THE ADMINISTRATOR
WASHINGTON, D.C. 20460

August 30, 2024

Shirlee Tan, Ph.D.
Chair, Children's Health Protection Advisory Committee
Seattle and King County Public Health Department
401 Fifth Avenue
Seattle, Washington 98104

Dear Dr. Tan:

I would like to convey my appreciation to you and the Children's Health Protection Advisory Committee for your recommendations in response to the U.S. Environmental Protection Agency's charge to the committee on climate impacts on children's environmental health. Your August 21, 2023, letter provides thoughtful and thorough advice on climate adaptation actions the EPA can pursue that would result in meaningful protection of children from the effects of climate change; actions the EPA can pursue to address climate change vulnerabilities to infrastructure from a children's environmental health risk standpoint; actions or activities the Office of Children's Health Protection should include in its own Climate Adaptation Implementation Plan; and climate justice actions OCHP should consider in that plan and how to address social determinants of health in the selection and implementation of climate adaptation actions.

I have consulted with senior leaders across the EPA to explore how the Children's Health Protection Advisory Committee's policy recommendations are being considered and adopted across the agency. The enclosure to this letter provides the EPA's detailed response. While this response letter does not represent the totality of work that has occurred or is underway, it offers a snapshot of several recent and immediate actions we have taken and will take to advance priorities identified by the committee. The examples of EPA actions highlighted in the enclosed response to your recommendations illustrate the EPA's significant strides toward meeting its commitments. Specifically, they show steps the EPA is taking to proactively incorporate climate adaptation planning into the agency's programs, policies, rules and operations while considering the health of children at all life stages.

The Biden-Harris Administration has taken historic steps to provide the federal support, resources and investments needed to help plan for, adapt to and guard against the devastating impacts of climate change now and in the future. Consistent with and informed by the Children's Health Protection Advisory Committee's recommendations, the federal government and the EPA will continue to take a

multifaceted, collaborative approach internally and externally to provide effective access to meaningful resources that will educate and communicate about climate impacts and solutions and offer technical and financial assistance opportunities that will advance critical planning and implementation efforts.

The EPA appreciates many of the advisory committee's comments on the EPA's role in interagency activities. The agency will continue to explore opportunities to leverage collaboration with other agencies. Potential future areas of focus include hiring additional full-time employees in EPA program and regional offices to focus on issues related to climate adaptation and resilience, support the implementation of the EPA's agencywide Climate Adaptation Implementation Plan and consider scaling up technical assistance programs that focus on design and planning support for disaster-prone communities with a children's health lens.

While the examples provided in this letter highlight many successful activities, important work to realize the vision of protecting children's health at all life stages and in the most vulnerable communities remains. Admittedly, there are still challenges. The agency is unable to implement several recommendations at this time for various reasons, including some recommendations scopes' being outside of the climate adaptation charge; funding and staff limitations; limited statutory authorities; and the need for engagement with other agencies that may have the statutory authority to act.

The ongoing interactions and communications between the advisory committee members and EPA senior managers and employees offer an important opportunity for mutual learning related to the climate, environmental and public health concerns affecting children and pregnant women. We will continue to build on our collaboration for progress in children's health amid a changing climate.

I look forward to continuing to engage with you as the EPA addresses complex environmental issues facing children's health protections. In the meantime, please accept my warmest wishes for continued success in your important work.

Sincerely yours,

Michael S. Regan

Enclosure: The EPA's Response to the CHPAC's Climate Change Report Recommendations

Our climate is changing, and the health and well-being of children will continue to be affected. Children are uniquely vulnerable to climate change due to a variety of physical, cognitive, behavioral and social factors. Climate change-related impacts in childhood can have lifelong consequences due to effects on learning, physical health, chronic disease and other conditions.

Children who live in highly exposed or socially vulnerable communities may have reduced resiliency and ability to recover from exposure to environmental hazards and require heightened focus, assessment and safeguards to protect their health. This is especially critical as our climate changes; with new and worsening threats to children come greater responsibility to provide them the best baseline environmental health protections.

The agency appreciates the CHPAC's recommendations as they will certainly strengthen the EPA's current and future work to protect children's health as the climate changes.

Charge Question 1 – EPA: Climate Adaptation Actions

The agency's first charge question to the CHPAC was the consideration of climate adaptation actions to protect children from the effects of climate change. These actions include regulatory changes, engagement with other agencies and communities, mental health impact considerations, grants administration and enforcement priorities.

The agency appreciates the CHPAC's recommendations on potential regulatory changes that can help protect children's health from the impacts of climate change. The agency understands the need for early engagement on applicable rulemakings. To ensure successful implementation, OCHP will continue to advocate for all agency actions to consider implications for children's health. Furthermore, the Office of Policy will continue to stress the need for early engagement on applicable rulemakings to ensure that program offices can incorporate children's health research, data analysis and economic evaluation at pertinent times in the Action Development Process. The agency has also prioritized listening directly to underserved communities to understand the barriers to access funding and helping to reduce them, including through direct technical assistance and more flexible funding pathways.

The following select examples respond to the CHPAC's recommendations with the clearest direct linkages to climate adaptation and children's health.

1.1 Regulatory Changes

The CHPAC recommended that the EPA consider regulatory changes associated with protection of children's health, which CHPAC believes may be among the most feasible actions within the EPA's purview.

EPA actions:

In February 2024, the Office of Air and Radiation strengthened the National Ambient Air Quality Standards for Particulate Matter by revising the level of the primary (health based) annual $PM_{2.5}$ standard to 9.0 micrograms per cubic meter ($\mu g/m^3$); retaining the primary 24-hour $PM_{2.5}$ standard,

with its level of 35 µg/m^3; and changing the breakpoints of the $PM_{2.5}$ AQI (air quality index) to reflect the strengthened primary annual $PM_{2.5}$ standard based on recent health and scientific evidence. All these revisions were effective in May 2024. This action addresses climate change by reducing emissions of $PM_{2.5}$.

Climate change can lead to more frequent and severe weather-related events such as wildfires and dust storms, which release substantial amounts of $PM_{2.5}$ into the air. Increased temperatures can also enhance the formation of ground-level ozone, a secondary pollutant that reacts with other pollutants to form $PM_{2.5}$ particles. Changing weather patterns can alter the transport and dispersion of $PM_{2.5}$ over large distances. In all, climate change can exacerbate the health impacts of $PM_{2.5}$ by creating conditions that are more conducive to the development of respiratory and cardiovascular diseases, making children more susceptible to the harmful effects of air pollution.

The CHPAC recommended that the EPA revise the *Exceptional Events Rule*, which governs the exclusion of event-influenced air quality data from certain regulatory decisions. Exceptional events are unusual or naturally occurring events that can affect air quality but are not reasonably controllable using techniques that Tribal, state or local air agencies may implement in order to attain and maintain the NAAQS. Exceptional events may include wildfires, high wind dust events, prescribed fires, stratospheric ozone intrusions, and volcanic and seismic activities. In April 2024, the agency published the *$PM_{2.5}$ Wildland Fire Exceptional Events Tiering Document,* which supplements the EPA's September 2016 document titled, *Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*, and focuses on preparing and reviewing exceptional events demonstrations associated with wildfire and prescribed fire events for both the 24-hour and annual fine particulate matter standards. The Tiering Document is relevant for events that may be associated with initial area designations for the 2024 revised annual $PM_{2.5}$ NAAQS and other actions of regulatory significance. While not a revision of the Exceptional Events Rule, EPA's tiering document helps to establish clear expectations for air agencies in the implementation of the rule, providing them with important analyses and language to include in documentation for $PM_{2.5}$-related exceptional events demonstrations.

The EPA has created tools to analyze and visualize air quality data to help in deciding if air pollution caused by unusual events, such as like wildfires or dust storms, should be excluded when determining if an area meets NAAQS for ozone and fine particles. The tools can identify days likely affected by these unusual events, check if excluding these data would change the area's compliance status and categorize the event's severity for specific locations.

Also, as part of the revisions to the $PM_{2.5}$ NAAQS, the EPA is updating key air quality monitoring requirements for fine particles. The CHPAC recommended that the EPA should include environmental justice factors in the siting criteria for regulatory air quality monitoring sites. To enhance protection of air quality in communities subject to disproportionate air pollution risk, the EPA is modifying the $PM_{2.5}$ monitoring network design criteria to include an environmental justice factor. This factor will account for proximity of populations at increased risk of $PM_{2.5}$-related health effects to air pollution sources of concern.

The CHPAC recommended that the EPA should monitor and regulate chemicals and hazardous substances in the context of amplified climate change threats. In February 2024, the Office of Land and Emergency Management promulgated the *Safer Communities by Chemical Accident Prevention* rule, which finalizes revisions to the Risk Management Program (RMP) to further protect vulnerable communities, including children, from chemical accidents. This is a significant update to the rule, and especially protects children living near facilities in industry sectors with high chemical accident rates. It also includes new safeguards such as identifying safer technologies and chemical alternatives, requiring implementation of safeguard measures in certain cases, more thorough incident investigations and third-party auditing. In particular, the rule emphasizes the requirement for regulated facilities to evaluate the risks of hazards, which includes accounting for climate change.

Pertinent portions of the *Safer Communities by Chemical Accident Prevention* rule enhance facility planning and preparedness efforts to strengthen emergency response by ensuring that chemical release information is shared in a timely fashion with local responders and a community notification system is in place to warn the community of any impending release; emphasizing the requirement for regulated facilities to evaluate risks of natural hazards and climate change, including any associated loss of power; and increasing transparency by providing access to RMP facility information for communities nearby.

Also responsive to the CHPAC recommendations is OLEM's promulgation of a rule, in March 2024, requiring certain facilities to develop facility response plans for worst-case scenario discharges of *Clean Water Act hazardous substances,* or threat of such a discharge. A worst-case scenario discharge is the largest foreseeable discharge in adverse weather conditions, including extreme weather conditions due to climate change. Facilities subject to the rule are required to prepare response plans in the event of worst-case scenario discharges, or threat of such discharges. These planning requirements help protect the environment by ensuring that facilities have planned for and can respond to discharges of hazardous substances, particularly in communities with environmental justice concerns, which are disproportionately located in proximity to industrial facilities. Regulated facilities are required to submit response plans to the EPA by June 1, 2027. In the interim, the agency is committed to conducting outreach, providing compliance assistance to the regulated community and implementing organizations to help them understand the requirements.

As climate change increases the frequency and severity of extreme weather events, planning and preparedness for these incidents are especially important. The *Clean Water Act Hazardous Substance Facility Response Plan Applicability* applies to facilities that could reasonably be expected to cause substantial harm to the environment, based on their location(s). These include facilities with a maximum onsite quantity of a CWA hazardous substance that meets or exceeds a threshold quantity, located within a 0.5-mile radius of navigable water or conveyance to navigable water, and that meets one or more substantial harm criteria, one of which is the ability to cause injury to public receptors, including children. The Agency has concluded that the effect of the requirements codified in this rule will mitigate the adverse effects of environmental and socio-economic damage that could otherwise result from worst-case scenario discharges.

Under the Toxic Substances Control Act, the Office of Chemical Safety and Pollution Prevention is implementing a more efficient process to assess risk and apply mitigation measures, as appropriate, for new chemicals with applications in batteries, electric vehicles, semiconductors and renewable energy

generation that may impact climate adaptation considerations, including for children. Like all chemical substances not listed on the TSCA Inventory, new and modified chemicals are subject to section 5 of TSCA, which requires manufacturers, including importers, of new chemical substances to provide OCSPP with notice by submitting a Premanufacture Notice before initiating the activity. When OCSPP receives a PMN, TSCA requires the agency to fully assess all the potential hazards and exposures of the new chemical substance, decide as to whether it presents an unreasonable risk to human health or the environment and take steps to address that risk before the chemical substance can enter commerce. The analyses conducted under TSCA include an evaluation of the impacts to potentially exposed and susceptible populations, which includes children. The increased efficiencies in OCSPP's processing of PMNs will aid in improving evaluation of exposures and hazards of new chemicals to all age groups, including children, that may support and impact climate adaptation strategies.

1.2 Engagement with Other Agencies and Communities

The CHPAC recommended that the EPA bolster its engagement on climate change via partnerships with other agencies, policymakers, healthcare practitioners, educators and grantee communities, underscoring that cooperation and community engagement are essential to getting the EPA's resources out in front of the public, many of whom might not think to engage with a federal agency. The CHPAC additionally suggested that the EPA coordinate with other agencies to influence climate adaptation policies over which those agencies have primary authority.

EPA actions:

The EPA continues to partner with other federal agencies to improve cross-agency approaches to adaptation and resilience and to align our efforts. Examples of these partnerships include the Climate Resilience Sub-Interagency Policy Council that oversees implementation of the *National Climate Resilience Framework*; the Council on Environmental Quality's Federal Climate Adaptation Plan Network; the Climate Services Subcommittee of the U.S. Global Change Research Program; the Green Infrastructure Federal Collaborative, which promotes the implementation of green infrastructure; and a *Memorandum of Agreement with Federal Emergency Management Agency* to work on post-disaster resilient recovery, among other inter-agency working groups. These collaborations contribute to the "all hands-on deck" approach to align federal efforts under the *National Climate Resilience Framework*. Informed by the CHPAC input, OP staff will continue to bring children's environmental health in the context of climate change into these interagency efforts.

The EPA collaborates with inter-agency partners to protect children equitably from exposure to environmental contaminants by co-chairing the President's Task Force on Environmental Health Risks and Safety Risks to Children (established by the Executive Order on Protection of Children from Environmental Risks and Safety Risks (EO 13045)), with the U.S. Department of Health and Human Services. More than 17 federal entities are members of this task force, with various parts of the Centers for Disease Control and Prevention, including the National Institute for Environmental Health Sciences, the U.S. Department of Housing and Urban Development and the EPA, leading the four subcommittees. One of these subcommittees in particular focuses on the impact of climate, emergencies and disasters on children.

The EPA's work with communities has greatly increased under Administrator Regan's leadership. The Administrator's Journey to Justice tour, initiated in November 2021, was about making good on his

commitment to take the perspective of overburdened and underserved residents back to Washington, D.C., to drive policymaking and to lift up forgotten communities so they can take advantage of the federal resources available to them. Section 1.4 highlights the financial assistance opportunities available to these communities for addressing climate impacts on children and the community at large.

The OCSPP has developed information for managing heat stress for agricultural workers as part of its overall worker protection efforts. This is particularly important in agricultural communities where adolescents are permitted to work at younger ages and are, therefore, highly susceptible to periods of excessive heat. The Pesticide Regulatory Education Program Network creates and promotes professional development opportunities for pesticide regulatory officials throughout the United States and its affiliated territories. PREP provides practical training on technical, policy and management issues, as well as a wide array of cutting-edge pesticide topics, including pesticide applicators subject to heat stress. In fact, a climate change discussion was included with 75 state and Tribal participants during three recent PREP courses.

PREP training includes reference to the EPA's 6th Edition of *Recognition and Management of Pesticide Poisonings* (2013), where, based on compiled research, the Agency underscores the concerns of young children and adolescents being exposed to pesticides. This resource emphasizes the EPA's engagement with the healthcare practitioners who work closely with rural and urban communities where children are exposed to pesticides. A Spanish version of the Recognition and Management of Pesticide Poisonings: 5th Edition is available online.

Many of the CHPAC's recommendations align with the key priority strategies identified in the *EPA's Equity Action Plan*, published in February 2024. Strategy Two of the Plan is focused on reducing cumulative impacts of environmental and other burdens in communities with environmental justice concerns and Strategy Four is focused on protecting children equitably from exposure to environmental contaminants. The agency is identifying ways to address different types of cascading outcomes caused by specific climate events that disproportionately impact children's and maternal health, and where development of holistic solutions with partner offices and organizations on climate events would lead to greater resilience within communities.

In 2023, the EPA published *Climate Change and Children's Health and Well-Being in the United States*, a national-scale, multi-sector report that quantifies projected health effects associated with extreme heat, air quality, changing seasons, flooding and infectious diseases. Where possible, the analyses consider the extent to which these risks disproportionately fall on children from overburdened populations. The concluding chapter is designed to facilitate a call to action by proposing steps people can take to reduce the impacts of climate change on children's health and includes recommendations on how researchers can work to fill critical gaps in our understanding of these risks. The EPA has given many presentations on the results of this report to a variety of partners, including during the CHPAC Plenary in May 2023.

1.3 Mental Health Impacts

The CHPAC recommended that the EPA protect children from the mental health impacts of climate change, including through "just access" to green space.

Mental, psychological and developmental health can be affected by various climate stressors. Additional research is needed to better understand the mental health impacts of climate change on children; however, in keeping with CHPAC's recommendation, the EPA is undertaking actions that support investment in parks and green space that can provide both physical and mental health benefits. Such investments in more resilient communities can provide for recreational opportunities, enhanced wildlife habitat, and related physical and mental health benefits helping to alleviate anxiety in children. The steps the EPA is taking with communities to invest in and promote climate resilience, disaster preparedness and greenhouse-gas reduction will help to alleviate the environmental and health burdens that communities most affected by climate change currently face.

EPA actions:

The EPA's $2 billion Community Change Grants Program, administered by the Office of Environmental Justice and External Civil Rights and open for applications until November 2024, is designed to drive long-term and transformational change in disadvantaged communities with environmental and climate justice activities through projects that reduce pollution, increase community climate resilience and build community capacity to address environmental and climate justice challenges. These place-based investments will be focused on community-driven initiatives to be responsive to community and stakeholder input. The CCGP offers opportunities to address a number of CHPAC recommendations that will be discussed throughout this response.

With respect to providing access to green space, the CCGP includes "Green Infrastructure and Nature-Based Solutions" as one of the core climate strategies that applicants can choose when developing their projects. One of the technical assistance programs offered to potential CCGP applicants is the Equitable Resilience Technical Assistance program. This program is providing more than 60 communities with free design and project development assistance, community engagement and partnership development workshops that support climate resilience and environmental justice activities in disaster-prone areas. An eligible category for projects is planning for physical upgrades to community-serving buildings, including schools, community recreation centers, childcare facilities and libraries. Upgrades could include heating, air conditioning, ventilation and energy efficiency improvements or retrofitting buildings to be community resilience hubs.

Other eligible categories of projects for the CCGP include actions that could be paired with building upgrades such as the design or redesign of public parks and open space, waterways or agricultural lands to include green infrastructure, shade structures, trees, rain gardens, pollinator gardens and onsite renewable energy; community gardens; daylighting rivers and streams in urban areas; watershed protection; and applicable coastal green infrastructure, much of which can benefit children's environmental health. Projects can support "just access" to green space in urban and other areas.

OLEM continues to expand its 25-year partnership with the National Parks Service's Rivers, Trails and Conservation Assistance program to facilitate the reuse of brownfields as parks, trails, greenspace and other community benefits through the development of local nonprofit organizations, known as Groundwork Trusts, in urban communities impacted by vacant lands, disinvestment, climate events and other environmental justice concerns. The new Land Use Innovation program carried out under

the agreement bolsters community and youth engagement as an integral part of brownfield reuse projects focused on equity and climate resilience.

1.4 Grant Administration

The CHPAC made several suggestions regarding the EPA's administration of grant programs, including removing barriers to applying, managing and reporting by providing direct assistance, funding long-term infrastructure changes, capacity building and climate adaptation strategies that are sustainable and requiring climate adaptation plans be part of assistance agreements. In alignment with the CHPAC's recommendations, the EPA is striving to ease accessibility barriers to its funding programs so that overburdened communities can apply for and utilize grants to make progress on their climate adaptation and resilience goals. The CHPAC's recommendations on listening and being responsive to the needs of underserved communities in the administration of EPA's grant programs will continue to be a priority for the Agency, including through its Thriving Communities Technical Assistance Centers and Thriving Communities Grantmakers programs.

EPA actions:

OP's Resilient Infrastructure Subgroup on Climate is helping to incorporate consideration of climate adaptation into the agency's financial assistance programs, thus addressing the EPA's long-term commitment to modernize its financial assistance programs to encourage climate-resilient investments, where appropriate. The Resilient Infrastructure Subgroup on Climate supports the EPA's program offices and regions to integrate adaptation and resilience into their financial assistance processes. The Subgroup is also taking steps to ensure EPA's tools, training, data and technical assistance programs are accessible to funding applicants and recipients so they can make climate-resilient investments. In late 2024, the Subgroup plans to release a public-facing website to support technical assistance providers as they work with states, Tribes, communities, non-governmental organizations, academia, businesses and others looking to invest in climate-resilient projects. The website will provide resources to help potential funding applicants engage in, learn about and seek financial support for climate-smart investments.

The EPA has offered a variety of funding opportunities that address climate impacts and support children's environmental health. Some examples include:

- Through the Community Change Grants Program, the EPA anticipates many of the funded projects will be infrastructure projects. The program requires applicants for community-driven investments for change funding to include at least one project aligned with at least one climate strategy listed in the Notice of Funding Opportunity. Several of the climate strategies are focused on climate resilience and adaption, including microgrid installation for community energy resilience, community resilience hubs and brownfield redevelopment for emissions reduction and climate resilience.
- The Climate Pollution Reduction Grants (CPRG) program provides $5 billion in grants to states, local governments, Tribes and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution in their communities. Applications for CPRG implementation grants will be evaluated, in part, for benefits to low-income and disadvantaged communities. The CPRG program has held several webinars that are available on the EPA's website and offers technical assistance.

- The EPA is implementing the Bipartisan Infrastructure Law's Clean School Bus program, which provides $5 billion over five years (FY 2022-2026) to replace existing school buses with zero-emission and low-emission models. Funding from the EPA's Clean School Bus program will improve air quality in and around schools and communities and protect children's health. For more information, please refer to the most recent Clean School Bus Program Report to Congress.
- The Diesel Emissions Reduction Act, originally authorized under the Energy Policy Act of 2005, enables the EPA to offer funding to accelerate the turnover of legacy diesel fleets. DERA has funded projects in diverse sectors and locations with the largest number of vehicle upgrades, at 43 percent for school buses, directly helping provide the safest transportation to and from school. In May 2024, the EPA announced a DERA grants program for Tribes and territories, with no mandatory cost-share requirement. Grant applications are due in December of this year. To read more about the historical impacts of DERA, please refer to the DERA Report to Congress - Highlights of the Diesel Emissions Reduction Program 2008 - 2018.
- OAR is facilitating two new grant programs that are intended to promote indoor air quality resilience in communities across the nation: the Wildfire Smoke Preparedness in Community Buildings Grant program and the Inflation Reduction Act Schools Air Quality Grants program.
    - The EPA's Wildfire Smoke Preparedness in Community Buildings Grant program aims to improve the capability and capacity of community buildings to respond to wildfire smoke events, including through improvements to building infrastructure and capacity building and training for the staff who operate and maintain them. Several of the selected applications target interventions to improve resiliency to wildfire smoke in schools, preschools, youth centers and other community buildings that serve children.
    - Through the IRA Grant Funding to Address Indoor Air Pollution at Schools, grantees will assist K-12 schools in low-income, disadvantaged and Tribal communities in the development and adoption of comprehensive IAQ management plans to address air pollution and energy efficiency consistent with the EPA's recommended best practices. This includes funding to assist schools in reducing greenhouse-gas emissions.

  Both grant programs held information sessions to answer applicants' questions during the application open period. Answers to applicant questions received at these webinars and via email were posted publicly and updated weekly. The session for the Grant Funding to Address Indoor Air Pollution in Schools also pointed applicants to EPA's Environmental Justice Thriving Communities Technical Assistance Centers for application assistance. These were not yet available during the application period for the Wildfire Smoke Preparedness grant program.
- OEJECR has launched several programs designed to build the capacity of communities, including the Thriving Communities Technical Assistance Centers and the Thriving Communities Grantmakers programs. Alongside the Community Change Grants Program, OEJECR announced up to $200 million in technical assistance for communities wishing to apply. The Thriving Communities Grantmakers program is designed to lower barriers for low-capacity applicants, just where children's health protection is needed most. OEJECR has selected 11 high-capacity organizations to receive $600 million in awards to serve as pass-through funders for thousands of small grants to community-based organizations. These Grantmakers will develop a simplified application process that allows communities to circumvent the federal grant application process. They also will help grantees with grants tracking and reporting.

- The Office of International and Tribal Affairs provides General Assistance Program grants to federally recognized Tribes and intertribal consortia for planning, developing and establishing environmental protection programs, as well as for developing solid and hazardous waste programs on Tribal lands. GAP funding can be used to support unique Tribal considerations, including treaty rights, Indigenous Knowledge, children's health and climate change.

1.5 Enforcement Priorities

The CHPAC recommended that the EPA prioritize enforcement of regulations that implicate children's health, including regulations aimed at reducing exposures to lead, pesticides and other toxic environmental chemicals, safeguarding drinking water quality and air quality and addressing pollution sources that impact populations vulnerable to climate disasters.

EPA actions:

Robust enforcement of environmental laws promotes compliance, deters violations and holds environmental violators accountable. The EPA has many enforcement priorities that implicate children's health, including climate strategies and national enforcement initiatives to reduce hazardous air pollutants, prevent chemical injuries and protect drinking water. These priorities will ensure that children have access to clean air and safe drinking water and are at lower risk of negative health impacts from environmental harms.

Following the mandate in President Biden's Executive Order on Tackling the Climate Crisis at Home and Abroad (EO 14008) and the *FY 2022-2026 EPA Strategic Plan*, the Office of Enforcement and Compliance Assurance issued the EPA's *Climate Enforcement and Compliance Strategy* on September 28, 2023, directing all EPA enforcement and compliance offices to address climate change, wherever appropriate, in every matter within their jurisdiction. In particular, the strategy requires EPA's enforcement and compliance programs to prioritize enforcement and compliance actions to mitigate climate change; include climate adaptation and resilience in case conclusions, as appropriate; and provide technical assistance to achieve climate-related solutions and build climate change capacity among the EPA staff and state and local partners.

The strategy also recognizes that while the impacts of climate change affect people in every region of the country, certain communities and individuals already overburdened by environmental stressors and with less access to the resources needed to adapt to and recover from climate change impacts are especially vulnerable. Under this strategy, the EPA's enforcement and compliance programs will consider climate equity as it factors climate change considerations into its enforcement and compliance activities.

Recognizing the need to address communities that suffer impacts from higher levels or multiple sources of toxic air pollution, OECA's Reducing Air Toxics in Overburdened Communities Initiative focuses on overburdened communities selected by each Region that are facing high levels of toxic air pollution from hazardous air pollutants. Each region will make those selections in partnership with states based on fence line monitoring and other sophisticated tools that allow detection of the worst forms of toxic air pollution. Reducing air toxics will result in corollary benefits of reducing concentrations of criteria air pollutants, such as ozone and particulate matter. Core air enforcement program activities will also contribute to reducing criteria air pollutant concentrations.

Many communities overburdened by air pollution are impacted by HAPs, such as benzene, ethylene oxide and formaldehyde. This initiative will seek to target, investigate and address noncompliance with HAP regulations with a focus on sources of HAPs in communities already highly burdened with pollution impacts. Where noncompliance is found and enforcement is appropriate, Regions will engage with community groups on appropriate relief to address the community's concerns.

Additionally, OECA's Chemical Accident Risk Reduction Initiative seeks to reduce risks to human health and the environment by decreasing the likelihood of chemical accidents. Thousands of facilities nationwide, many of which are in communities with environmental justice concerns or that face climate change-related hazards or both, make, use and store extremely hazardous substances. The failure to implement required risk management programs at facilities handling extremely hazardous substances can result in catastrophic accidents that cause fatalities and serious injuries, evacuations and shelter-in-place orders. Work under this initiative will focus on inspecting and addressing noncompliance at facilities using two extremely hazardous substances that pose high risk to communities: anhydrous ammonia and hydrogen fluoride. Facilities using these chemicals have had dangerous incidences, including some near catastrophic misses to surrounding communities, and releases that required medical response, evacuations, and have resulted in serious injuries and fatalities.

Finally, OECA's Increasing Compliance with Drinking Water Standards at Community Water Systems Initiative will ramp up field presence, take impactful enforcement action to reduce noncompliance, prevent violations by improving climate resiliency and offer more compliance assistance to prevent and address public health risks. The EPA will continue to work with states, Tribes, territories, local governments and the regulated community to ensure delivery of safe water to communities.

Charge Question 2 – EPA: Climate Change Vulnerabilities to Infrastructure

The agency's second charge question to the CHPAC focused on actions to address climate change vulnerabilities to infrastructure from a children's environmental health risk standpoint. Key areas include considering cascading events when infrastructure is impacted, institutionalizing climate-informed infrastructure, addressing specific infrastructure types like buildings and water systems, increasing capacity in emergency resilience and incentivizing new infrastructure investment.

The CHPAC's recommendations have encouraged the agency to continue factoring the impacts of climate change to the built environment in which children spend their time, including the need to conduct research on the cascading impacts and compounding events on health of the climate crisis. Additionally, as the EPA awards funding and technical assistance focused on infrastructure, the CHPAC's recommendations on climate adaptation and children's health will be a resource to help ensure that children's health is appropriately and adequately considered.

The EPA notes that its various offices are engaged in different work in this area to research, educate and advance climate-informed solutions to improve the resilience of infrastructure to protect children's health. Because the EPA's programs working on infrastructure and disaster resilience focus on all members of the public, including children, the EPA's response below is tailored to the work the agency is doing that most directly affects children's health. Additionally, for areas in which the EPA

does not have the primary authority to act, the agency will continue to work with other agencies to provide support to federal partners with the appropriate authority (e.g., FEMA and HUD).

2.1 Cascading Events when Infrastructure Is Impacted

The CHPAC recommended that the EPA identify ways to address different types of cascading outcomes caused by specific climate events that can disproportionately impact children and women of child-bearing age and where development of holistic solutions to climate events with partner offices and agencies would lead to greater resilience within communities.

EPA actions:

The Office of Research and Development is continuing to advance research on cascading outcomes and compounding events, looking across multiple climate hazards and their interactions, with several efforts focused on children's and maternal and paternal health. For example, the Air, Climate and Energy National Research Program is focusing on interactions between air quality, heat and wildfire smoke and impacts on children's and maternal health. Researchers are examining associations between $PM_{2.5}$ exposure and low birth weight and how those outcomes are modified by extreme heat events during pregnancy. Using prescription claims data, ORD is also assessing wildfire smoke exposure and early childhood respiratory health. Researchers are also examining how paternal exposure to wildfire smoke can affect semen quality and their offspring's later susceptibility to metabolic diseases. This research will help the agency to better understand the potential occupational hazards of firefighters and other first responders.

ORD's Sustainable and Healthy Communities National Research Program is looking at the intersection of contaminated sites, waste management and community resilience in the context of amplified climate change threats. For example, researchers are mapping contaminated sites (e.g., Superfund sites) and characterizing sites risk to sea level rise, flooding and wildfire.

ORD's Homeland Security Research Program addresses science gaps related to oil spill response, protecting water systems and cleanup of wide areas contaminated with high-priority Homeland Security Chemical, Biological, Radiological and Nuclear agents. This includes contamination incidents due to natural disasters, pathogens that cause communicable diseases, covert release of chemicals and agricultural incidents with animal and crop diseases. The program aims to improve and develop decision-support tools and cleanup capabilities to make children less vulnerable during response to, and recovery from, contamination incidents.

2.2 Institutionalizing Climate-Informed Infrastructure

The CHPAC recommended that the EPA work internally and across the federal government to advance climate-informed infrastructure.

EPA actions:

The EPA works closely with federal partners within the Climate-Smart Infrastructure Interagency Working Group formed in March 2022 by the White House Office of Domestic Climate Policy and Office of Management and Budget. The CSI IWG works with federal agencies to identify best practices and provide resources that advance the Biden-Harris Administration's commitment to investing in infrastructure that meets the goals of being resilient to climate impacts and reducing climate pollution

by decreasing an infrastructure project's greenhouse gas impact. These are goals that positively impact all populations, including children. See OMB's Memorandum, *Advancing Climate Resilience through Climate-Smart Infrastructure Investments and Implementation Guidance for the Disaster Resiliency Planning Act*.

OLEM has developed numerous resources to help at-risk communities make climate-smart decisions in their brownfield assessment, cleanup and redevelopment. The *Climate Smart Brownfields Manual* provides guidance on best practices for climate change mitigation, adaption and resilience at all stages of Brownfields work, from planning to redevelopment. Brownfields Multipurpose, Assessment, Cleanup Grant recipients can use part of their grant funds on Climate-Smart Brownfields Planning activities. These activities can help communities evaluate how current and projected climate hazards will affect the immediate and long-term safety and protectiveness of the brownfield site. This climate information will inform decision-making for resilient cleanup and reuse, such as prioritizing sites based on their vulnerability to changing precipitation, temperature and/or increased extreme weather events. One climate-smart brownfields planning activity is a disproportionate impacts analysis, during which a community considers how youth, disabled, health-compromised, low-income or older residents will experience the effects of climate change and use community engagement opportunities to seek brownfield assessment, cleanup and reuse solutions that build their resilience.

2.3 Addressing Buildings-Specific Infrastructure

Several of the CHPAC's recommendations advised strengthening of building codes and standards and the resilience of schools and childcare centers to better protect children from the effects of climate change. The CHPAC also requested that the EPA prioritize research and policy development to build climate resilience into the built environment, especially in the places where children spend their time, like housing, schools, childcare centers and recreation centers. The CHPAC also encouraged the EPA to direct funding toward workforce development programs to reduce greenhouse-gas emissions in schools.

EPA actions:

With the White House Office of National Security as the lead and supported by other relevant offices, the EPA participates in the National Initiative to Advance Building Codes which was launched in June 2022 and is an all-of-government commitment to incentivize financial assistance recipients to adopt the latest, consensus-based building codes, high-performance standards and specifications in new construction or major rehabilitation and retrofit projects of infrastructure and buildings, including those buildings in which children and caregivers live, work and play. As part of this effort, EPA project and grant officers working in financial assistance programs for new construction or substantial rehabilitation of infrastructure and buildings, as applicable, are strongly encouraged to incorporate the latest consensus-based codes and high performance-standards and specifications in their grant programs, policies, guidance and award workplans.

OP helps communities achieve their environmental, health, equity, economic and other goals through smarter land use, growth and development. As part of its focus on integrating resilience in the built environment, OP is developing climate adaptation materials describing building code changes to improve resilience. OP has already developed three guidance documents directly related to the CHPAC's requests: *Smart Growth Fixes for Climate Adaptation and Resilience*, *Essential Smart Growth*

Fixes for Urban and Suburban Zoning Codes and *Essential Smart Growth Fixes for Rural Planning, Zoning, and Development Codes*. These resources contain broadly applicable tools and strategies for communities to consider smart growth in their planning and implementation processes. While their scopes are not directly focused on children, they cover how land use and development approaches impact the location of or access to spaces in which they reside and spend time, such as schools, daycare centers and libraries.

The Community Change Grants Program requires all applicants to develop at least one project that falls under a climate action strategy. One such strategy is Workforce Development Programs for Occupations that Reduce Greenhouse-Gas Emissions and Air Pollutants. While the EPA cannot direct potential applicants to submit projects focused on schools, as the statute requires a broader scope, such projects would be welcome in an application.

Through a series of webinars and educational resources, OAR's Indoor Air Quality Tools for Schools program builds capacity and competency among its stakeholders to implement and institutionalize effective indoor air quality management practices in schools. In part, this involves adapting school buildings to changing weather and climate extremes. The program promotes the development and adoption of comprehensive indoor air quality management plans to address air pollution and energy efficiency consistent with EPA's recommended best practices. It also provides information regarding health risks in schools.

OAR is updating AirNow to provide air quality and outdoor activity guidance for schools; maintaining a best practices document for reducing near-road pollution at schools; and updating EPA's Climate Change Website and Heat Islands program websites with a wealth of information and resources on how climate change, especially extreme heat, can affect different sectors and at-risk populations, including children. There are also suggestions for how to adapt to or reduce extreme heat impacts including cool pavements, trees and vegetation, cool roofs and examples from communities that are taking action. Many of the documents in AirNow are now available in Spanish.

OAR's Heat Island Reduction program works with local officials, community groups, researchers and other stakeholders to identify opportunities to implement heat island mitigation policies and projects that create comfortable and sustainable communities. The program provides information on actions that can be taken by state, territorial, and local governments, schools, private businesses and organizations to learn how to react and take mitigative action.

The EPA's ENERGY STAR® is the government-backed symbol for energy efficiency. The blue ENERGY STAR label provides simple, credible and unbiased information that consumers and businesses rely on to make well-informed decisions that protect the climate, improve air quality, and protect public health, including for children. The energy performance behind every ENERGY STAR label is independently verified, whether on a product, home, building or manufacturing plant. The program has the following current and upcoming activities that are responsive to the CHPAC's recommendations for improving indoor air quality for children in the buildings in which they live, learn and play.

- Indoor Air Quality – The use of many ENERGY STAR products such as electric cooking products, air source heat pumps for heating and cooling, heat pump water heaters and heat pump clothes

dryers can decrease on-site emissions in homes and buildings and help consumer and businesses save energy.

- Schools – ENERGY STAR has multiple resources targeting K-12 schools that: help school districts benchmark their energy use; identify funding programs to support actions in schools to improve energy efficiency and, in many cases, reduce on-site emissions; help schools understand when to finance energy efficiency projects; take both initial and longer-term steps to save energy; and gain recognition for their efforts to save energy.
- ENERGY STAR NextGen Certified Homes and Apartments – NextGen is an additional, optional level of recognition for homes and apartments that incorporate leading-edge efficient electric technologies and electric vehicle charging capabilities to maximize energy and emissions savings — while delivering the comfort, quality and durability that consumers expect from ENERGY STAR.
- Contractors – ENERGY STAR provides resources to help consumers hire contractors for energy efficiency improvements in their homes, including tips to identify and hire credentialed HVAC contractors; hire an attic insulation contractor; and hire a contractor for duct improvement projects.
- ENERGY STAR Homes Savings Tool – This upcoming new tool helps consumers find available financial incentives (tax credits, rebates, discounts), find resources for income-based assistance for home upgrades, identify and learn about eligible products, develop a plan to maximize savings and get connected to installation professionals and retailers locally. ENERGY STAR has a related summary webpage to help homeowners understand the many federal tax credits and deductions that will help reduce energy costs and demand. While the tool is live, an official launch of the tool occurred in May 2024.
- ENERGY STAR NextGen Certification for Existing for Homes and Apartments – In May 2024, the agency officially announced the launch of ENERGY STAR® NextGen™ Certified Homes and Apartments, a voluntary, leading-edge certification program for the nation's new residential and commercial buildings. NextGen represents the future of ENERGY STAR certification for these buildings. It will recognize energy-efficient, low-carbon buildings and will encourage the U.S. building stock to move towards efficient electrification while contributing to the growth of renewable energy. To earn ENERGY STAR NextGen Certification, U.S. commercial and multifamily buildings must be independently verified to demonstrate Superior Energy Performance.

2.4 Water Infrastructure

The CHPAC recommended that the EPA use Bipartisan Infrastructure Law and Inflation Reduction Act funds to ensure that water concerns for children and pregnant people are specifically considered in actions using these funds. Further, the CHPAC recommended that the EPA expand the adoption of additional water quality management practices throughout communities across the U.S. and work with state, territorial, and local governments to incentivize or direct homeowners associations and planned community developments to amend restrictive covenants to allow homeowners to develop rain gardens or similar habitats on their property to capture and decrease stormwater runoff, and to ultimately decrease nutrient loads that make their way to waterways. Finally, the CHPAC suggested

that the EPA work with state, territorial and local governments to incentivize or direct the use of lawn plantings that require less water and fewer nutrients to grow in the local habitat.

EPA actions:
Both BIL and IRA provide needed resources to address burdens that, for too long, have plagued communities with environmental justice concerns across our country, including bearing the brunt of toxic pollution, enduring underinvestment in infrastructure and critical services and suffering disproportionate impacts from climate change. The EPA has made tremendous progress in removing barriers affecting our most impacted communities with environmental justice concerns. Through the historic investment of BIL to improve and make our nation's drinking water, wastewater and stormwater infrastructure more resilient to climate change, the EPA is delivering more than $50 billion to cities, towns and territories across the country, many of which include disadvantaged communities where children's health can be at greater risk.

The EPA's Office of Water is responsible for several water infrastructure programs with a positive impact on communities, particularly children. OW's Drinking Water System Infrastructure Resilience and Sustainability Program Grants are supporting eligible entities with projects in underserved (i.e., a community that does not have access to household drinking water or wastewater services or is served by a public water system that violates the National Primary Drinking Water Regulations) and small (i.e., contains a population of less than 10,000 people) or disadvantaged (i.e., the service area of a public water system that meets affordability criteria established by its respective State) communities to increase drinking water system resilience to natural hazards. Eligible activities for funding include planning, design, construction, implementation, operation or maintenance of a program or project that increases resilience of public water systems to natural hazards.

Compliance with health-based standards is factored into the BIL guidance for OW's Clean Water State Revolving Loan Fund under the priority use of funds in an Intended Use Plan. Section 606(c) of the CWA requires states prepare an IUP identifying the intended uses of the funds in the CWSRF and describing how those uses support the goals of the CWSRF. An IUP, meeting all requirements of Title VI of the CWA, will be required for the EPA's approval of a grant award and release of awarded funds. Under CWA section 606(c)(1), the IUP must include a list of publicly owned treatment works projects on the state's Project Priority List, developed pursuant to section 216 of the CWA, that are eligible for SRF construction assistance. The priority for the use of funds should address water quality, the most serious risks to public health (including for children), ensure compliance, and assist systems most in need based on the state's affordability criteria and disadvantaged community definition. In addition, the CWSRFs are encouraged to prioritize climate adaptation or resilience related efforts, such as those addressing natural disasters, in their IUPs. States should review their SRF priority setting system to ensure they adequately address these priorities.

The principal objective of the Drinking Water State Revolving Fund is to facilitate compliance with national primary drinking water regulations or otherwise significantly advance the public health protection objectives of the Safe Drinking Water Act. States are required to give priority for the use of DWSRF project funds to address the most serious risks to human health, ensure compliance with the requirements of the SDWA and assist systems most in need on a per household basis according to state affordability criteria. When developing the maximum contaminant level goals for drinking water

regulations, SDWA requires the EPA to consider "the effects of the contaminant on the general population and on groups within the general population such as infants, children, women of child-bearing age, the elderly, individuals with a history of serious illness, or other subpopulations that are identified as likely to be at greater risk of adverse health effects due to exposure to contaminants in drinking water than the general population." This webpage features resources that can assist states and water systems with the implementation of the Bipartisan Infrastructure Law.

In March 2022, OW issued the memorandum, *Implementation of the Clean Water and Drinking Water State Revolving Fund Provisions of the Bipartisan Infrastructure Law*, to encourage states to use the significant increase in funding from the BIL appropriation for infrastructure projects that make water systems more resilient to all threats, including natural disasters and climate change. This encouragement aligns with Executive Order 14052 (Implementation of the Infrastructure Investment and Jobs Act) instruction to prioritize, among other goals, building resilient infrastructure that helps combat climate change.

In 2024, the EPA expanded its Closing America's Wastewater Access Gap Initiative to 150 additional communities after serving 11 communities through the pilot. This initiative provides underserved communities, including families and children, with no-cost technical assistance that helps identify affordable options for accessing wastewater infrastructure.

OW's Creating Resilient Water Utilities initiative provides drinking water, wastewater and stormwater (water sector) utilities with practical tools, training and technical assistance to increase resilience to climate change. CRWU assists water sector utilities by promoting a clear understanding of climate change and helping to identify potential adaptation measures, implementation options and infrastructure financing. Further, OW provides information and resources to help communities implement green infrastructure and nature-based solutions to help with their water management needs. Green infrastructure and other resilience strategies are eligible for funding under the CWSRFs and DWSRFs, as well as under other OW grant programs (e.g., Clean Water Act section 319 Grant program and section 320 National Estuary Program). Enhancing the resilience of water utilities ensures secure and safe access to drinking water for children and adults as the climate changes.

OW also leads the Green Infrastructure Federal Collaborative, which is a cooperative effort that fosters engagement and cooperation among agencies that actively work to promote the implementation of green infrastructure. Collaborative members, including nonprofits, federal departments and global government agencies, work closely to align knowledge and resources to build capacity for green infrastructure implementation. These coordinated efforts provide a platform to publicize the multiple environmental, economic and social benefits of green infrastructure. In addition, the collaborative seeks to facilitate strategies that foster climate resilience and encourage the equitable implementation of green infrastructure in all communities.

2.5 Increasing Capacity in Emergency Resilience

The CHPAC understands that children's health can be significantly impacted by emergency climate events, such as extreme heat and cold emergencies, flash floods and prolonged periods without operational HVAC and electrical power. The CHPAC recommended that the EPA lead an "all-of government" response in protecting children's health due to these emergency climate events and to

build national capabilities in emergency resilience. In building these national capabilities, the CHPAC requested that the EPA focus not just on urban community needs, but also on rural communities and families. The CHPAC also recommended that the EPA identify and fund post-emergency testing and rebuilding programs to help communities safely return and rebuild following climate events and as well as identify best practices for developing and funding climate resiliency hubs.

EPA actions:
The EPA has compiled resources to help in protecting children's health during and after natural disasters, including Children's Health in the Aftermath of Floods, Extreme Heat Effects on Children and Pregnant Women, and Children's Health Effects from Wildfires and Volcanic Ash.

OAR is highlighting children's unique vulnerabilities and susceptibilities, and the specific actions that should be taken to safeguard children, in guidance, education and outreach on climate change impacts to indoor air quality. This includes guidance through EPA's indoor air quality web pages focused on Climate Change, Emergencies and Wildfire Smoke:

- Emergencies and IAQ
- Wildfires and Indoor Air Quality
- Create a Clean Room to Protect IAQ During a Wildfire
- Wildfires and Indoor Air Quality in Schools and Commercial Buildings
- Resources for Flood Cleanup and Indoor Air Quality
- Flood Cleanup to Protect Indoor Air and Your Health
- Power Outages and IAQ
- Homeland Security and the Indoor Environment
- Indoor Air Quality and Climate Change
- Adapting Buildings for Indoor Air Quality in a Changing Climate

Future OAR activities include developing new guidance and resources regarding strategies for reducing the spread of common respiratory diseases indoors, including ventilation-related guidance that will reflect guidance from the CDC and the American Society of Heating, Refrigerating and Air-Conditioning Engineers. OAR is also developing new indoor air guidance for select contaminants. OAR already provides guidance for reducing exposure to many indoor air pollutants on its website, including specific guidance for schools.

OP and OCHP developed factsheets – issued in September 2023 – as part of the Schools as Cleaner Air and Cooling Centers pilot. These factsheets provide guidance for school audiences (i.e., facilities managers, principals and school administrators, teachers, and parents and caregivers) to implement best practices for keeping children safe during extreme heat, wildfire smoke and the spread of infectious diseases like COVID-19. To build off this work and create more climate resilient schools, OCHP is providing technical assistance to three communities to bring together public health experts, school personnel, local governments and community-based organizations to identify and analyze climate risks and create a plan to implement retrofits in school buildings so that they can remain open safely despite a changing climate. The results of the analysis and technical assistance workshops will enable targeting of infrastructure upgrades, with a focus on advancing health equity, that also support more climate-resilient school buildings.

The EPA and FEMA have entered into a Memorandum of Agreement to make it easier for the two agencies to work together to help communities become safer, healthier and more resilient. The EPA and FEMA collaborate to help communities hit by disasters rebuild in ways that protect the environment, create long-term economic prosperity and enhance neighborhoods. The EPA and FEMA contractors can provide communities with design and planning assistance to build resilience to impacts from climate change, natural disasters and industrial or hazardous materials risk. For example, one recent project in partnership with the Fort Peck Assiniboine and Sioux Tribes in Montana, supported planning to develop green infrastructure designs for skateparks used by children, by adding splashpads, shade trees and gardens with medicinal plants, including resilience hubs.

An "All-Hazards Waste Management Planning Tool" was also developed by OLEM in cooperation with the White House Office of National Security. This tool assists emergency managers and planners in the public and private sectors in creating or updating a comprehensive plan for managing materials and wastes generated from man-made and natural disasters. OLEM has similar supplemental materials and tools that it makes available to help local municipalities and Tribes plan for an increase in the occurrence of such emergencies.

OLEM's Superfund program is cleaning up and returning contaminated land to productive use, while lowering the risk of elevated blood lead levels for children living near lead-contaminated sites, especially in overburdened communities and after disasters. OLEM developed an approach that raises awareness of the vulnerability of contaminated sites to the impacts of climate change and extreme weather events and integrates climate adaptation into cleanup projects. The approach involves periodic screening of Superfund remedy vulnerabilities, prioritizing the Superfund program's steps to adapt to a changing climate and identifying measures to assure climate resilience of Superfund sites.

2.6 Incentivizing New Infrastructure Investment

The CHPAC recommended that the EPA incentivize the development of regulations and policies (either under existing authorities or by working with states, local governments and non-governmental organizations) that will build climate resiliency by setting standards that can protect the public from climate events when they are sheltering indoors.

EPA actions:

OAR provides technical assistance and training to strengthen the resilience and adaptive capacity of federal, state, territorial, local and Tribal partners to climate change impacts on indoor air quality. OAR's Indoor airPLUS Program, a voluntary partnership and labeling program, is helping new home builders improve indoor air quality by requiring construction practices and product specifications that minimize exposure to airborne pollutants and contaminants. This should be useful to homeowners, especially those with young family members and/or of child-bearing age.

The IRA has provided the EPA with funding to support the development and implementation of a program, administered by OCSPP, to label construction materials and products that have substantially lower levels of embodied greenhouse-gas emissions. The agency is also supporting the development, standardization, transparency and reporting criteria for environmental product declarations. Disclosure of embodied greenhouse-gas emissions through the development of Environmental Product Declarations based on robust and comprehensive data will enable fair comparison of construction materials and products and facilitate procurement of these products with lower embodied carbon

emissions. This work is under way and by using federal funding and procurement, it will help create markets for and advance progress on labeling low-carbon construction materials. This program will help to enhance the resilience of the built environment to protect children's health as the climate changes.

Charge Question 3 – OCHP's Climate Adaptation Implementation Plan: Actions & Activities

The agency's third charge question to the CHPAC involved recommendations for OCHP's Climate Adaptation Implementation Plan. These recommendations are provided in four general areas: guidance, outreach, and education; coordination between the EPA and other agencies; research and evaluation; and grants and community support.

OCHP's Climate Adaptation Implementation Plan has been informed by the CHPAC's recommendations in many ways, including strategic coordination and partnership with national program office and inter-agency groups (e.g., President's Task Force on Environmental Health Risks and Safety Risks to Children) and funding opportunities to consider children's environmental health needs in a changing climate. In addition, OCHP is working with OP to develop permanent processes and procedures to institutionalize its engagement on EPA policy, regulations, and standards development regarding climate mitigation and adaptation that will impact children's health and wellbeing.

EPA actions:

OCHP is addressing many of the CHPAC recommendations by strengthening and expanding partnerships, providing leadership, addressing disparities to advance needs of populations with environmental justice concerns and to enforce environmental protections based on scientific data collection and using science and policy to strengthen protections for children at all life stages.

Several recommendations are aspirational due to limitations in the EPA's statutory authorities and/or are out of scope of the original charge (e.g., partnering with government agencies to include climate resilience in Medicare/Medicaid, expanding the items eligible for pre-tax expenses under Flexible Spending Accounts, and funding of comprehensive and granular exposure and health and developmental endpoints surveillance at schools and licensed childcare facilities).

OCHP supports and advances protection of children's environmental health with stakeholders through convening key parties (e.g., NGOs, federal partners, children's healthcare providers and researchers) and through partnerships and targeted communications. OCHP leads the President's Task Force on Environmental Health Risks and Safety Risks to Children, which has four subcommittees, including the Subcommittee on Climate, Emergencies and Disasters, that coordinate and convene experts to help children and families address health issues in a changing climate; partners with EPA regional offices on projects affecting schools and child-care settings; provides national leadership with NGOs and health organizations to apply the latest science and evidence-based information; supports health care professionals to address real time risks from early life exposures; and enhances public outreach, information sharing, training tools and engagement in scientific dialogues. OCHP actively seeks out opportunities to foster and cultivate collaborations with other EPA Federal Advisory Committees, including the National Environmental Justice Advisory Council and National Environmental Youth Advisory Council.

Additionally, OCHP works within the EPA to ensure that children's environmental health is considered during the development of risk assessment, risk management, policy and research priorities. OCHP has provided children's environmental health information and assisted with data analysis, risk assessment formulation and regulatory impact analysis for numerous rulemaking workgroups under the Clean Air Act, SDWA, TSCA, the Comprehensive Environmental Response, Compensation, and Liability Act, and the Food Quality Protection Act. OCHP annually reviews and contributes to development of more than 20 regulations and more than 20 risk assessments and other science-based policies. Contributions include assisting in rule development, decisions and actions to protect children's environmental health; conducting toxicity, exposure and risk assessments to consider unique vulnerabilities of children; supporting new science to address gaps in knowledge of early life exposure and risks at all life stages; obtaining expert advice from the CHPAC; using health indicators to track progress and communicate trends; and developing means to monetize benefits of children's health protections.

3.1 Guidance, Outreach and Education

The CHPAC recommended further actions that OCHP can take to integrate climate adaptation and resilience in its guidance, outreach and education.

EPA actions:

As part of Goal 2 of the agency's *FY 2022-2026 EPA Strategic Plan*, OEJECR is leading a cross-agency workgroup that is assembling a set of environmental justice health disparities indicators to assess EPA's performance in reducing disparities in environmental and public health conditions, including children's health. The intent of these indicators is to illustrate, for a public audience, the disparities in key environmental health issues and describe the activities that the EPA is engaged in to reduce these disparities. The first set of these indicators is intended to be primarily informational, focused on demonstrating the connections between EPA activities and environmental health disparities.

To increase its online presence, the EPA updated resources to protect children's health during and after natural disasters, such as extreme heat and ran a social media campaign on children's environmental health and climate that included facts posted on X.com, Instagram and Facebook based on the *5th National Climate Assessment* in June 2024. Topics highlighted included modified allergy season, extreme heat, degraded air quality, increased spread of vector-borne diseases, impacts to crops and increased flooding. The President's Task Force on Environmental Health Risks and Safety Risks to Children is participating in the National Integrated Heat Health Information System (NIHHIS) Interagency Communications Group heat season awareness social media campaign as part of coordinated federal activities to address the threat of health impacts to heat. Additionally, using featured topics from the *5th National Climate Assessment*, EPA is developing a "Kids and Climate Health Zone," which will be released later this year on the EPA website. For more information, please see Section 4.3.

Further, OCHP developed an internal Children's Environmental Health Risk Assessment Training that includes both introductory and advanced modules for EPA risk assessors on how to consider children's data in the human health risk assessment process. OCHP also completed the *Guide to Considering Children's Health in the EPA Action Development Process* to help EPA program managers ensure agency rulemaking is consistent with Executive Order 13045, EPA policy and statutory authorities. Finally,

OCHP is working with OP to update the Climate Change Adaptation Resource Center to include region-specific climate change and children's environmental health information.

3.2 Coordination Between the EPA and Other Agencies

The CHPAC recommended that the EPA develop permanent processes and procedures to institutionalize its engagement on EPA policy, regulations and standards development regarding climate mitigation and adaptation that will impact children's health and well-being.

EPA actions:

In EPA's *2021 Policy Statement on Climate Change Adaptation*, the Administrator directed all EPA programs and regions to work with OP to integrate climate adaptation planning into their programs, policies and rulemaking processes. The Administrator also directed all programs and regions to work with the agency's partners across the nation to strengthen adaptive capacity and increase the resilience of the nation, with a particular focus on advancing environmental justice. This is accomplished through a variety of mechanisms, including the provision of training, tools and technical support, financial assistance and regulatory actions. In EPA's *2024-2027 Climate Adaptation Plan*, the agency charts a course for continuing to enhance adaptive capacity to climate hazards, leveraging skills and expertise across the EPA and other federal agencies and partnering with states, Tribes, territories, local governments, community groups and businesses.

As the office responsible for leading and coordinating the agency's climate adaptation efforts, OP has created an internal reporting system to track the progress offices and regions are making to implement their annual priority actions. OP is updating its reporting system and is working across the EPA to better track progress responding to specific climate hazards. This enhanced system enables EPA to track actions that affect children's health and ensure they are successfully completed. Further, in the forthcoming FY 2025 instructions that guide the development of new climate adaptation priority actions, OP will ask EPA program offices and regions to explore ways to include considerations of children's health.

OP is also including children's health considerations in the work of the Resilient Rules Subgroup of EPA's Cross-EPA Work Group on Climate Adaptation. The subgroup is working to identify opportunities for consideration of climate impacts, where authorized and appropriate, in protecting human health and the environment. While the EPA accounts for natural hazard risk in its regulatory analyses, the agency is also now using the best available information to understand how future conditions might affect the outcomes of regulations, including outcomes for children's health. The subgroup will consider existing regulatory guidance (e.g., *Considering Children's Health when Developing EPA Actions)* in the development of any new guidance on integrating resiliency into rules.

The CHPAC acknowledged OCHP's work over the past couple of years on intra-agency and inter-agency coordination and support for risk assessments, science policy, and rulemakings and encourages continued relationship-building with an eye toward establishing clear and enduring processes whereby children's health expertise from OCHP is sought across federal climate activities. OCHP appreciates the acknowledgement and has continued to work from a national perspective. OCHP identified operational improvements and milestones and published *2024-2028 Priority Areas for President's Task Force on*

Environmental Health Risks and Safety Risks to Children to continue to work among federal entities to protect children in the face of climate change, emergencies and disasters.

OCHP has been supporting a national network of pediatric environmental health experts and is raising awareness among EPA program offices via webinars and videos. The Pediatric Environmental Health Specialty Units are a network of pediatricians, nurses, health educators and other health professionals with special expertise in the prevention, diagnosis, management and treatment of health issues that arise from environmental exposures, from preconception through adolescence. For more than 25 years, PEHSUs have helped countless number of children and their families to address adverse health impacts resulting from environmental exposures through consultations, and educational and outreach initiatives. PEHSUs are an expert, trusted source of information not only for health professionals, but also for parents, schools, childcare centers and local and state health officials and serve as a ready resource capable of responding to environmental health questions. The EPA has continued an inter-agency agreement with the Agency for Toxic Substances and Disease Registry to support national and regional priorities related to children's health. In 2022 and 2023, with EPA and ATSDR financial support and through partnership with agency regional offices, the PEHSUs educated more than 85,000 healthcare workers and nearly 22,000 community members and created nearly 1,200 educational materials.

Additionally, the EPA's regional children's health coordinators work to advance children's health protection both within the EPA and externally and are critical to the success of the *Cross-Agency Strategy on Children's Health*. Each component of the regional children's health program framework, depicted as a blooming flower growing out of a strong foundation (Figure 1), contributes to an increased awareness among EPA's partners and the public for how the Agency reduces environmental exposures, illnesses and other impacts, and ultimately improves the health of children, especially in underserved and overburdened communities.

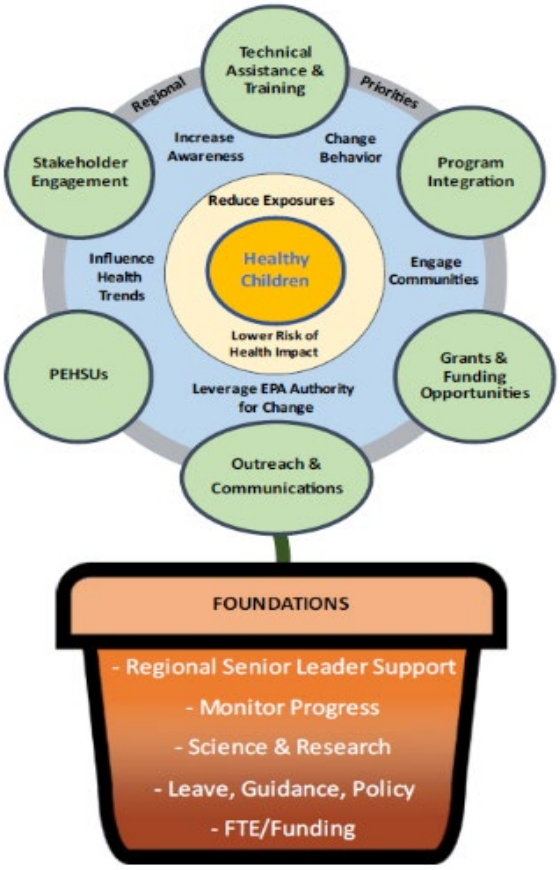

Figure 1. Regional children's health program framework.

Over the past fiscal year, EPA regions convened partners, conducted outreach, and educated community members at events throughout their states and territories and included actions related to climate adaptation and children's health. For example, Region 8 provided outreach and education related to wildfire smoke in Montana, funded through a project with a focus on underserved communities, and distributed through a partnership with the PEHSUs.

3.3 Research and Evaluation

The CHPAC recommended that OCHP work with ORD to advance research and evaluation on children's health and climate change.

EPA actions:

The EPA conducts research on children's environmental health to inform public health decisions, advance scientific understanding of potential early life susceptibility to environmental stressors and inform community efforts that create sustainable and healthy environments protective of children's health. ORD, working with OCHP and other program and regional offices, is addressing many of these recommendations through additional research.

EPA's Science to Achieve Results program is ORD's primary competitive, peer-reviewed extramural grant program that has awarded more than 4,100 grants nationwide since 1995. STAR leverages the scientific and engineering expertise of academic and non-profit institutions to conduct high priority environmental and public health research. The program funds research on environmental and public health effects of air pollution, climate change, water quality and quantity, hazardous waste, toxic substances, pesticides, cumulative impacts, environmental justice and more.

The EPA recently awarded $21.4 million in STAR grants for Cumulative Health Impacts at the Intersection of Climate Change, Environmental Justice, and Vulnerable Populations/Lifestages: Community-Based Research for Solutions. Three of these STAR grants specifically address cumulative health impacts of climate change to children's health. This community-based EPA-funded research will investigate how climate change may compound potentially adverse environmental conditions and stressors in underserved communities, recognizing that children may be more susceptible to the environmental and health impacts of climate change. The work will look at pediatric susceptibility in New York (Drexel University); leverage a public school district and schoolyard spaces to confront climate health inequities in a low-income, urban community of color (Medical College of Wisconsin); and study early-life vulnerability to climate-driven wildfire events in underserved populations (University of California, Davis). ORD convened all grantees to review and discuss the research advancements on climate justice, children's health and cumulative health impacts.

Additionally, as mentioned in Section 2.1 "Cascading Events when Infrastructure Is Impacted," ORD is integrating climate and children's health into its National Research Programs, looking across multiple climate hazards and their interactions, with several efforts focused on children's and maternal and paternal health. ORD continues to advance solutions driven research approaches, working with communities both to address climate-driven stressors – from wildfire smoke to coastal resiliency – and to identify solutions. The Wildfire Study to Advance Science Partnerships for Indoor Reductions of Smoke Exposures is a multipart study, including field and laboratory work, that uses low-cost air sensors to measure indoor and outdoor air quality during smoke events, including in commercial buildings such as daycare facilities. This body of work has resulted in a range of tools for communities from air-sensor loans, to evaluation and instructions for Do-It-Yourself air cleaners.

ORD also served on an ASHRAE committee to develop planning guidance for commercial and school buildings to intervene and reduce exposure, including for children, during wildfire smoke events. EPA researchers are coordinating with partners and the local community of Crisfield, Maryland, to co-

produce research on strategies to address tidal and storm flooding issues and other community resilience concerns. Research and educational programming will support community capacity to implement strategies. Additionally, in response to a request from community partners to have youth participate in the Crisfield Resilience Academy training activities, recruitment will be open to anyone over the age of 15 from Crisfield and the surrounding area.

3.4 Grants and Community Support

The CHPAC recommended actions that OCHP can take to support grants that can fund community-driven climate solutions to benefit children's health.

EPA actions:

OCHP works collaboratively with regional staff to get the frontline perspective of those working on children's health issues and provide solutions that contribute to healthy and thriving children and communities. OCHP is working to ensure investments to address environmental justice that include solutions and strategies to specifically protect children in underserved and overburdened communities from disproportionate impacts, since children in these communities would be especially at risk to the effects of climate change. OP and OCHP are working closely with OEJECR by providing climate adaptation and resilience education and support, including information on activities that benefit children's health specifically, to the established Thriving Communities Technical Assistance Centers that support potential grant applicants in environmental justice communities across the nation.

Charge Question 4 – OCHP's Climate Adaptation Implementation Plan: Climate Justice & Social Determinants of Health

The agency's fourth charge question to the CHPAC sought recommendations for consideration of climate justice and social determinants of health in the development of OCHP's Climate Adaptation Implementation Plan. The fourth charge question covers three categories: child-centered, community-based participatory research, environmental education and jobs for youth and OCHP communication.

OCHP's Climate Adaptation Implementation Plan has integrated climate justice and social determinants of health more intentionally due to the CHPAC's recommendations in a variety of actions, including the following:

- Launch of a climate resilient schools project to increase knowledge of the impact of climate change on schools and strategies to make schools more resilient.
- Development of a Kids and Climate Health Zone, an interactive training tool and derivative product of the *Fifth National Climate Assessment*, that explains how different climate change stressors affect children at different lifestages and provides resources and advice on how to deal with potential real-life climate events.
- Incorporation of environmental and climate justice variables into the *America's Children and the Environment* tool following assessment of indicators to be retained, expanded and withdrawn based on the CHPAC recommendations.
- Promotion of youth education on the intersection of climate change and children's health through mentoring programs inside and outside the agency.

4.1 Child-Centered, Community-Based Participatory Research

The CHPAC recommended that OCHP partner with ORD to ensure its Equitable Resilience Builder includes children and their primary caregivers both within the tool and in tool dissemination. ORD released the ERB in October 2023.

EPA actions:

The ERB supports communities in resilience planning with a focus on equity. It engages users in a guided process to inclusively assess local hazards, equity and the resilience of built, natural and social environment systems. ORD is planning to include a youth engagement guide as part of the outreach materials. ORD welcomes opportunities for training and application of the ERB in communities with children's health concerns and will work with OCHP to disseminate information regarding the ERB application.

4.2 Environmental Education and Jobs for Youth

The CHPAC recommended that OCHP work across the agency to train the next generation of environmental leaders, placing an emphasis on diversification of participants in these educational offerings. The CHPAC recommended that existing climate and environmental health curriculum and training modules be expanded and tailored to address community-specific concerns and needs that can be incorporated by schools and educators.

EPA actions:

The EPA is collaborating on multiple fronts to educate and involve youth. The EPA established the National Environmental Youth Advisory Council in 2023 to provide independent advice and recommendations to the Administrator on how to increase the EPA's efforts to address a range of environmental issues as they relate to youth, with an emphasis on people under the age of 29. The NEYAC is making history – no other EPA federal advisory council is comprised solely of people between the ages of 16-29. In February of this year, Administrator Michael Reagan issued his charge to the NEYAC. The NEYAC will provide policy advice, information and recommendations to the Administrator on a range of environmental issues and policies that are important to youth including climate change, clean energy transition, zero-emission vehicle adoption and deployment, recycling/plastic waste reduction, environmental justice, food loss and waste and workforce development.

The EPA recently established a five-year Memorandum of Understanding with the University of Houston (an Asian American and Native Hawaiian/Pacific Islander Serving Institution) to secure a platform for EPA employees to mentor undergraduate students during the summer through a paid research fellowship program. Fellows have engaged diverse data sets and research questions in collaborative and interdisciplinary discussions, skills workshops and guest presentations, and focused their projects on the application of data science approaches and health modeling to better understand the social determinants of health. Several student projects have explored how climate events affect their health and communities (e.g., impact of flooding events on housing value and spread of toxic contaminants over time in Houston). The agency is continuously exploring opportunities to support regional hubs of information on youth climate education and job training depending on staff and funding availabilities.

In February 2024, the EPA – through OITA – partnered with the Commission for Environmental Cooperation to launch the new Generation of Environmental Leaders Program. This one-year mentoring program will bring young leaders, ages 18-35, across North America (i.e., Canada, Mexico, United States) together to build new skill sets to support community-based needs such as climate change, pollution reduction and environmental equity. Youth leaders will identify a community issue with associated solutions to address in the year-long program related to preserving shared waters, lands or air across North America.

OITA also works with Tribal environmental professionals and partners to help protect Tribal children's health. Recognizing that several climate-related hazards threaten the health of Indigenous populations, OITA and OCHP are currently working with Tribal partners to identify program priorities that should consider climate change, climate adaptation and emergency response impacts. To set the foundation for this collaboration, OCHP and OITA partnered this summer to host two summer interns whose work focused on Tribal children's environmental health issues.

In April 2024, OCHP presented a set of challenge questions on children's health and climate change to youth attending U.S. Department of Agriculture's 2024 National 4-H Conference in Washington, D.C. The purpose of this interaction was to increase awareness of children's environmental health topics among rural and non-urban youth and lay the foundation for EPA's leadership to engage directly with youth delegates. OCHP is committed to continuing to offer youth individuals with opportunities to engage on climate and children's health topics.

ORD is offering several community engagement and educational outreach initiatives to engage youth in science. In Research Triangle Park, North Carolina, through the award-winning Community-Engagement and STEM Outreach Program, ORD staff communicate EPA science to students, educators and the public in a variety of venues, with a focus on serving low-income schools. A key annual event is the Summer Science Institute, that comprises of a number of climate activities, including in partnerships with the North Carolina Museum of Life and Sciences, as well as the North Carolina State University's Catalyst Program to provide STEM opportunities to students with disabilities. Additionally, ORD has also developed a range of training and educational materials to educators on incorporating climate change into curricula, ranging from EnviroAtlas Educational Materials to interactive climate games on electric power and transportation to empower students to action. The EPA is also expanding STEM outreach at the EPA Cincinnati facility, leveraging expertise in water and groundwater, land and contaminated/Superfund sites, emergency response and homeland security, and risk, crisis and health communications. ORD also connects internally through the EPA STEM Community of Practice, and through additional federal interagency collaborations. ORD will continue to work with OCHP and other offices to provide and disseminate educational opportunities for the next generation of environmental leaders.

The EPA is also partnered with the White House and other federal agencies in the American Climate Corps, a new workforce training and service initiative that will ensure more young people have access to the skills-based training necessary for good-paying careers in the clean energy and climate resilience economy. American Climate Corps participants will build workforce pathways to quality jobs while working alongside professionals in host organizations and completing local projects related to environmental justice, climate resilience and expanding economic opportunity.

4.3 OCHP Communication

Related to OCHP communication about children's health, the CHPAC recommended that the EPA adopt an inclusive, multilingual communications strategy to increase access for children, caretakers and decisionmakers to climate adaptation research, resources, relevant grant details and EPA tools. The CHPAC further suggested that existing EPA tools should be supportive of OCHP's outreach by adopting child-specific data to highlight children needs, risk factors and social determinants of health in climate justice communities.

EPA actions:

The EPA is working to enhance the America's Children and the Environment report, which presents a set of national indicators on the environment and children's health, to better account for disparities and climate impacts. In its 2023 America's Children and the Environment update, the EPA brought findings on race, ethnicity and income, currently captured in supplementary tables, to the forefront by creating new data visualizations for 20 indicators, refining existing visualizations and improving website functionality. Earlier this year, the OCHP and OEJECR led a workshop to strengthen the incorporation of environmental justice and health disparities information into the tool. To advance in this area, the EPA is taking on two key opportunities. One is the effort noted above to enhance our national children's heath indicators to better reflect disparities due to social determinants of health. Two is a process to select a set of core indicators, develop new indicators and regularly review and update those indicators.

The EPA ensures pertinent and timely information (including children's health and climate change-related) is available in languages other than English. EPA Order 1000.32, *Compliance with Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency,* outlines necessary steps that the Agency needs to take to provide meaningful language access to individuals with limited English proficiency. The Order requires each of EPA's program and regional offices to develop a program or region-specific plan to ensure that individuals with LEP have meaningful access to all EPA's programs, activities and services. Further, Goal 2.2 of the *FY 2022-2026 EPA Strategic Plan*, directs that all EPA programs and regions develop their own language assistance plans to ensure that they consider language access for all programs, activities and services, including those related to community engagement and outreach.

The agency is committed to increasing public awareness and external partner engagement by coordinating events, creating and releasing new infographics, and revitalizing EPA websites to highlight children's health as a critical component of the EPA's mission to protect human health and the environment. Factsheets, infographics, messaging and more created for a variety of audiences and platforms about protecting children's environmental health have been developed for EPA's Children's Health Month activities. The EPA has developed various resources and tools for addressing the impacts of climate change on children's health. Several factsheets have been published on how climate change exacerbates the extent to which ticks and mosquitos can endanger children's health, similar to wildfires and children's health.

Several of the CHPAC's recommendations focus on the prioritization of schools and child-care settings for climate adaptation communications and educational opportunities and as prime targets for

investments in retrofits, upgrades and new equipment to better protect children, staff, caregivers and other community members from climate change impacts. The EPA has several cross-agency efforts to address the impacts of climate change on schools and child-care settings and provides resources for teachers, parents and caregivers to learn more about these topics. The OCHP is maintaining two websites dedicated to presenting information on enhancing healthy school environments and ensuring healthy childcare.

OCHP and OP have developed outreach and education resources to support schools facing climate change impacts. *Schools as Cleaner Air and Cooling Centers: Tips for Facility Managers, Principals, Teachers, and Parents and Caregivers* is a set of factsheets developed to help guide school partners on how to make schools safer during increasingly frequent and more severe climate change impacts. With OP's support, OCHP is continuing this work through its Climate Resilient Schools Program that will provide technical assistance in 2024 to 2025 to three school districts to help them plan school upgrades to make their buildings more resilient to the impacts of climate change (e.g., flooding, hurricanes and extreme heat).

The EPA conducted social media messaging on children's health around the Let's Talk About Heat Challenge, a challenge to protect public health by raising awareness of health risks from extreme heat. Additionally, the EPA has integrated the role of child-centered spaces such as playgrounds and schools in our Disaster-Resilient Design document that was produced as part of a Memorandum of Agreement between FEMA and the EPA's OP.

The EPA also has a website dedicated to sharing resources for protecting children from wildfire smoke and volcanic ash. The EPA, the U.S. Forest Service, and other federal, state and community agencies and organizations are also working together to identify ways the public can prepare to reduce their health risk before a wildfire. They have created a Smoke-Ready Toolbox for wildfires, which also includes a Spanish translation.

OCHP is developing an online multimedia training tool called "Kids and Climate Health Zone" on challenges and solutions surrounding climate change and children across different regions in the United States. Special attention will be given to understanding the unique vulnerability of infants, children and adolescents to the impacts of environmental and climate stressors that are covered in the *5th National Climate Assessment*. The tool will communicate compelling stories on how children across the United States and during different life stages (from infancy to adolescence) are impacted by climate stressors and provide interventions to help raise awareness about actions/resources to respond to climate events.

Finally, the agency is exploring opportunities to implement several additional CHPAC recommendations, such as:

- Identifying spaces where children are most exposed to climate impacts outside of the home due to building quality gaps in the United States and prioritize where the focus on improvement will provide the greatest impact, particularly in low-income and communities of color.

- Ensuring all EPA regions have geographic-specific data on climate change and children's environmental health information on their websites.
- Supporting regional hubs of information on youth climate education and job training that are tailored for geographic and community variation.

Conclusion

The agency is appreciative of CHPAC's recommendations on addressing the real and potential impacts of climate change on children's health. Your recommendations were thorough, comprehensive and thoughtful and the EPA is pleased to have provided this response which illustrates the many actions the agency has taken in line with and in response to your input. While a number of Agency actions are protective of the broader population, your recommendations were helpful to reinforce the unique sensitivities and needs of children relative to the work each office is conducting and planning for the future. The CHPAC's recommendations have and will continue to inform EPA's actions as they pertain to children's health.

Even the process of preparing the response to the CHPAC's recommendations, which required cross-agency input, has generated significant program office interest in and enthusiasm for consideration of climate change risk to children's health in all areas of agency work. The EPA's all-hands-on-deck approach will help ensure children are given careful consideration. This response draws from all corners of the agency, touching many of the recommendations provided by the CHPAC: developing regulations; working with other agencies, state, local and Tribal governments, NGOs and communities, especially those with environmental justice concerns; addressing infrastructure concerns and cascading events; providing guidance, education, and outreach; and pursuing child-focused research, education and opportunities for youth participation.

Looking into the near future, the agency will focus on understanding the impacts and benefits to children from individual decisions and actions. To understand and address environmental health disparities in children, the EPA will:

- Continue to identify and communicate indicators to better reflect social determinants of health.
- Work to consider cumulative impacts in agency decision making, bridge the discussion to cumulative risk and work to incorporate susceptibility and vulnerability at each stage of the risk assessment process.
- Tackle climate change impacts and protect human health and the environment in underserved and overburdened communities with historic support from the BIL and IRA.

To address the challenges and realize the vision that all EPA work consider the unique biology, behaviors and impacts to children and integrate climate adaptation and resilience, it is critical to maintain focus, be vigilant and act deliberately. The agency is in its strongest position ever to make a difference for children now and in the future.