

White House Environmental Justice Advisory Council Recommendations: Climate Planning, Preparedness, Response, Recovery and Impacts Workgroup

Recommendations | 20 September 2023

Prepared by:

White House Environmental Justice
Advisory Council Climate Planning,
Preparedness, Response, Recovery and
Impacts Workgroup

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Disclaimer

This report of recommendations has been written as part of the activities of the WHEJAC, a public advisory committee providing independent advice and recommendations on the issue of environmental justice to the Administrator, The Council of Environmental Quality (CEQ) and other officials of the White House. In addition, the materials, opinions, findings, recommendations, and conclusions expressed herein, and in any study or other source referenced herein, should not be construed as adopted or endorsed by any organization with which any Workgroup member is affiliated. This report has not been reviewed for approval by the EPA or CEQ, and hence, its contents and recommendations do not necessarily represent the views and the policies of the EPA or CEQ, nor of other agencies in the Executive Branch of the Federal government.

White House Environmental Justice Advisory Council Members

- Richard Moore, Los Jardines Institute (WHEJAC Co-Chair)
- Peggy Shepard, WEACTION for Environmental Justice (WHEJAC Co-Chair)
- Carletta Tilousi, Havasupai Tribe (WHEJAC Vice-Chair)
- Catherine Coleman Flowers, Center for Rural Enterprise and Environmental Justice (WHEJAC Vice-Chair)
- Angelo Logan, East Yard Communities for Environmental Justice
- Rachel Morello-Frosch, PhD, University of California, Berkeley
- Viola Waghiyi, Alaska Community Action on Toxics
- Miya Yoshitani, Asian Pacific Environmental Network
- Kim Havey, City of Minneapolis
- Kyle Whyte, PhD, University of Michigan
- Tom Cormons, Appalachian Voices
- LaTricea Adams, Black Millennials for Flint
- Harold Mitchell, ReGenesis
- Beverly Wright, PhD, Deep South Center for Environmental Justice
- Susana Almanza, People Organized in Defense of Earth and Her Resources
- Jade Begay, NDN Collective
- Robert Bullard, PhD, Texas Southern University
- Juan Parras, Texas Environmental Justice Advocacy Services
- Maria Belen Power, Commonwealth of Massachusetts
- Jerome Foster II, Waic Up
- Maria López-Núñez, Ironbound Community Corporation
- Michele Roberts, Environmental Justice and Health Alliance for Chemical Policy Reform
- Nicky Sheats, PhD, Esq., Kean University
- Ruth Santiago, Esq., Comité Dialogo Ambiental

Audrie Washington, Designated Federal Officer, U.S. Environmental Protection Agency,
Office of Environmental Justice and External Civil Rights

WHEJAC Climate Planning, Preparedness, Response, Recovery, and Impacts Workgroup Members

- Maria López-Núñez, Ironbound Community Corporation (Workgroup Co-Chair)
- Miya Yoshitani, Asian Pacific Environmental Network (Workgroup Co-Chair)
- Beverly Wright, PhD, Deep South Center for Environmental Justice
- Hli Xyooj, Advancement of Hmong Americans
- Jade Begay, NDN Collective
- Juan Parras, Texas Environmental Justice Advocacy Services
- Kyle Whyte, PhD, University of Michigan
- Maria Belen Power, Executive Office of Energy and Environmental Affairs, Massachusetts
- Michele Roberts, Environmental Justice and Health Alliance for Chemical Policy Reform
- Nicky Sheats, PhD, Kean University
- Peggy Shepard, WE ACT for Environmental Justice
- Ruth Santiago, Comité Dialogo Ambiental
- Viola Waghiyi, Alaska Community Action on Toxics

WHITE HOUSE ENVIRONMENTAL JUSTICE ADVISORY COUNCIL

Members:

*Richard Moore,
Co-Chair*

September 20, 2023

*Peggy Shepard,
Co-Chair*

*Catherine Coleman
Flowers,
Vice Chair*

The Honorable Ms. Brenda Mallory, Chair
The Council on Environmental Quality
Executive Office of the President
Washington, DC 20500

*Carletta Tilousi,
Vice Chair*

Dear Chair Mallory:

LaTricea Adams

Susana Almanza

Jade Begay

Maria Belen Power

Dr. Robert Bullard

Tom Cormons

Jerome Foster II

Kim Havey

Angelo Logan

Maria Lopez-Nunez

Harold Mitchell

*Dr. Rachel
Morello-Frosch*

Juan Parras

Michele Roberts

Ruth Santiago

Dr. Nicky Sheats

Viola Waghiyi

Dr. Kyle Whyte

Dr. Beverly Wright

Miya Yoshitani

The White House Environmental Justice Advisory Council (WHEJAC) enthusiastically submits its final report to you and President Biden. The WHEJAC was tasked to provide advice and recommendations to the Environmental Justice Interagency Council and the Chair of the Council on Environmental Quality on a whole-of-government approach to environmental justice (EJ), including climate change mitigation, resilience, and disaster management. More specifically, we were invited to give recommendations on federal disaster preparedness and relief, community climate planning, health impacts, housing, clean energy, and relocation.

Given the magnitude of the climate crises we face in environmental justice communities today, WHEJAC took this charge extremely seriously, but want to note that our recommendations cannot be considered comprehensive. We consider our recommendations to be more a starting point for the much more transformational approach that is required to truly address the problem.

We also want to establish that while the WHEJAC was originally asked to advise on community climate “resilience” as part of our charge, we deliberately chose to use different language. There is a long history of using the term “resilient” to describe communities facing historic and ongoing inequalities as inherently resilient. Community resiliency should not be an excuse for denying support, policy change, or comprehensive investment in communities. This resilience should not be exploited to avoid accountability on the part of the government. We understand that many communities have experienced their needs being ignored and other harm from the misuse of that term. We attempted to be more precise in just interventions necessary in a time of climate disaster.

It is surprising to no one that we are currently experiencing the hottest average global temperature on record. Climate change presents an existential threat to life on the planet and is a threat multiplier in communities already living under the burdens of poverty, pollution, racism, and inequality in all forms. The communities most impacted by existing inequality in housing, education, health, mental health, access to healthy food, transportation, clean water, clean air, clean energy, fair wages, and other basic rights also face the greatest risks to the many destructive manifestations of climate change. Heat waves, drought, floods, hurricanes, wildfires, snowstorms, and rising sea levels lead to displacement, energy interruptions, food shortages, housing shortages, economic loss, health burdens and loss of

life. The people least prepared to withstand the many threats posed by climate disaster are the most vulnerable to its impacts.

As well as the detailed recommendations outlined in our response to the charge questions posed to the WHEJAC, we urge you to consider the following overarching guidance:

Preventing climate disaster starts with ending the role of government in subsidizing, permitting, and supporting fossil fuel extraction and infrastructure that is causing climate disaster in the first place.

The most effective way to stop the advance of climate change and the increasingly dire impact on marginalized communities is to directly regulate climate pollution, adopt precautionary-based chemicals management systems that require a shift towards banning toxic chemicals and favor safe solutions, and accelerate a managed decline of fossil fuel infrastructure while advancing a just transition for workers and communities.

The actions taken by Federal agencies and the White House to respond to climate disasters must not further or exacerbate the harm to vulnerable communities and populations. Disaster relief should never be the cause of deepening inequality in any neighborhood, region, or Tribal community.

Communities facing the greatest inequalities in our country have the most knowledge about the solutions that work the best for them. These communities must be at the center of any climate disaster response and climate preparedness planning and must be meaningfully engaged and financially supported as decision makers in their own future.

Federal Agencies should develop and utilize a climate vulnerability mapping tool (i.e., a tool that uses Census tract-level data to identify communities and assess cumulative impacts of vulnerability) to ensure planning, preparedness, adaptation, and infrastructure resources are being directed to and getting to the most impacted communities.

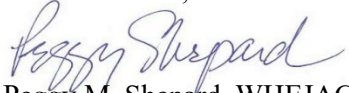
In addition to flooding, wildfires, droughts, storms, etc., ensure that heatwaves and heat disasters are explicitly included as climate related natural disasters, and that federal agencies include research, planning, adaptation, and preparedness to mitigate the impacts of increased heat on vulnerable communities, including workers.

We look forward to your swift response to our recommendations.

Sincerely,



Richard Moore, WHEJAC Co-Chair



Peggy M. Shepard, WHEJAC Co-Chair

cc: Members of the WHEJAC
Michael S. Regan, EPA Administrator
Dr. Jalonne L. White-Newsome, Senior Director for Environmental Justice, CEQ
Corey Solow, Senior Advisor to the Chair, CEQ
Ryan Hathaway, Director, White House Environmental Justice Interagency Council
Audrie Washington, Designated Federal Officer, EPA

About the WHEJAC

Through President Biden’s Executive Order 14008, titled Tackling the Climate Crisis at Home and Abroad, the White House Environmental Justice Advisory Committee (WHEJAC) was established to advise the Chair of The Council of Environmental Quality (CEQ) and the White House Environmental Justice Interagency Council (WHEJIC) to increase the Federal Government’s efforts to address environmental injustice. The WHEJAC’s efforts will include a broad range of strategic, scientific, technological, regulatory, community engagement, and economic issues related to environmental justice.

This Council advises on how to increase the Federal Government’s efforts to address current and historic environmental injustice through strengthening environmental justice monitoring and enforcement. The duties of the WHEJAC are to provide advice and recommendations to the WHEJIC and the Chair of the CEQ on a whole-of-government approach to environmental justice, including, but not limited, to environmental justice in the following areas:

- Climate Change Mitigation, Resilience, and Disaster Management
- Toxics, Pesticides, and Pollution Reduction in Overburdened Communities
- Equitable Conservation and Public Lands Use
- Tribal and Indigenous Issues
- Clean Energy Transition
- Sustainable Infrastructure, Including Clean Water, Transportation, and the Built Environment
- NEPA, Enforcement and Civil Rights
- Increasing the Federal Government’s Efforts to Address Current and Historic Environmental Injustice

Acronyms

WHEJAC	White House Environmental Justice Advisory Committee
BRIC	Building Resilient Infrastructure and Communities
CDC	U.S. Centers for Disease Control and Prevention
CEQ	Council on Environmental Quality
CERT	Community Emergency Response Team
DOI	Department of Interior
EJ	Environmental Justice
EJI	Environmental Justice Index
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
HUD	Department of Housing and Urban Development
IRA	Inflation Reduction Act
SVI	Social Vulnerability Index
USDA	United States Department of Agriculture

Glossary of Key Terms

Acequia Dredging	Dredging of a small channel that conducts water, especially for irrigation.
Clean Energy	Energy generated from recyclable sources without emitting greenhouse gases or other air pollutants (e.g., criteria pollutants, hazardous air pollutants like lead and mercury, and volatile organic compounds). Clean energy sources include wind, solar, tidal, and geothermal power. Clean energy sources do not include fracked gas, carbon capture, biomass, biogas, incineration, or nuclear power, as these false solutions have harmed communities and have no place in an environmentally just future.
Climate Vulnerability	The degree to which natural, built, and human systems are at risk of exposure to climate change impacts.
Disproportionate Impacts	Situations of concern where there exists significantly higher and more adverse health and environmental effects on of color populations, low-income populations, or indigenous peoples.
Emergency Planning and Community Right-to-Know Act	This Act, passed in 1986, is designed to help communities plan for chemical emergencies. It requires industry to report on the storage, use, and releases of certain chemicals to federal, state, tribal, territorial, and/or local governments. It also requires these reports to be used to prepare for and protect their communities from potential risks.
Environmental Justice (EJ)	Environmental justice is the resolution to the harms caused by environmental violence and racism that have resulted in the disproportionate toxic burden on communities of color, communities experiencing low income, and frontline communities throughout the U.S. and its territories. Environmental justice is the right and dignity of all people, regardless of race, class, gender, ability, national origin or immigration status, to a clean, healthy, and just environment where they live, subsist, work, go to school, and where they pray, and it is the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
Food Security	Having, at all times, both physical and economic access to sufficient food to meet dietary and cultural needs for a productive and healthy life. A family is food secure when its members do not live in hunger or fear of hunger.
Green Bank	Public, quasi-public, or nonprofit financing entities that leverage public and private capital to pursue goals for clean energy projects that reduce emissions.

Indigenous Peoples	State-recognized Tribes; indigenous and tribal community-based organizations; individual members of federally recognized Tribes, including those living on a different reservation or living outside Indian country; individual members of state-recognized Tribes; Native Hawaiians; Native Pacific Islanders; and individual Native Americans.
Justice 40	Executive Order 14008 outlines the Justice 40 initiative, which mandates that at least 40% of the benefits of certain federal programs must flow to disadvantaged communities. Justice40 is a whole-of-government approach and is jointly led by the Council on Environmental Quality (CEQ), Office of Management and Budget (OMB), and the White House Office of Domestic Climate Policy, along with the White House Environmental Justice Interagency Council that is convened by CEQ. Learn more about the Biden-Harris Administration’s Justice40 Initiative (U.S. EPA, 2023).
Just Transition	A vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy. This means approaching production and consumption cycles holistically and waste-free. The transition itself must be just and equitable, redressing past harms and creating new relationships of power for the future through reparations. If the process of transition is not just, the outcome will never be. Just Transition describes both where we are going and how we get there (Climate Justice Alliance, 2023).
Low-Income	Populations characterized by limited economic resources. The US Office of Management and Budget has designated the Census Bureau’s annual poverty measure as the official metric for program planning and analysis, although other definitions exist.
Meaningful Involvement	Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; the public's contribution can influence the regulatory agency's decision; the concerns of all participants involved will be considered in the decision-making process; the decision makers seek out and facilitate the involvement of those potentially affected.
Minority Community	According to the U.S. Census Bureau, population of people who are not single-race white and not Hispanic. Populations of individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
Natural Disaster	Natural disasters include all types of severe weather, which have the potential to pose a significant threat to human health and safety, property, critical infrastructure, and homeland security. Natural disasters include earthquakes, landslides and mudslides, volcano

	activity, extreme heat (relative to local context), lightning, wildfires, floods, tornadoes, winter weather, hurricanes, tsunamis.
Overburdened Community	Of color, low-income, tribal, or indigenous populations or geographic locations in the United States (U.S.) that potentially experience disproportionate environmental harms and risks. This disproportionality can be as a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places. The term describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities.
Peaker Plant	A power plant that can turn on and off very quickly to meet temporary peaks in electricity demand. Peaker power plants are usually located close to load (people and businesses) and are typically fueled by oil or natural gas (methane).
Preparedness (Prevention, Protection, Mitigation)	Climate preparedness involves strategies to prevent, protect, and mitigate against harmful climate events. <ul style="list-style-type: none"> • Prevention: The ability to avoid, prevent, or stop an imminent threat. • Protection: The ability to secure and protect a community against a variety of threats and hazards. • Mitigation: The ability to reduce the loss of life and property by lessening the impact of a disaster.
Pyrolysis	Pyrolysis is the heating of an organic material, such as biomass, in the absence of oxygen. It is one of the technologies available to convert biomass to an intermediate liquid product that can be refined to drop-in hydrocarbon biofuels, oxygenated fuel additives and petrochemical replacements.
Tribe	Federally recognized Tribes include any Indian or Alaska Native Tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian Tribe pursuant to the Federally Recognized Indian Tribe List Act of 1944, 25 U.S.C.479a. All uses of Tribe will be for federally recognized Tribes, unless specifically stated otherwise within the document.
Refuse-derived fuel	Fuel produced from various types of waste such as municipal solid waste (MSW), industrial waste or commercial waste.
Recovery	The ability to assist communities in recovering effectively following a disaster.

Resiliency Hub

Community-serving facilities augmented to support residents, coordinate communication, distribute resources, and reduce pollution while enhancing quality of life before, during, and after disaster.

Response

The ability to save lives, protect property and the environment, as well as meet the basic needs of a community during a disaster.

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Introduction and Charge Overview

WHEJAC Climate Planning, Preparedness, Response, Recovery and Impacts Workgroup Charge

Provide advice and recommendations to the Environmental Justice Interagency Council and the Chair of the Council on Environmental Quality on a whole-of-government approach to environmental justice (EJ), including climate change mitigation, resilience, and disaster management.

Federal Disaster Preparedness and Relief

What type of support is needed for disadvantaged communities to participate in Federal disaster preparedness or relief programs? What process steps and information would help eliminate these disparities? How can Federal disaster relief and aid programs better serve disadvantaged communities that have historically received fewer Federal benefits?

Community Climate Planning

What steps can Federal agencies and the White House take to reduce disparities in climate change impacts for communities, including but not limited to risks from extreme heat, flood, wildfire, drought, hurricanes, and coastal challenges?

Health Impacts

Adverse health impacts from a changing climate disproportionately affect disadvantaged communities. What are the policies or programs that can address adverse health impacts, including mental health impacts, before, during, and after extreme climate events?

Housing

What steps can Federal agencies take to ensure that our nation's housing provides security and climate resilience for all Americans?¹ How can policies and funding decisions promote better land-use planning,

¹ We understand that “resilience” means being able to restore or get back to an original state prior to a disaster or emergency (in this context). The problem is that the “original state” of most EJ, overburdened, or otherwise disadvantaged communities is not good. So, getting back to what existed prior to a disaster is not necessarily going to solve underlying issues of disparity due to environmental injustice or overburdening. This is why the term ‘resilience’ is not ideal. Instead, we’d like to talk about access to environmental amenities, like clean air, water, land, and open spaces that communities should have. In a disaster context, we would like to create sustainable development.

construction codes and standards, renovation of substandard housing, energy efficiency, and lifeline connectivity to critical services?

Clean Energy

The generation and storage of renewable energy on-site or at the community scale can provide energy security and climate resilience. How can agency policies and programs be amended to allow for, fund, and/or encourage renewable energy installation and storage, safer chemicals and processes?

Relocation

What steps can Federal agencies take to address community driven relocation that makes them “whole” and support a community’s interest for relocation from a natural disaster and/or facility explosion, legacy overburdened pollution impacts and/ or climate change?

In addition, we consistently ask the most vulnerable and overburdened groups to be resilient, placing the burden of recovery on already disadvantaged or EJ communities with respect to environmental conditions. We are proposing to deal with legacy issues in addition to the damage caused by a disaster, i.e., the cumulative impacts in those communities. Not all communities start from the same place or are impacted in the same ways by a disaster.

Recommendations

The Climate Planning, Preparedness, Response, Recovery and Impacts Workgroup (hereafter, Climate Workgroup) was tasked with responding to specific questions that cover different areas including health, housing, energy and other sectors impacted by the climate crisis. In this document, the Climate Workgroup provides recommendations in each of the areas mentioned but also notes that most of the issues are interconnected and proposed solutions necessarily overlap.

The Climate Workgroup focuses on community participation in decision making related to the climate crisis and disaster planning and preparedness. Local, state, Tribal, territorial, and Federal government agencies should provide resources including funding, access to information, opportunities to participate in climate and disaster planning, preparedness, and decision making to overburdened communities that are predominantly Black, Brown, Indigenous and poor. These are the communities most impacted by the climate crisis and most at risk of loss of life related to the climate crisis.

Overarching Recommendations

Climate change presents an existential threat to life on the planet: this has been accepted science for decades. It is also clear that climate change is a threat multiplier in communities already living under the burdens of poverty, pollution, racism, and inequality in all forms. The communities most impacted by existing inequality in housing, education, health, mental health, access to healthy food, transportation, clean water, clean air, clean energy, fair wages, and other basic rights also face the greatest risks to the many destructive manifestations of climate change — heat waves, drought, floods, hurricanes, wildfires, snowstorms, and rising sea levels that lead to displacement, energy interruptions, food shortages, housing shortages, economic loss, health burdens and loss of life. The people least prepared to withstand the many threats posed by climate disaster are the most vulnerable to its impacts.

Federal agencies and the White House must first and foremost stop harming communities and vulnerable populations with their approach to responding to, preparing for, and preventing climate disaster. Preventing climate disaster starts with ending the role of government in subsidizing, permitting, and supporting the fossil fuel infrastructure that is causing climate disaster in the first place. It is inexcusable and nonsensical to have the very same government agencies advancing solutions to the climate crisis simultaneously advancing the interests and harm caused by the industries at the source of the crisis. Alternatively, the most effective way to stop the advance of climate change and its increasingly dire impacts on marginalized communities is to directly regulate climate pollution, adopt precautionary-based chemical management systems that require a shift towards banning toxic chemicals and favor safe solutions, and accelerate a managed decline of fossil fuel infrastructure while advancing a just transition for workers and communities.

In addition, the actions of Federal agencies and the White House to respond to climate disasters must not further or exacerbate the harm to vulnerable communities and populations. Disaster relief should never be the cause of deepening inequality in any neighborhood, region, or Tribal community. When disaster hits, the goal of government should be that the people hit the hardest should emerge stronger and more secure than before, not the opposite. And when there is no hope for remedy and redemption, or it is no longer safe for communities to remain, the Federal government should establish a “Just Relocation Fund” to

provide communities with a relocation process based on a dignity framework that makes them whole. Federal agencies must track, measure, and be transparent about the aftereffects of their interventions.

For all recommendations in the sections below, Federal agencies should listen to and implement recommendations from Tribal nations about the capacities that they require for management, staffing, and coordination of Federal disaster preparedness and relief, respecting the importance of Tribal recommendations on access to and allocation of funds and resources and flexible spending, and recognizing Indigenous peoples' rights, including treaty rights, the Federal consultative duty and nation-to-nation relationship, the trust responsibility, and Tribal self-determination.

Finally, the way that Federal agencies and the White House prepare for, respond to, and prevent climate disasters in vulnerable communities requires an unprecedented amount of coordination within government but also with communities and populations most directly impacted. Communities facing the greatest inequalities in our country may have the most to lose from the impacts of climate disaster, but they also have the most knowledge about the solutions that work the best for them. These communities must be at the center of any climate disaster response or climate preparedness planning and must be meaningfully engaged as decision makers in their own future. Agencies must intimately involve local residents, community groups, EJ groups, and Tribes in creating and implementing community level emergency and climate change adaptation plans. Agencies should make funding available that ensures local participation, increases access to engagement, decision making, planning, research, technical assistance, funding and resources, including language, financial and cultural access. Federal agencies must create an interoperable, modern system of transparency on progress of programs and communications to communities on legacy, systemic, past, present, and looming climate impacts.

Our recommendations include:

1. End Federal subsidies to the fossil fuel industry, including hydrogen, incineration such as refuse-derived fuel, and plastics pyrolysis.
2. Ban permitting of new fossil fuel infrastructure projects.
3. Direct regulation to achieve a managed decline of fossil fuel infrastructure (e.g., coal mining, coal fired power plants, gas fracking, gas pipelines gas fired power plants).
4. Direct regulation and funding to precautionary-based chemicals management systems that require a shift towards systems that ban toxic chemicals and favor safe solutions.
5. Increase access to engagement, decision making, planning, research, technical assistance, funding, and resources, including language access, financial access, cultural access, etc.
6. Agencies should create an interoperable, modern system of transparency on progress of programs and communications to communities on legacy, systemic, past, present, and looming climate impacts.
7. Actively involve local residents, community groups, EJ groups, and Tribes in creating and implementing community level emergency and climate change adaptation plans, respecting special Federal consultative and nation-to-nation duties and relationships, such as with Tribal nations. The State should make funding available that ensures local participation. Establish a "Just Relocation Fund" for communities where there is no hope for remedy and redemption to provide them with a relocation process based on a dignity framework that makes them "whole."

8. The Climate Workgroup suggests recommendations to update the phrasing of their charge, including:
 - a. Update the Federal Disaster Preparedness and Relief charge question to ask, “What type of support is needed for disadvantaged communities to *inform* Federal disaster preparedness or relief programs?” in lieu of *participate in*.
 - b. Update the Community Climate Planning charge question to ask, “What steps can Federal agencies and the White House take to reduce disparities in climate change impacts for communities, including but not limited to risks from extreme heat, flood, wildfire, drought, hurricanes, coastal challenges, *displacement, food security from loss of subsistence foods, access, and species die off?*” in lieu of ending the question at *coastal challenges*.
 - c. Update the Health Impacts charge question to ask, “What are the policies or programs that can address adverse health impacts, including *historic health impacts*, mental health impacts, before, during, and after extreme climate events?”

Federal Disaster Preparedness and Relief

Disaster preparedness related to the climate crisis requires community access to information, resources, and government collaboration well before disasters strike. The new Executive Order on Environmental Justice requires consideration of cumulative impacts to overburdened communities and should lead to greater protections against the siting or expansion of new harmful activities. Preparedness begins with prevention and implementing the precautionary principle.

1. Develop and utilize a climate vulnerability mapping tool for use across Federal agencies (i.e., a tool that uses Census tract-level data to identify communities and assess cumulative impacts of vulnerability) to ensure planning, preparedness, adaptation, and infrastructure resources are being directed to and getting to the most impacted communities. Engage in government-to-government consultation and community engagement for communities, such as Tribal nations, for whom the data mapping tool may leave behind and whose jurisdictions are unique.
2. Fund and prioritize consultation and planning with the most impacted communities.
3. Make significant prevention planning grants available to community-based organizations in the most impacted communities. First, do no harm.
4. Make Federal agencies and decision-makers in these agencies available to participate in, aid, and support disaster preparedness planning in the most impacted communities, answer questions, and clarify programs and resources available.
5. Utilize pre-existing community, Tribal, and municipal resilience plans as a base for planning and action. Use these plans as models with communities that don't have them.²

²We understand that “resilience” means being able to restore or get back to an original state prior to a disaster or emergency (in this context). The problem is that the “original state” of most EJ, overburdened, or otherwise disadvantaged communities is not good. So, getting back to what existed prior to a disaster is not necessarily going to solve underlying issues of disparity due to environmental injustice or overburdening. This is

6. Support and fund relief and resiliency infrastructure *before* disasters to ensure relief programs are as effective and efficient at reaching the most marginalized communities as possible.
7. Develop emergency response plans inclusive of vulnerable communities.
8. Support individuals living with disabilities, especially those in low-income and majority people of color neighborhoods, to ensure they are able to pre-register for emergency assistance with local emergency officials, so they are not left behind when disaster strikes.³
9. Provide trainings for personnel who work in emergency shelters, so they are equipped to serve populations living with disabilities (e.g., equip facilities with: refrigerators for extra food or medication, generators, a variety of communication devices/methods, walkers and/or guides for the blind, batteries for electric wheelchair users, respirators, supplies for service animals, etc.)
10. Remove structural barriers that impact people living with disabilities, such as steps, limited parking space, narrow toilet stalls without bars; ensure any structural damage is addressed in the homes of people living with disabilities, such as wheelchair ramps.
11. Ensure residents receive ongoing post-disaster mental, physical, and spiritual care that is consistent with their cultures and knowledge, including in the case of Indigenous cultures and Indigenous knowledge.
12. Mandate the inclusion of preparedness plans in all school and degree program curricula that train individuals to prepare for and respond to disasters. Preparedness plans should include the needs of people living with disabilities.
13. Mandate the inclusion of preparedness plans for care giving institutions like childcare facilities, schools, and elder care facilities.
14. Support community-led efforts such as preparedness and short- and long-term recovery. Provide local and alternative financing to ensure comprehensive and prompt long-term housing recovery, restoring and rebuilding of public infrastructure and services such as libraries, senior centers, city/town halls, public transit and community-based organizations and nonprofits.
15. Train local stakeholders in Federal requirements for response and recovery grants.
16. Increase the allocation and expedite distribution to states and local municipalities of community development block grants. Create mechanism to evaluate and make sure the efforts were appropriate and oversight occurs. This is especially important in Alaska and other states that do not adequately recognize Tribes.
17. Ensure local emergency plans are comprehensive and there is sufficient funding to implement them.

Why the term ‘resilience’ is not ideal. Instead, we’d like to talk about access to environmental amenities, like clean air, water, land, and open spaces that communities should have. In a disaster context, we would like to create sustainable development.

In addition, we consistently ask the most vulnerable and overburdened groups to be resilient, placing the burden of recovery on already disadvantaged or EJ communities with respect to environmental conditions. We are proposing to deal with legacy issues in addition to the damage caused by a disaster, i.e., the cumulative impacts in those communities. Not all communities start from the same place or are impacted in the same ways by a disaster.

³ Note that the Climate Workgroup consulted with members of the community and determined that the appropriate term is “disabilities.”

- a. Emergency plans should include the possibility of major risks.
 - b. Create clear expectations and communication between different levels of government (e.g., Federal, state, and local).
 - c. Create contingencies for people who don't have access to cars or those with no means to evacuate themselves, such as hospital patients, prisoners, people living with disabilities, and other members of society with special needs or requirements.
18. Oversee government contractors adequately so they have the capacity and tools to properly carry out services and emergency response.
 19. Train government staff such as planners and other planning agencies properly so that the needs of residents, especially those living with special needs, are met in disaster response such as evacuations. Government staff should be trained on cultural sensitivities and linguistic uniqueness in communities.
 20. Utilize the statutory authority of agencies like the EPA to ensure comprehensive and thorough cleanup of toxic contaminants post-disaster. EPA oversight is necessary for cleanup. Stakeholders must be utilized to ensure comprehensive and thorough cleanup. Ensure communities approve post-disaster cleanup.
 21. Make available affordable housing options for renters and homeowners, including the reopening of mixed-use neighborhoods with ample green space and public housing units.
 22. Prepare community-level climate change preparedness and adaptation plans for as many EJ communities as possible.⁴ Here, “community level” is not meant to refer to a municipal government. The geographic scope of these plans should coincide with neighborhoods within municipalities and not with the municipalities themselves.
 23. Community-level climate change adaptation plans should be prepared for as many EJ communities as possible. Community leadership and residents, local community groups, EJ organizations, and Tribes should play an integral role in creating and implementing these community level adaptation plans. This type of community involvement would require that residents, community groups, and EJ organizations have access to sufficient resources to allow them to be equal partners with government in the development and implementation of these plans.
 24. Create a low-cost National Flood Insurance program, as there are many places where little to no flood insurance is offered leaving many communities vulnerable.
 25. Include community participation in local emergency planning committees under the Emergency Planning and Community Right to Know Act.
 26. Ensure services are available for immigrants, people in communities without documentation, and unrecognized Tribes.
 27. Update toxicity exposure standards to reflect the concerns of impacted residents and appropriate actions must be taken by different levels of government to respond to elevated exposures (Godsil, Huang, and Solomon, 2009). Support and fund relief and resiliency infrastructure

⁴ Climate Workgroup members expressed concern regarding the word “adaptation”. For this report, we are using both preparedness and adaptation.

before disasters to ensure relief programs are as effective and efficient at reaching the most marginalized communities as possible.

28. Develop and implement rules protecting all workers, especially immigrant workers, from exploitation, threat of deportation, wage theft, toxic exposure, and dangerous working conditions during post disaster clean up.
29. Ensure disaster shelters do not discriminate based on projected characteristics or sexual orientation. Women and women-presenting people should not be discriminated against in the provision of relief aid.
30. Ensure funding is available to address failure of outdated infrastructure where there is also climate vulnerability, this includes highways, roads, and bridges, though this is not an exhaustive list. Climate vulnerability in this context should not just include flooding and sea level rise, but also fires and extreme heat.
 - a. Ensure funding to communities that are experiencing inadvertent flooding from combined sewer overflows (CSOs) and other overflow from flooding of poor infrastructure.

Community Climate Planning

1. Align Federal funds for disaster relief with infrastructure that is needed for future climate disaster and community resilience (e.g., clean/renewable energy, rain and wastewater infrastructure, flooding control, housing, etc.)
2. Support and fund resiliency hubs to strengthen both physical and social infrastructure. Resilience hubs can start at the scale of a single building, any trusted community entity—such as a youth center, school, library, clinic, or a place of worship—that residents turn to for support and assistance during natural disasters, including storms, wildfires, heat waves, and power outages. These institutions are already part of a community’s social fabric, and the idea is to invest in them rather than create entirely new infrastructure. The vulnerabilities of each community are different, so this is not a cookie-cutter approach, but rather a menu of options that could include building or installing solar and storage, microgrids, cooling centers, temporary shelter, rain water storage tanks and filtration, efficient refrigeration units, air conditioning and proper air filtration systems, electric vehicle charging stations, transportation hubs, communications hardware, or physical storage space for distribution of emergency supplies.
3. Resilience hubs should be supported for “soft infrastructure” for social resilience and cohesion of a community including the people, services, and facilities that secure the economic, health, cultural, and social well-being of the community at the neighborhood level. Resilience hubs should provide centralized locations for workforce training and development, youth services, health and mental health services, legal services, housing support, and space for community meetings and organizing, before, during and after disasters.
4. Generate support for and investments in distributed, locally controlled, affordable and accessible climate resilient infrastructure for clean/renewable energy, water, public transportation, housing, and food/agriculture. This also includes food security and species die off due to warming of the planet.

5. Create labor standards for climate infrastructure that include the right to organize, inclusion of returning residents, and living wages.
6. Develop and implement rules protecting all workers, especially immigrant workers, from exploitation, threat of deportation, wage theft, toxic exposure, and dangerous working conditions during post disaster clean up.
7. Create a public Green Bank for equitable climate infrastructure investments. Ensure investments do not include false solutions. Solutions need to first do no harm.
8. Support community-level social infrastructure/social cohesion as an important method of climate resilience.
9. Establish Community Emergency Response Teams (CERT) adapted, prepared, and trained to respond to local hazards or risks. Actions of these teams will vary based on local context.
10. Prioritize, utilize, and promote frameworks for resilience that are comprehensive. This includes the differentiated but interconnected needs of individuals, households, and communities.
11. Create framework to address the various dimensions of community resilience, including: “social and psychological wellbeing of individuals and families, restoration of organizations and institutions, resumption of economic and commercial services and productivity, restoration of the integrity of infrastructures and systems, and resumed operations of public safety and government functions (Pfefferbaum, Horn, and Pfefferbaum, 2017).”
12. Include communities in processes of community development and community-based planning to increase adaptive capacity and agency (Berkes and Ross, 2013). Community oversight is necessary to ensure practices are addressing the needs of communities.
13. Invest in infrastructure capital investments within EJ communities, as infrastructure investments are shown to be associated with higher rates of recovery (Wickes et al., 2015). While there is an increased understanding of the need to bolster social capital within vulnerable communities prior to disasters (Pfefferbaum, Horn, and Pfefferbaum, 2017), this should not be a replacement for investing in needed infrastructure capital investments within EJ communities.
14. The Federal government should compensate non-profit organizations that enhance social capital in EJ communities.
15. Include members from EJ communities on community disaster teams (Pfefferbaum, Horn, and Pfefferbaum, 2017).
16. Incorporate Indigenous peoples’ knowledge and practices into climate planning and decision-making processes to protect oceans, wildlife, and traditional food sources.
17. Provide funding to support disadvantaged communities to address disparities in Tree Equity.
18. Address cumulative impacts in public policy and community level adaptation plans. If rebuilding is necessary after an extreme weather event, a cumulative impacts policy should be in place before a polluting facility is re-constructed in an EJ community that already has a high level of pollution. In the arctic, sequestered persistent organic pollutants are being emitted and Indigenous communities are being exposed.
19. Address toxic greenhouse gas co-pollutants, such as particulate matter and its precursors, as well as greenhouse gases in climate change mitigation policy. Special attention should be

devoted to co-pollutants that affect EJ communities with high levels of cumulative impacts. Carbon sequestration is not a real solution.

20. Address historical trauma and climate change impacts (including ecological grief) on subsistence living and cultural practices in community level adaptation plans for Indigenous communities (in addition to other more commonly discussed issues).
21. Address evacuation, impacts and recovery connected to extreme weather events and the factors that cause these events to have a disproportionate impact on EJ communities in community level adaptation plans and public policy. Address these factors, including but not limited to:
 - a. Racial discrimination, particularly those types that may pose the greatest impediments to adaptation efforts such as housing and lending discrimination, and
 - b. The gap in procuring government resources after an extreme weather event that appears to exist between residents of EJ communities and white residents.
22. Expand access to climate information and resources for vulnerable communities, incorporating local and Indigenous peoples' knowledge. This could include providing funding for climate literacy and education programs, developing user-friendly tools to help communities understand their climate risk, and providing technical assistance to help communities develop and implement adaptation and mitigation strategies.
23. Create resources to supply emergency aid for long-term impacts to areas like land and watersheds. Often, there is funding for immediate needs (e.g., home building, acequia dredging, etc.) after disasters, but there are gaps in the fundings and assistance. Gaps appear especially in the long-term restoration of watersheds effected by disasters and their respective economies. There is little funding and assistance to help assist communities to work collaboratively amongst themselves to restore their land over longer periods of time. While landowners are wading through the process just to figure out how to clean out their ditch, for example, there is no assistance or focus on sitting down with community groups and others to address the long-term health of their land, from the top of the watershed to the bottom. Consider how we can manage medium- or longer-term projects that repairs from disaster (like planting of trees) and prevents future disaster (like sedimentation to water bodies from the lack of vegetation and trees).
24. In post-disaster phases, including both slow-moving disasters, like drought, and fast-moving disasters, like hurricanes, it is important to set up hubs of information and access to activities such as the ability to vote in elections. These hubs can provide impacted landowners or tenants with all the information they need, like a one-stop shop to help in everything from housing to how to restore the environment and immediate food sources around them, especially for communities that are already at risk.
25. Ensure grants don't require resource matching from communities.
26. Due to the increasing threat of wildfire, drought and changing climate conditions, farmers should have access to insurance for agro-food production apart from cash corps that is to include new and beginning small farms, women-owned farms, and farmers who are part of communities of color. This is to support historical underserved communities. The US Department of Agriculture (USDA) needs to address subsistence food users facing food insecurity in Tribal communities.

27. Ensure infrastructure money for schools is used for climate preparedness, including the installation of air conditioning units and protection against floods. Ensure schools with the greatest need and climate-vulnerability are prioritized. Ensure efforts are taken to proactively secure schools against climate disasters and warming.
28. Ensure strategic planning projects encourage community planning and fund engineers and experts to develop holistic plans, protective of human health, wildlife, and the environment. For example, if a community is prone to flooding and the engineering solution is to install a seawall, the solution should also consider combined sewer overflow, urban heat island issues, and other public health impacts to ensure that the solution does not create additional problems when solving a separate problem.

Health Impacts

Health risks should be assessed, and appropriate actions should be taken to treat the risk, with extra care taken for communities that are already at risk. Risk treatment options include “avoiding the risk, reducing the negative effect of the risk, transferring the risk to another party, and accepting some or all of the consequences of a particular risk” (Keim, 2020).

1. Use an interdisciplinary approach to identify, characterize, monitor, and avoid exposure to human health hazards, including those that result in mental health issues. Health hazards or risks are associated with climate resilience or lack thereof. Long-term exposure reduction “frequently involves disaster-related mitigation” (Keim, 2020).
2. Develop and utilize a climate vulnerability mapping tool to identify communities most vulnerable to the health impacts of climate change from the co-pollutants associated with pollution that causes climate change, the health impacts of climate “events”, including mental health, and the cumulative impacts of both. Prioritize a safer chemicals management system in all U.S. manufacturing processes and activities.
3. Develop baselines for health impacts that can then be measured from the baseline over time. Include cumulative impacts in this assessment.
4. Use direct regulation to reduce climate co-pollutants, including those from fossil fuel burning (Knowlton and Limaye, 2020). The U.S. needs to ratify the treaty to adopt the Stockholm convention to ban toxic chemicals globally.
5. Connect health impacts with inequality measurements including poverty, housing access, transportation access, etc. in mapping tool. Look for gaps across each of these measures.
6. Develop heat action plans that include strategies for supporting vulnerable populations. Plans should include “meteorologic early warning systems, timely public and medical advice, improvements to housing and urban planning and ensuring that health care and social systems are ready to act” (Wu and Basu, 2020).
 - a. Permits for activities that generate heat pollution should be denied in communities that experience hazardous heat or are urban heat islands.
7. The National Weather Service should institute heat advisories or warnings during impactful heat wave events (Wu and Basu, 2020).

8. Heat action plans should address more typical hot temperatures, or when temperatures are below extreme levels, since “most of the burden related to exposure to hot temperatures comes from non-extreme temperatures because of a higher frequency of occurrence” (Wu and Basu, 2020). This should include extreme storms, as well, as their frequency has increased over time in coastal communities.
9. Couple early warning systems that can predict heavy rain events or a rise in sea surface temperature in coastal waters with interventions to minimize risk of vulnerable populations to water-borne pathogens (Semenza, 2020). This also affects the health and welfare of marine mammals that sustain Indigenous peoples.
10. Create more walkable/bikeable cities and build transportation infrastructure that can be used instead of short automobile trips. Ensure that these benefits are available in communities who are most vulnerable to asthma (Knowlton and Limaye, 2020). Protect the greenspaces that remain when redeveloping and rebuilding.
11. Conduct vulnerability assessments to identify local vulnerabilities to air pollution at an individual, neighborhood, and community level (Knowlton and Limaye, 2020). Persistent organic pollutants are part of air pollution that is important to Arctic Indigenous peoples and others.
12. Track air pollution-related health threats and establish publicly available resources that allow easy access to daily monitoring data and forecasts (Knowlton and Limaye, 2020). Include global persistent organic pollutant monitoring in these data and forecasts.
13. Support research in:
 - a. “Studying how climate change and its effects on meteorology will affect fine particle concentrations locally, in co-pollutant hot spots near stationary sources of fossil fuel emissions and peaker plants,”
 - b. “Experimental and field studies to examine how allergen content, distribution, growth, and genetic variation of pollens and of molds (indoor and outdoor) may be altered in response to changing carbon dioxide (CO₂) concentration, bioavailability, and temperature,” and
 - c. Evaluating how the impacts of urban warming or land use changes may exacerbate climate change’s effects on desertification and loss of vegetation, which increase the likelihood and extent of dust storms” (Knowlton and Limaye, 2020).
14. Understand human health impacts from air pollution exposures via the following (Knowlton and Limaye, 2020):
 - a. Health impact assessments for air pollution exposures that account for cumulative, long-term exposures to multiple air pollutants species.
 - b. Studies of how changes in humidity, precipitation, and extreme weather events affect respiratory exposures to mold, especially those brought on by flooding.
 - c. How underlying population vulnerability factors may change in the future, especially given a combination of vulnerability factors in some locations or among certain communities, including Arctic Indigenous peoples or other Tribes that rely on marine mammals and other subsistence food sources.

- d. Local evaluations into how climate change could affect the frequency, intensity, and extent of forest fires and smoke production; associated smoke impact on human respiratory exposures; and possible interventions to limit harmful effects.
 - e. How climate change affects the frequency and intensity of forest fires regionally and, in turn, their impacts on local and downwind exposures to respiratory irritants.
 - f. Analyses of how drought conditions enhance wildfire risks and affect transport and subsequent case incidence of coccidiomycosis, infestation of spruce bark beetle or other invasive insects, or other infectious illnesses.
 - g. Evaluation of the extent to which climate change could alter time spent indoors versus outside, and time-behavior patterns for air pollution exposure assessments.
15. Create a network of monitoring sites capable of detecting wildfire smoke downwind of source areas and estimating the smoke origins' effects on public health to inform development of an early warning systems to affected communities (Knowlton and Limaye, 2020). Early warning systems may allow limited use of flame retardants that include perfluoroalkyl substances (PFAS).
 16. Link existing long-term data sets on the occurrence of molds, fungi, and valley fever to those on respiratory illness and diseases that are available through the Environmental Public Health Tracking Network (Knowlton and Limaye, 2020).
 17. Quantify wildfire smoke exposures with more centralized, real-time environmental monitoring linked with health tracking data at similar spatial and timescales nationwide (Knowlton and Limaye, 2020).
 18. Establish a larger network of continuous or daily monitoring sites in air pollution (including global persistent organic pollutants) vulnerable communities across the U.S. (Knowlton and Limaye, 2020).
 19. Implement capacities for preventing health hazards, including:
 - a. Capacities needed for risk assessment:
 - i. Hazard identification and monitoring
 - ii. Weather forecasting and modeling, including frequency and strength of storms
 - iii. Health surveillance (including mental health) and risk assessment
 - iv. Hazard analysis and mapping
 - v. Health impact assessment with new construction
 - vi. Assess risk to traditional food sources and provide nutritious food relief with particular regard to people with health complications.
 - b. Capacities needed for avoiding hazards:
 - i. Land use regulation and building codes expertise
 - ii. Environmental health expertise
 - iii. Urban planning and engineering controls
 - iv. Sustainable development
 - v. Watershed, coastal, forestry, and wildlife management
 - vi. Soil and water conservation
 - vii. Address erosion and sea level rise faced by coastal communities

- viii. Address food security issues
- c. Capacities needed to prevent harm after hazards occur:
 - i. Hazard analysis and mapping
 - ii. Weather forecasting and modeling
 - iii. Risk assessment
 - iv. Exposure assessment and dose reconstruction
 - v. Hazard monitoring
 - vi. Environmental monitoring (e.g. air, water, soil)
 - vii. Event surveillance (e.g., commodities, critical infrastructure, economics)
 - viii. Health surveillance (clinical, laboratory, and occupational)
 - ix. Veterinary vector surveillance
- d. Capacities needed for exposure reduction:
 - i. Emergency management
 - ii. Risk communication and public education
 - iii. Public alert and warning systems
 - iv. Structural mitigation and building codes
 - v. Population protection measures (e.g. evacuation and shelter-in-place)
 - vi. Sheltering and temporary settlement
 - vii. Health surveillance (clinical, laboratory, and occupational), including biomonitoring
 - viii. Water, sanitation, and hygiene
 - ix. Clinical and community-based infection control measures
 - x. Agricultural assistance
 - xi. Food safety, food security and nutritional support
 - xii. Environmental health and wellness via a holistic approach
 - xiii. Social cohesion and neighborhood coalitions
- e. Capacities needed to prevent disease after exposure occurs:
 - i. Exposure assessment
 - ii. Health surveillance and epidemiologic investigation
 - iii. Rapid needs and damage assessment
 - iv. Disease risk assessment (for infections, injuries, and chronic disease)
 - v. Ensure existing vulnerabilities are not exacerbated
- f. Vulnerability reduction:
 - i. Emergency management
 - ii. Health surveillance
 - iii. Health and mental health promotion
 - iv. Social cohesion and neighborhood coalitions
 - v. Risk communication and public education, including Indigenous peoples' knowledge
 - vi. Psychosocial and mental health services
 - vii. Prenatal care, maternal-child health, and childcare
 - viii. Elder health and support services

- ix. Health surveillance and epidemiologic investigation
- x. Rapid, mid-, and long-term needs and damage assessment
- xi. Emergency management
- xii. Emergency, curative, and rehabilitative health services
- xiii. Risk communication and public education
- xiv. Social support services

Housing

1. Work to understand climate impacts on renters. Due to multigenerational impacts of racism, communities of color tend to be renters instead of homeowners. The current methodology at the Department of Housing and Urban Development (HUD) underestimates climate impacts on renters and prioritizes damage to property. This leaves renters who are often in an already vulnerable position even more vulnerable and without resources.
2. Include renters, undocumented folks, and other currently excluded populations in funding and especially direct funding opportunities.
3. Equip disaster relief centers or shelters with solar panels coupled with batteries or some other source of decentralized energy that does not depend on and can function independently off the grid, including refrigerators, etc.
4. Equip disaster relief centers with safe water and food.
5. Assess and develop a plan for public housing currently sited in a flood zone. Rebuilding or rehabilitation must be done in such a way that absolutely preserves the deep affordability in affected areas.
6. Ensure HUD allows housing choice vouchers to be portable and follow the recipient, in addition to the property. Communities and residents should have the right to choose to remain and rebuild or to relocate. Homes damaged or destroyed in environmental disasters should be rebuilt in a more secure area or way, such as raising structures above flood levels.
 - a. For example, currently for assisted or subsidized housing households, the voucher is attached to the home unit, regardless of repeated environmental damage. There are more Black and Brown communities in areas projected to have increased flooding risk due to climate change.
7. Develop funds for climate adaptation for low- and moderate-income homeowners that addresses climate vulnerabilities that preempt disasters.
8. Create support for traditional and coastal housing (e.g., cabins) that are used for subsistence fishing, hunting, gathering, and harvesting seasonally. These are often places where Indigenous communities put food away for the year and are important to the culture.
9. Ensure housing is appropriate for the region. For example, homes in Alaska need to have sufficient insulation and venting for the Arctic.

Clean Energy

The Climate Workgroup defines clean energy as renewable and predominantly decentralized energy. The energy system transformation required to tackle the climate crisis is not only decarbonized but also decentralized in a way that facilitates community participation in control and ownership in and democratizes energy production, distribution and governance. Experience with climate disasters has shown that overburdened, disadvantaged and vulnerable communities must become energy literate and empowered. Public funding and policies that support distributed renewable energy programs could save lives during and after climate disasters.

The WHEJAC recommends that the federal government stop supporting nuclear power through loan guarantees and other financial incentives and create plans to decommission all nuclear power plants at the end of their current license terms.

In order to better understand that nuclear is not carbon free energy, WHEJAC recommends that a thirty-five-thousand-year life-cycle carbon assessment be completed for all nuclear power plants to better understand their true carbon emissions resulting from the building and maintenance of the nuclear plants, mining of uranium, and long-term storage and management of spent nuclear fuel. This includes all forms of nuclear energy, including micronuclear. The lifecycle should include all portions of lifecycle assessment including mineral mining including uranium, plutonium.

1. End Federal subsidies to fossil fuel industry, including hydrogen, incineration such as refuse-derived fuel, and plastics pyrolysis.
2. Increase the use of energy efficiency and renewable energy in EJ communities and community-controlled energy systems should be created in these communities.
3. Conduct the community energy planning process to assess the energy needs in an EJ community, and to gather input from the community on renewable energy projects, energy efficiency projects and any energy decisions that significantly impact the community, including false solutions.
4. Ensure new housing development in these communities are both energy efficient and equipped with solar energy, when and where it is appropriate. Community solar projects in EJ communities should be developed with the extensive input of the host community; produce co-benefits chosen by the community; and have a path for community ownership, if at all possible.
5. Establish urban community energy utilities in EJ communities. These non-profit organizations would provide capital in these communities for renewable energy projects, energy efficiency projects, job training, energy education, community energy planning and other energy related matters that impact the communities in which they are located.
6. Ensure planning creates equity in communities. Address high energy costs and offset existing high energy costs.
7. Urban community energy utilities could create and administer energy programs including but not limited to renewable energy and energy efficiency projects.
8. Fund local community, EJ organizations, and Tribes who have sufficient capacity to develop and administer renewable energy and energy efficiency projects in the communities they serve.

9. Ensure vetting of false solutions so that they do not harm the environment or human health, including mental health. For example, false solutions will harm the environment, lands, waters, wildlife, and health of people in Alaska.
10. For the Federal Emergency Management Agency (FEMA): pro-actively encourage and allow for easy redirection of funds for resilience projects that are currently slated for fossil fuel related projects to be redesigned as renewable energy projects.
11. Create climate preparation access by communities to distributed renewable energy, like on-site, rooftop or community-based solar, coupled with battery energy storage systems.
12. Decentralize the grid to enable continuous electric service during events when the centralized transmission or distribution network is down. Electric system decentralization means that energy production sources will be in or closer to communities which, in turn require that the localized energy production be based on renewable energy. Fossil-fired household generators can cause intoxication and depend on fuel supply that may be cut off during and after extreme weather events.
13. Carry out energy audits at the household and community level through planning for the more frequent climate extreme events.
14. Create an energy audit program to enable implementation of energy conservation and efficiency programs as part of disaster planning and preparation so that households, communities, businesses and institutions can function on minimal energy supply and small, on-site renewable energy equipment such as rooftop solar and batteries. Solar water heaters are a good example of an energy efficiency measure that could reduce energy demand during extreme weather events.
15. Include energy demand response programs in disaster planning and preparation to enable consumers to supply energy to the grid when centralized energy sources cannot provide service.
16. Equip community hubs or shelters with distributed renewable energy such as rooftop solar panels and batteries, and solar water heaters.
17. Create energy literacy programs for EJ communities to enable adoption of distributed renewable energy.
18. Provide funding to organized community-based groups to implement distributed renewable energy pilot projects including training for installation, operation and maintenance of rooftop solar systems with batteries.

Relocation

1. Ensure states, territories, tribes and local governments have FEMA approved hazard mitigation plans in place that include managed retreat strategies to allow them to potentially draw down Federal funding for managed retreat (e.g., Hawaii).
2. Allow relocated residents to create community connectedness and live adjacent to each other in their new communities through planned relocation (Gulf of Maine Research Institute, 2022).
3. Involve residents have meaningful engagement in managed retreat (Gulf of Maine Research Institute, 2022).

4. For any relocation, including military relocations due to toxics, complete an analysis to ensure that the populations are not relocated to climate-vulnerable locations, and to work with the community to ensure culturally appropriate relocation areas and plans. The analysis should prioritize life, property, and wellbeing, as well as cultural integrity of displaced communities.
 - a. For example, in displacement due to legacy military toxics and inadequate site remediation: the Army Corps of Engineering, who is responsible for decision-making completed a five-year review and remediation on Seagull (St. Laurence Island) but did not consult the communities.
5. When relocation is necessary as a result of climate disasters ensure it improves the conditions of underserved communities.
6. Help communities understand what constitutes a habitable risk and if it is necessary to relocate; also, assess which relocation locations are safe (Gulf of Maine Research Institute, 2022).
7. Factor access to incomes and sustainable livelihoods into moving communities to new locations (Gulf of Maine Research Institute, 2022).
8. Ensure government agencies are not targeting low-income and minority communities so as to buy the most homes with limited funding by including transparency as a key feature of government buyout programs; decisions about targeted home buy-outs should be made in a transparent process and through participatory pre-disaster planning process to ensure equitable outcomes (Siders, 2019a).
9. Reframe buyouts “not as retreat due to failure but as opportunity to redesign the community” (Siders, 2019a); communities should be relocated to areas with the capabilities to support thriving communities.
10. Invest in research to understand how communities have overcome psychological, institutional, and practical barriers to managed retreat, as “public officials can support research and evaluation by documenting processes and outcomes (e.g., how decisions to retreat are made and where people move after a buyout)” (Siders, 2019b).
11. Ensure broader vision includes managed retreat to build “sustainable, safe, economically, and culturally thriving communities with strong connections to a healthy coastal environment” (Siders 2019b).
12. Ensure use of culturally appropriate language and lay terms in communications.
13. Allow communities the opportunity to vet or choose/elect the contractors or developers involved.
14. Ensure self-determination, as included in the UN declaration on the rights of Indigenous peoples. Ensure free and prior informed consent.
15. Improve efficiency of grants like the HUD National Disaster Resilience Grant and ensure that Tribes and disadvantaged communities are eligible for these grants. Address overcrowding caused by lack of housing due to climate disaster.

Agency-Specific Recommendations

Recommendations Specific to the Department of the Treasury

1. WHEJAC recommends that hydrogen not be considered a “clean” substitute for fossil (natural) gas. Most hydrogen is produced via “steam reforming of methane” which is very energy intensive and produces significant amounts of greenhouse gases. Green hydrogen is made using 100% renewable electricity to split water molecules, which is the only established way to produce hydrogen without emitting greenhouse gases or other harmful pollutants (Saadat and Gersen, 2021). However, the process of producing even green hydrogen is water intensive and should not be performed in areas that are experiencing water scarcity (Saadat and Gersen, 2021). Further, burning even green hydrogen poses significant risks to safety and public health by releasing nitrogen oxides (NO_x), which damage heart and respiratory function, impair lung growth in children, and lead to higher rates of emergency room visits and premature death.
2. Hydrogen should only be used, if at all, in specific commercial and industrial use cases where electrification or other clean energy options are not available.
3. In absence of sufficient guardrails, the Section 45V Hydrogen Tax Credit could mistakenly classify heavily polluting hydrogen production projects as eligible for the credit on the basis of flawed calculations and assumptions. Ensure that hydrogen production eligible for production tax credits is done in a certified/verified way so that only clean hydrogen is used.
4. Allowing these tax credits would divert public funds intended to support the shift away from dirty hydrogen to instead prop up polluting projects, exacerbating environmental injustices, and worsening the climate crisis. Furthermore, without explicit clarification, the tax credit risks subsidizing vented or flared hydrogen, which is neither used nor sold and can in fact increase global warming. The Department of Treasury should not provide hydrogen tax credits for flaring or venting hydrogen. This is a giveaway that offers no value to U.S. residents.
5. The Department of Treasury should develop a process to review whether clean hydrogen projects funded by Hydrogen Production Tax Credits uphold clean practices.
6. The Department of Treasury should track climate funding by zip code and should make information on the distribution of funds publicly available. The Treasury should design a funding allocation tracking system that is publicly accessible and includes a mapping component.
 - a. Funding movement and allocation should be publicly available by law.
7. The Department of Treasury should prioritize an outreach process with a goal of making it exceptionally easy for disadvantaged and Justice 40 communities to access tax credits. Treasury should issue funds in ways that provide community full access to them (e.g., cash in lieu of tax credits). Funds should be tracked to ensure benefits reach these communities.
 - a. Under the Inflation Reduction Act (IRA), the Department of Treasury has the ability to issue tax credits for energy efficiency. These should be issued in ways that prioritize Justice 40 communities.

8. The Department of Treasury should use military funding for disaster aid to create and support new schools for students displaced by climate impacts, with particular regard to disadvantaged communities.
9. Support food apartheid reversal: ensure there are tax credits available to food stores that are located in underserved communities.
10. Ensure funding is available to address failure of outdated infrastructure where there is also climate vulnerability, this includes highways, roads, and bridges, though this is not an exhaustive list. Climate vulnerability in this context should not just include flooding and sea level rise, but also fires and extreme heat.
 - a. Ensure funding to communities that are experiencing inadvertent flooding from combined sewer overflows (CSOs) and other overflow from flooding of poor infrastructure.

Recommendations Specific to the Federal Emergency Management Agency (FEMA)

The Agents of Change in Environmental Justice provided review of the 2021 Department of Homeland Security Climate Adaptation and Resilience Plan (Agents of Change, 2023; U.S. Department of Homeland Security, 2021). These recommendations are based on their review.

1. Instill equity as a foundation of emergency management, including:
 - a. Cultivate a FEMA that prioritizes and harnesses a diverse workforce, with action items that include partnering with Historically Black Colleges and Universities and the American Indian Higher Education of Tribal Colleges to create a hiring pipeline, support FEMA employee resource groups, and implement a workplace cultural improvement plan.
 - b. Remove barriers to FEMA programs through a people's first approach to make programs simpler, more accessible, and more user friendly. Ensure that FEMA resources can be accessed by underserved communities.
 - c. Achieve equitable outcomes for those FEMA serves, including directing resources to eliminate disparities in outcomes (e.g., emergency preparedness, home adaptation, resuming social and economic life after disaster) and aim to routinely evaluate programs and policies for disparities in outcomes.
 - d. Consider how programs will be made more accessible in and for EJ communities and whether something different will need to be done in these communities when compared to other communities.
2. In addition to traditional cost benefit information, FEMA should employ metrics and tools such as the Centers for Disease Control and Prevention (CDC) social vulnerability index (SVI) and CDC environmental justice index (EJI) in making decisions about disbursing resources for recovery.
 - a. Disparities in the use of recovery funds may mean that when disasters hit, the communities that face the worst damages are at the end of the line for support due to current cost-benefit analysis methods.

3. Ensure that public and private homeowners insurance proceeds are distributed equitably across race and income. Furthermore, insurance proceeds should be paid based on replacement value.
4. Ensure non-discrimination in the use of managed retreat through voluntary buyouts. Further, it is essential that public and private insurance should ensure equitable buyouts for all communities.
 - a. The most FEMA buyouts were in neighborhoods 85 percent or more non-Hispanic Whites, even though they make up about 62 percent of the U.S. population (National Public Radio, 2019).
5. Ensure that FEMA maximizes the value for the resident for them to build property back with adequate protection and ensure racial parity with surrounding zip codes.
 - a. Due to systemic structural racism, the value of Black and Brown people's houses is less in disadvantaged, underserved neighborhoods, resulting in less financial support after disaster than proximate white communities experiencing the same emergency.
 - b. The current system of resiliency increases wealth for whites and reduces wealth of people of color (Howell and Elliott, 2018).
6. Build a climate resilient nation by leveraging grants to ensure communities can directly address their communities' threats from climate change. An example of this is the Building Resilient Infrastructure and Communities (BRIC) grant program that prioritizes significant or innovative infrastructure projects and commitment to using risk data and community data to ensure underserved and vulnerable communities are prioritized.
7. Empower risk-informed decision making, including:
 - a. Leverage climate forecasting to inform agencies' understanding of risk – currently, communities' disaster risk is based on past disaster activity;
 - b. Interpret risk information in the context of the communities' demographic, economic, and physical conditions;
 - c. Implement different adaptation and mitigation measures based on differences in community risk.
8. Strengthen the emergency management workforce by supporting the development of a whole community comprehensive emergency management workforce. This includes:
 - a. Expand training to individuals and community groups that help their communities to recover and respond to disasters;
 - b. Support curricula for Federal emergency management training, education, and professional development which is accessible to whole community partners; and
 - c. Build a resilient and diverse workforce.
9. FEMA must provide disaster relief for homes needed to support traditional food procurement and subsistence hunting even if they do not meet the criteria of being inhabited at least 50% of the time.
 - a. Alaska Tribes were hit by the remnants of Typhoon Merbok and cabins were destroyed that do not qualify for FEMA support because they are not inhabited at least 50% of the time.

Recommendations Specific to the Department of Health and Human Services (HHS)

1. Ensure residents receive ongoing post-disaster mental, physical, and spiritual care that is consistent with their cultures and knowledge, including in the case of Indigenous cultures and Indigenous knowledge.
2. Ensure climate anxiety and mental health are considered when understanding and addressing human health impacts associated with climate change.

Recommendations Specific to the Department of Interior (DOI)

The Agents of Change in Environmental Justice provided review of the 2021 Department of the Interior Climate Action Plan (Agents of Change, 2023; U.S. Department of the Interior, 2021). These recommendations are based on their review.

1. The DOI promises \$46 million from the Bipartisan Infrastructure Law and fiscal year (FY) 2022 appropriations in Tribal communities to address the unique impacts of climate change in Indigenous communities. DOI needs to explicitly outline goals to enable accountability of DOI by EJ communities.
2. To fully realize the commitments from the Federal government to EJ communities, the DOI needs to provide funding for existing and future collaborations and explicitly outline timelines for the implementation. DOI needs to create clear and publicly available timelines for ongoing and future objectives that do not have concrete dates and funding deliverables.

Recommendations Specific to the U.S. Department of Agriculture (USDA)

The Agents of Change in Environmental Justice provided review of the 2021 Department of Agriculture Action Plan for Climate Adaptation and Resilience (Agents of Change, 2023; U.S. Department of Agriculture, 2021). These recommendations are based on their review.

1. USDA should avoid using “bioenergy generation,” as it is not a renewable resource. The USDA’s wildfire strategy includes the suggestion that the Forest Service and Rural Development will connect post-wildfire salvage logging with bioenergy generation. Bioenergy generation using forest materials is a euphemism for unnecessary carbon emissions. Burning woody biomass for energy is considered “renewable” because trees can be replanted, but centuries are required for trees to sequester enough carbon to actually make this a net zero energy source. Bioenergy production is a source of significant carbon emissions and pollution, which threatens marginalized communities the most. USDA notes barriers to implementing various wildfire resilience strategies (including implementation of bioenergy from forested timber) include “competing priorities during periods of widespread wildfire activity, state and local air quality compliance for prescribed fires, and public resistance to wildfire and fuels management.”
2. USDA should create clear metrics to track the Agency’s learning from communities and how they are implementing local knowledge with regard to Climate Hubs. While agencies aim to instruct EJ communities about the necessities of their land management prescriptions, Agencies

should also be continuously open to learning from EJ communities about their relationships to the land, ecosystem, and how those land management practices affect public health.

3. USDA places significant emphasis on wildfire as a risk to both crops and forestlands due to the effect severe fire can have on soil and mortality of plants. USDA notes the expansion of the wildland-urban interface, which increases the risk of wildfires to communities because of increasing overlap between forested and grasslands and urban development. This change in the WUI and the government's priority to protect human life require active severe wildfire prevention and recovery efforts. Forest management actions can focus on mitigating and preventing severe wildfire. Proactive measures to minimize wildfire risk directly to people should focus on using fire-hardened and resistant (non-combustible) materials in buildings, minimizing small tree fuel loads directly around the home or building, and having appropriate wildfire fighting response and evacuation procedures. USDA should focus on proactive protection of human life rather than solely responding to wildfire.
4. USDA notes an emphasis on co-benefits from land management including "enhanced soil carbon sequestration and reduced emissions", but oftentimes these net emissions reductions do not include the emissions from unnecessarily logging and removing mature and old growth trees. U.S. EPA should include emissions from logging and removing mature and old trees in all calculations to understand the true emissions reductions that are happening (or not).
5. Funding distribution should follow migrant workers, rather than staying in environmentally vulnerable land.
6. USDA should prioritize small farmers over monoculture "big agriculture" in providing financial incentives to farm climate-resilient crops and farming methods.

Both DOI and USDA note intentions and past efforts to engage meaningfully in discussions with Tribes about forest management strategies addressing climate risks including water scarcity wildfire, and ecological biodiversity. However, funding is not included in these plans nor are co-stewardship promises outlined. For meaningful and sustainable management of forest lands that are the ancestral homelands of Tribes, DOI and USDA should provide funding to Tribal governments and scientists to enable dedication of resources to that management and majority control should be given to the Tribes (i.e., at least 51%/49% governance split between Tribe and Federal agency) for management of lands.

Conclusion

The more frequent and intense disasters related to the climate crisis, including droughts, floods, hurricanes, wildfires, rising seas and others require community preparedness, participation in planning and decision-making that includes the most overburdened, disadvantaged, and vulnerable people. The government cannot tackle the climate crisis on its own. Government at all levels should partner and resource communities at the frontlines of climate disasters. Like democracy itself, communities must be ever vigilant to address the climate impacts to save lives, properties, and livelihoods.

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