic analyses	
3.3 Develop technical guidance for EPA's rule writing community	
Timeframe	FY 22 – FY 23
FY 22 Action	Work with the Regulatory Steering Committee to assess needs and opportunities related to incorporating climate adaptation into regulatory programs
FY 23 Action	Work with EPA programs to develop a quick start guide for considering climate adaption in rulemaking with case studies from recent rules
Lead	Office of Regulatory Policy and Management
Partners	Climate Adaptation Program and all EPA regulatory programs
Vulnerabilities Addressed	Climate risk not adequately considered in regulations
Co-Benefits	More resilient regulatory programs, rule writers able to consider climate impacts
Resources	Existing resources

3. Address climate risk in policies, regulations, and economic analyses	
3.4 Integrate adaptation considerations into EPA permitting	
Timeframe	FY 22 – FY 23
FY 22 Action	Catalogue EPA's Permitting Program and Regional Offices' commitments to addressing climate adaptation in permitting
FY 23 Action	Generate an inventory of Permitting Program and Regional Offices' climate adaptation initiatives within their permitting programs, and identify adaptation recommendations for these offices
Lead	Office of Federal Activities
Partners	Permitting Program Offices and Regional Offices
Vulnerabilities Addressed	Ineffective permits
Co-Benefits	More resilient permitting outcomes
Resources	Existing

3. Address climate risk in policies, regulations, and economic analyses	
3.5 Account for climate risk in economic analyses	
Timeframe	FY 22 – FY 26
FY 22 Action	Assess points in EPA's economic analysis where accounting for climate change risks and adaptation may provide important insights
FY 23 Action	Based on the FY 22 analysis, investigate opportunities to further incorporate or improve the representation of climate change risks and adaptation considerations into EPA's economic modeling

Lead	National Center for Environmental Economics
Partners	Office of Air and Radiation Climate Economics Branch
Vulnerabilities Addressed	Climate Change risk to the economy
Co-Benefits	Increased understanding of the nexus between climate resilience and economic analysis
Resources	Existing

4. Build resilience through collaboration with other federal agencies

EPA is working with federal partners to provide a coordinated whole-of-government approach to building climate resilience. EPA will continue to work closely with other federal agencies to build resilience into the disaster recovery process, address acute extreme weather events like extreme heat and floods, facilitate the adoption of resilient codes and standards, and review the climate implications of federal actions related to National Environmental Policy Act compliance. This priority action will be measured by completion of the following actions:

4. Build resilience through collaboration with other federal agencies	
4.1 Work in concert with other federal agencies to ensure a coordinated whole-of government approach to climate change adaptation	
Timeframe	
FY 22 Action	Lead EPA’s engagement and actions with federal interagency working groups to build national resilience to extreme heat, drought, wildfire, flood, and coastal risk
FY 23 Action	Lead EPA’s engagement and actions with federal Interagency Working Groups to build national resilience to extreme heat, drought, wildfire, flood, and coastal risk
Lead	Climate Adaptation Program
Partners	Climate Adaptation Program, Office of Community Revitalization, Office of Water, Office of Air and Radiation, and Office of Research and Development
Vulnerabilities Addressed	Partner capacity
Co-Benefits	Whole of government approach
Resources	Existing

4. Build resilience through collaboration with other federal agencies	
4.2 Advance the adoption and enforcement of resilient codes and standards working in partnership with the federal interagency	
Timeframe	FY 22 – FY 23
FY 22 Action	Conduct a scoping assessment to determine which model building codes, Voluntary Consensus Standards, and other private sector standards have the most potential for climate change adaptation and mitigation

FY 23 Action	Based on the scoping assessment, outline what actions EPA will take in relationship to these standards and implement these actions
Lead	EPA Standards Executive
Partners	The federal interagency natural hazard “Mitigation Framework Leadership Group” (MitFLG) chaired by FEMA, and EPA’s Climate Adaptation Program and Office of Community Revitalization
Vulnerabilities Addressed	Lack of climate considerations in standard setting efforts
Co-Benefits	Building partner capacity
Resources	Existing

4. Build resilience through collaboration with other federal agencies	
4.3 Enhance consideration of climate adaptation in EPA's review of other agency National Environmental Policy Act (NEPA) documents and in EPA's NEPA compliance	
Timeframe	FY 22 – FY 23
FY 22 Action	Pilot new NEPA/CAA 309 metrics to track frequency of commenting on climate change and environmental justice related impacts, including climate adaptation, in review of other agencies EISs. Identify types of best management practices shared by regions with other federal agencies to integrate climate change considerations, including climate adaptation.
FY 23 Action	Implement new FY23 metrics to track frequency of commenting on climate change and environmental justice related impacts, including climate adaptation, in review of other agencies EISs. Identify types of best management practices shared by regions with other federal agencies to integrate climate change considerations, including climate adaptation. Based on feedback from metrics, identify actions needed to assist EPA NEPA/309 reviewers.
Lead	Office of Federal Activities
Partners	Climate Adaptation Program
Vulnerabilities Addressed	Climate considerations in NEPA reviews and EPA’s compliance with NEPA
Co-Benefits	Climate mitigation, EPA capacity building
Resources	Existing

5. Work with partners across the nation to enhance adaptive capacity

OP will work with partners to ensure that EPA’s climate change activities will be as effective as possible. OP will consult with state, local, and tribal governments on EPA’s resilience efforts. OP will also work with communities and industry to build adaptive capacity while driving consistent resilience and sustainability actions through codes and standards. This priority action will be measured by completion of the following actions:

5. Work with partners across the nation to enhance adaptive capacity	
5.1 Help communities incorporate climate adaptation considerations into community planning and development	
Timeframe	FY 22 – FY 23
FY 22 Action	Increase by 50% the number of community revitalization planning and technical assistance projects that consider climate adaptation as part of the project
FY 23 Action	Increase by additional 50% the 2021 baseline number of community revitalization planning and technical assistance projects that consider climate adaptation as part of the project
Lead	Office of Community Revitalization
Partners	Climate Adaptation Program, EPA Regions
Vulnerabilities Addressed	Partner adaptive capacity
Co-Benefits	Increased partner capacity; community revitalization; economic development; additional environmental, health, and equity benefits
Resources	Existing Resources

5. Work with partners across the nation to enhance adaptive capacity	
5.2 Build adaptive capacity by deploying EPA’s Adaptation Resource Center (ARC-X)	
Timeframe	FY 22 – FY 23
FY 22 Action	Finalize the ARC-X "Tailor Your Search" feature application to simplify the transfer of code and content to external partners
FY 23 Action	Work with two partner universities to adopt and develop two new State-level ARC-X based systems
Lead	Climate Adaptation Program
Partners	EPA Offices and Regions, Office of Congressional and Intergovernmental Affairs
Vulnerabilities Addressed	Partner adaptive capacity
Co-Benefits	Increased partner capacity
Resources	Existing resources

5. Work with partners across the nation to enhance adaptive capacity	
5.3 Advance climate adaptation with industry sectors through supporting the development and adoption of resilient codes and standards	
Timeframe	FY 22 – FY 23
FY 22 Action	From an industry sector perspective, coordinate with EPA’s Standards Executive and EPA programs on a scoping assessment to determine which Voluntary Consensus Standards have the most potential to support industry in their climate adaptation goals
FY 23 Action	Based on the scoping assessment, outline what actions EPA will take in relationship to these standards with industry sector partners and implement these actions
Lead	Smart Sectors Program
Partners	EPA Standards Executive, Climate Adaptation Program, EPA programs

Vulnerabilities Addressed	Lack of climate considerations in key sector-based areas
Co-Benefits	Industry sector adaptive capacity building
Resources	Existing

6. Catalyze climate resilient investments

The Bipartisan Infrastructure Law (BIL) is a historic investment in the water infrastructure improvements, pollution cleanup initiatives, and workforce opportunities necessary to transform communities around the country. The newly enacted Inflation Reduction Act (IRA) will also provide support for equitable investment and climate-resilient communities. With this significant influx of funding from BIL and IRA, it will be more important than ever for EPA – and our state, tribal, and local partners – to invest in resilient infrastructure projects that withstand climate change for decades to come. OP will coordinate across EPA’s Offices to support the programs that received BIL and IRA funding with encouraging resilient infrastructure outcomes across the country. In partnership with the other Offices, OP will also broadly work to strategically integrate climate change considerations throughout the agency’s financial assistance programs (e.g., grants, loans, cooperative agreements) to achieve climate-smart investments. This priority action will be measured by completion of the following actions:

6. Catalyze climate resilient investments	
6.1 Promote climate-resilient investments across EPA’s financial assistance programs, with an emphasis on Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) investments	
Timeframe	FY 22 – FY 26
FY 22 Action	Direct all EPA financial assistance programs, with a special emphasis on BIL and IRA funded programs, to integrate climate adaptation throughout EPA’s investment portfolio
FY 23 Action	Identify and share approaches to integrate climate-related specifications into the funding and financing programs that received appropriations from BIL and IRA in partnership with EPA programs and regions
Lead	Climate Adaptation Program
Partners	Office of Policy, Climate Adaptation Program, and EPA BIL and IRA funded programs
Vulnerabilities Addressed	Climate risk to EPA’s financial assistance portfolio
Co-Benefits	Enhanced adaptive capacity internal and external to EPA
Resources	Existing resources

6. Catalyze climate resilient investments	
6.2 Facilitate internal coordination and communication to integrate adaptation into EPA's investments	
Timeframe	FY 22 – FY 26
FY 22 Action	Stand up a Sub-group of the Cross-EPA Workgroup on Climate Adaptation to promote internal coordination and provide cross-office support to advance resilient infrastructure
FY 23 Action	Develop and implement the key actions to drive climate resilient investments through EPA's BIL and IRA funded programs
Lead	Climate Adaptation Program
Partners	Office of Community Revitalization, EPA Offices and Regions, and EPA BIL and IRA funded programs
Vulnerabilities Addressed	Partner adaptive capacity
Co-Benefits	Increased partner capacity
Resources	Existing resources

6. Catalyze climate resilient investments	
6.3 Scale-up adaptation-related technical assistance and decision support for federal funding recipients	
Timeframe	FY 22 – FY 26
FY 22 Action	Assess decision support needs of potential funding recipients regarding application eligibilities and guidelines, eligible project types, and EPA's technical assistance programs
FY 23 Action	Work with EPA's programs and regions to develop and regularly share decision support materials and technical assistance opportunities with the beneficiaries of federal funding
Lead	Climate Adaptation Program
Partners	Office of Community Revitalization, EPA Offices and Regions, and EPA BIL and IRA funded programs
Vulnerabilities Addressed	Partner adaptive capacity
Co-Benefits	Increased partner capacity
Resources	Existing resources

6. Catalyze climate resilient investments	
6.4 Build the adaptive capacity of EPA's financial assistance staff and EPA's funding recipients	
Timeframe	FY 22 – FY 26
FY 22 Action	Assess training needs on how to integrate climate change considerations into projects
FY 23 Action	Finalize one training for federal funding recipients on how to integrate adaptation into their projects
Lead	Climate Adaptation Program
Partners	EPA Offices and Regions, and EPA BIL and IRA funded programs

Vulnerabilities Addressed	Partner adaptive capacity
Co-Benefits	Increased partner capacity
Resources	Existing resources

Part 4 – Training Plan

For OP to be successful, staff must understand the challenges presented by climate change to the agency’s mission, especially to the programs and activities for which OP is responsible. To ensure staff can craft and adopt new means of achieving program goals, even as the climate changes, OP will undertake several steps to increase the adaptive capacity of its staff.

Specifically, all OP offices will take actions to: (1) ensure staff understand how climate change affects EPA’s mission of protecting human health and the environment; (2) engage staff on how climate change affects the specific policies, programs, and activities for which they are responsible; and (3) require targeted training for staff fulfilling particular roles, including on how to use new decision-support tools. The following table summarizes OP’s Training Plan, recognizing that the plan will need to evolve over time to reflect the additional training opportunities.

4.1 Climate Adaptation Training Plan

Office of Policy Climate Adaptation Training Plan			
Training Name	Developed	Delivered	Staff to be Trained
Training Module 1: How climate change affects EPA’s mission			
Office of Policy Climate Adaptation Introductory Training (Internal)	Fall 2022	Spring 2023	All Office of Policy (mandatory for new hires within 6 months)
Training Module 2: How climate change affects specific EPA policies, programs, and activities			
Introduction to the OP Climate Adaptation Implementation Plan	Fall 2022	Spring 2023	All Office of Policy
Training Module 3: Specific climate change related roles and decision-support tools			
Climate Adaptation for Rule Writers	Fall 2022	Fall 2022	Office of Regulatory Policy and Management Climate Adaptation Program
EJScreen for Climate Change	Fall 2022	Summer 2023	Office of Policy Analytic Staff and Climate Adaptation Program

4.2 Tracking Training Plan Progress

OP will monitor and assess staff participation and achievement of its Training Plan. The following table establishes the goals for staff training for each element of the OP Training Plan. The training schedule and targets will be updated as training modules become available by program offices.

Office of Policy Climate Adaptation Training Targets			
Training Name	FY 22 Target	FY 23 Target	FY 24 Target
Training Module 1: How climate change affects EPA’s mission			
Office of Policy Climate Adaptation Introductory Training (Internal)	Training Developed	100% of Staff Trained	100% of New Hires Trained
Training Module 2: How climate change affects specific EPA policies, programs, and activities			
Introduction to the OP Climate Adaptation Implementation Plan	Plan Finalized	100% of Relevant Staff Trained	100% of Relevant Staff Trained
Training Module 3: Specific climate change related roles and decision-support tools			
Climate Adaptation for Rule Writers	Training Developed	Available to 100% of relevant rule writing workgroup members	Available to 100% of relevant rule writing workgroup members
EJScreen for Climate Change	Fall 2022	100% of Relevant Staff Trained	100% of Relevant Staff Trained

Part 5 – Science Needs

To support efforts to oversee regional and program office Implementation Plans, OP will coordinate with ORD in an effort to ensure updates to climate science (e.g., updates and revisions to the National Climate Assessment) are “actionable” and available to program offices in a timely and useable manner.

OP will continue to advance science efforts that support development of Decision-Support Tools that Enable EPA Staff and Partners to Integrate Climate Adaptation Planning into their Work. Many standard analytical practices may be less effective unless they account for climate change. For example, standard methods used for estimating the probability and expected frequency of floods for floodplain mapping, designing infrastructure, and estimating runoff of pollutants and sediments entering rivers and streams are based on historical data rather than scientifically credible expectations of future conditions. EPA and its partners need to alter their standard practices and decision routines to account for a continuously changing climate and how climate change will disproportionately affect certain communities.

The development of decision-support tools plays a central role in EPA and our stakeholder’s efforts to adapt to climate change. OP encourages ORD to follow recommendations of the National Research Council when developing decision-support tools to improve the quality and efficacy of decisions sensitive to climate change and related environmental justice considerations. These tools will empower

EPA staff and their partners to consider climate, as well as changes in social and economic conditions that are influenced by climate change. These tools will enable staff to integrate climate adaptation and justice considerations into their work and decision-making processes. Priority should be given to the development of tools that support the agency's direct program implementation requirements and benefit multiple end users within and outside EPA.

OP's National Center for Environmental Economics is at the forefront of scientific efforts to express climate change's impacts in monetary terms. Through NCEE's ongoing work on the social cost of greenhouse gases), OP will continue providing rigorous, peer reviewed science documenting the economic benefits accruing from a marginal reduction in greenhouse gas emissions. These same estimates also illuminate the potential value of additional climate adaptation actions, and improved opportunities for climate adaptation.

More assessable and actionable local data and information would help specific localities better anticipate, prepare for, adapt to, or recover from the impacts of climate change and resulting societal impacts. OP is interested in exploring with ORD and programs and regions the most relevant information needed by localities and helping to identify potential ways to deliver that information (e.g., inclusion in the ARC-X, and usefulness to EPA's funding recipients in their projects).

Adapting to the changing climate provides an opportunity to advance nature-based actions and solutions in regulatory, permitting, and community-based assistance efforts. OP is interested in working with ORD to identify relevant nature-based solutions and helping to identify potential ways to deliver that information (e.g., inclusion in the ARC-X).

Conclusion

The Office of Policy (OP) plays a vital role in helping EPA continue to meet its mission of protecting human health and the environment, even as the climate changes. OP leads and guides adaptation activities across EPA's regions and program offices through its responsibilities as the home office to the *EPA Senior Climate Adaptation Official* and Chair of the *Cross-EPA Workgroup on Climate Adaptation*. OP also works collaboratively and in partnership with colleagues across EPA, other federal agencies, partners, and stakeholders to advance EPA's core mission on critical activities and priorities such as regulatory policy and management, environmental economics, community revitalization, environmental justice, National Environmental Policy Act (NEPA) compliance, environmental permitting, stakeholder engagement with key economic sectors, and working with national and international standards setting organizations.

In executing its roles and responsibilities, OP is sensitive to the wide-ranging vulnerabilities identified in the Action Plan including those related to air quality, water quality, contaminated sites, chemical safety and pollution prevention, as well as to the limitations in the adaptive capacity and resilience of our partners, the disproportionate impacts climate change has on certain communities, and the costs associated with implementing changes. OP takes these responsibilities seriously and works in partnership with our colleagues to ensure adequate resources are available to do this vital work.