U.S. Department of Health & Human Services

2021 Climate Action Plan

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1. Preface

Background: In recent years there has been a significant increase in weather-related events worsened by the changing climate. These events include record-breaking heat waves, hurricanes, floods, wildfires, droughts, and increasingly severe storms. These and other consequences of climate change affect people's health in different ways, from direct exposure to heat and floodwaters, to increased risk of certain infections as the life cycles of ticks and mosquitoes change. Severe and repeated weather-related disasters also contribute to anxiety, depression, and other mental health impacts.

Although the climate crisis affects everyone, those most susceptible include communities of color, older adults, children, pregnant persons, people with lower incomes, those who live or work in areas with greater exposure, as well as people with pre-existing physical, behavioral, or chronic health conditions. Existing health disparities are likely to be exacerbated. The U.S. Department of Health and Human Services (HHS) is committed to protecting the health of all Americans by integrating environmental justice and equity into our work. Effective action to build resilience to climate change related health threats is essential to fulfilling the HHS mission to enhance the health and well-being of all Americans.

Executive Order 14008 (EO14008), *Tackling the Climate Crisis at Home and Abroad*, sets forth a government-wide approach to address the climate crisis. It established a National Climate Task Force (Task Force) charged with facilitating the organization and deployment of this approach. Its members include Cabinet secretaries, agency heads, and White House advisors. The EO also sets forth numerous directives to integrate climate considerations into foreign policy, federal government property, asset management, procurement, infrastructure investment, and resource management. Additionally, the EO establishes a policy of achieving environmental justice to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities.

Purpose: This Climate Action Plan (CAP) represents a concerted effort to enhance resilience and adaptation to climate change throughout the activities of HHS. Building on and expanding previous agency climate action plans, this document represents initial steps in working across the different divisions and individual regions of HHS to identify and implement critical actions to protect the health of all Americans from climate change-related threats.

Also, to ensure the continuity of operations of HHS facilities in the face of extreme weather events, and foster healthy greenhouse gas (GHG) reduction and resilience efforts in the health sector and communities. This CAP also strives to assure that individuals and communities at greatest risk from climate change related threats, including low-income communities and communities of color, receive the resources necessary to achieve resilience and protect public health.

The EO-mandated plan requirements include developing agency policy, identifying an agency champion to lead the efforts, bolstering adaptation, increasing resilience across agency programs, and committing to initial actions.

There are many concurrent activities underway across the federal government that may intersect with efforts to address climate change. These include EOs and other initiatives on

topics such as equity, America's supply chain, and evidence-based policymaking. The implementation of these initiatives, along with the maturation of efforts described in the CAP, may create opportunities to develop additional synergistic action steps to address climate change. Therefore, this document is considered an initial step in a process that will evolve in subsequent years, as these related efforts mature.

Chief Climate Action Officer (CCAO): HHS has identified Mr. Garey Rice as the CCAO, the senior agency official responsible for carrying out the climate actions described in the plan.

Mr. Rice has knowledge of climate adaptation planning as well as the necessary level of oversight, authority, and influence across agency top priorities and roles to implement the management work for adaptation. In implementing the plan, the CCAO will coordinate with HHS's Office of Climate Change and Health Equity, the Environmental Justice Program, and other appropriate agency officials to plan, implement, and report their different actions.

COVER ART: By Meghana Aleti, Grade 1, winner of the HHS 2021 Kids' Earth Day Poster Contest K-2nd grade category. Meghana's mother works at the Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, Global Migration and Quarantine.

2. Top Five HHS Priorities for Climate Adaptation and Climate Resilience

Following a comprehensive review of prior adaptation plans, actions, or other recent progress, HHS has identified its five priority adaptation actions that will be implemented through its mission, programs, operations, and management of procurement, real property, public lands and waters, and financial programs. This list of five adaptation actions is intended as the first step in HHS's climate resilience efforts, with the expectation that additional actions will be identified and initiated as the plan is implemented.

2.1 PRIORITY ACTION #1: Expanding Health Programs Implementation for Climate Adaptation

Climate Adaptation Action Name: Expand existing climate change-related public health and biomedical research activities

Action Description/Narrative: Programs to help the nation prepare for the health impacts of the climate crisis are ongoing at the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH). These programs fund and provide technical assistance to states, local, tribal, and territorial health departments, and community-based organizations; conduct research on the health implications of the climate crisis; develop climate and health communication products and information resources; and coordinate cross-government climate and health efforts.

Surveillance and data analyses are conducted through CDC's Environmental Public Health Tracking Program. The network is increasingly integrating meteorological data and climate projections with other environmental and health data to support innovative, cutting-edge programs and solutions that protect and improve the health of communities in the face of the climate crisis and weather extremes across the country.

NIH and CDC are conducting research aimed at understanding the health impacts of the climate crisis and how strategies used to adapt to or lessen the climate crisis might affect health, both positively and negatively. HHS is building a national public health workforce that can research and address the effects of the climate crisis on human health. Key workforce development through training, research funding, fellowships, internships, and partnerships with diverse stakeholders is ensuring that the capacity exists within the public health sector to research and address the anticipated physical and mental health impacts of the climate crisis.

NIH and CDC are leveraging partnerships with federal, state, and local agencies to streamline their efforts, provide and receive technical support on difficult problems, maximize existing expertise, and more efficiently utilize resources. In addition, both agencies leverage partnerships with non-governmental organizations to have a larger impact and more easily reach specific audiences. For HHS to have a substantial impact on the health impacts of the climate crisis, it is essential to make full use of new and existing partnerships.

Recommended Activities:

- Increase widespread adoption, replication, and expansion of health-protective adaptation actions by climate resilience-focused public health practitioners through CDC's Climate and Health Program, to identify potential health effects associated with the climate crisis and implement health adaptation plans.

- Expand scientific understanding of the health implications of the climate crisis and weather extremes and build the evidence base for climate adaptation and mitigation strategies through NIH's Climate Change and Human Health Program and CDC's Climate Science Program.
- Expand CDC public health surveillance and monitoring programs and NIH data integration efforts in partnership with other federal agencies to facilitate research, surveillance, and assessment of the health impacts of the climate crisis. These should include geospatial data on climate, weather, environmental exposures, residential, and work history data, as well as qualitative data and community science approaches.
- Expand indicators for climate change and health, such as building on existing surveillance and data collection.

Action Goal: By the end of fiscal year 2022 (FY 2022), HHS will enhance current actions to integrate climate changes into CDC and NIH programs; improve the integration of meteorologic, climate, and health data; and expand research to help guide decision-making and enhance public health through climate actions, including adaptation, mitigation, and resilience measures.

HHS Lead: CDC and NIH **Timeframe**: FY 2021 and ongoing

Scale: National/Global

Risk or Opportunity: The climate crisis has a significant impact on human health and disease. At the same time, many mitigation and adaptation measures for the climate crisis have the potential for profound secondary impacts on health, both positive and negative. Connecting our understanding of how climate is changing with an understanding of how those changes may affect human health, as well as how climate actions may affect health and behavior, and can make informed decisions about mitigating (reducing) the amount of future climate change. Also, it can suggest priorities for protecting public health, and help to identify ongoing research needs and opportunities to address environmental justice and health equity.

The goal of this action is to use the expansion of critical existing climate change and health activities at CDC and NIH as an initial set of actions, based on existing programs. Then, plan for comprehensive actions to integrate climate change in the health and human services programming that HHS in the coming year.

Implementation Methods:

- Expand current grant adaptation programs by supporting additional grantees.
- Expand climate change and health research.
- Develop integrated data resources for climate change and health.
- Develop climate and health indicators.
- Promote use of vulnerability tool(s) among grantees to better address health equity/environmental justice issues.

Performance:

- Increasing HHS's number of climate and health grantees and ensuring there is a focus on environmental justice.

- Developing and implementing HHS's series of transdisciplinary scientific initiatives that support research and training efforts in climate change and human health.

Intergovernmental Coordination: HHS will work across Operating Divisions (OpDivs), including CDC and NIH, and other federal government agencies such as the U.S. Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), U.S. Department of Commerce (DOC) National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Transportation (DOT), DOC National Institute of Standards and Technology (NIST), U.S. Department of the Interior (DOI), and U.S. Geological Survey (USGS).

Resource Implications:

- Existing health programs will continue to build adaptation and resilience in communities.
- Additional funding to support expanded research, implementation, and data integration activities will be needed.

Challenges/Further Considerations:

- Efficient implementation of these science plans will require high-level support for inter- and intra-agency collaboration, including partnerships on data and computational resources.
- Translating CDC and NIH scientific understanding into real-world public health improvement, such as health-optimized climate mitigation strategies, will require high-level commitment, transparency, and accountability for inter-agency and multi-sectoral cooperation.

Highlights of Accomplishments to Date:

- Funded since 2009, CDC's Climate and Health Program helps the nation prepare for the health impacts of the climate crisis. The program funds 16 states, five cities, and six tribes to anticipate the health effects of climate change by applying the best climate science available, predicting health impacts, and preparing public health programs to protect their communities by following the Building Resilience Against Climate Effects (BRACE) Framework. CDC provides technical assistance to recipients, conducts climate science research, develops climate and health communication products, and coordinates cross-government climate and health efforts. In 2021, CDC is announcing a new funding opportunity for implementing the Building Resilience Against Climate Effects (BRACE) framework in health departments.
- Across the "Strengthening Public Health Systems and Services Through National Partnerships to Improve and Protect the Nation's Health" program, CDC's Climate and Health Program funds eight cooperative agreements (with seven different non-profit partners) to work with at-risk communities, hosts working groups with specific stakeholder communities, and provides mini-grants and technical assistance to jurisdictions around the country. This includes support of tribal climate and health activities through the Climate Ready Tribes Initiative, and to territories through the Climate Ready Territories Initiative.
- CDC's National Environmental Public Health Tracking Program collects, integrates, and analyzes non-infectious disease and environmental data from a nationwide network of

partners. Tracking incorporates climate change concerns into its work. For example, the online data explorer includes data on drought, extreme heat, precipitation and flooding, wildfires, and population vulnerabilities. In late 2020, the Tracking Program, in partnership with the Climate and Health Program, developed the "CDC Heat and Health Tracker" dashboard to provide real-time heat data paired with local vulnerability data. This first-of-its-kind online tool is designed to help emergency and public health planners prepare for and respond to extreme heat events.

- The Agency for Toxic Substances and Disease Registry's Geospatial Research Analysis and Services Program (GRASP) supports the Public Health Operations for Emergency Information Integration and Exchange (PHOENIX), the Environmental Justice Index (EJI), and the Characterizing Social Vulnerability and Disease Burden in Disaster-Prone Regions of the U.S. program. These projects integrate climate change, emergency preparedness and response, and identification of disproportionately environmentally burdened and socially vulnerable communities.
- CDC's National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) works on climate and health by tracking trends and monitoring changes in geographic range and seasonal occurrence of vectors and vector-borne diseases in a deteriorating climate; by researching the relationship between the climate crisis and foodborne, waterborne, and fungal diseases; and, by monitoring invasive bacterial infections in the Arctic as temperatures warm.
- CDC created a technical guidance document titled, "*Evidence on the Use of Indoor Air Filtration as an Intervention for Wildfire Smoke Pollutant Exposure*."
- NIH funded research on climate change and health at a level of roughly $8 million on average, over the past nine years; 11 NIH Institutes and Centers have participated in this research funding.
- NIH/NIEHS developed and maintains information and educational resources on climate change and health, including the NIEHS Climate and Health Literature Portal and "*Lessons in Climate Change*."
- NIH/NIEHS expanded research tools for rapid research response in the face of weather-related disasters, as part of the Disaster Research Response Program.
- NIH reissued its Global Environmental and Occupational Health Research and Training Hubs (GEOHealth, https://grants.nih.gov/grants/guide/rfa-files/RFA-TW-21-001.html) to continue and expand research including climate and health in low- and middle-income countries.
- NIH National Cancer Institute (NCI) is helping to lead efforts to better understand behavioral aspects of climate change and health through the Society for Behavioral Medicine Presidential Initiative.
- NIEHS and CDC serve as representatives to multiple interagency activities, including the Global Change Research Program (GCRP) and the GCRP Climate Change and Human Health Group, the Interagency Council for Advancing Meteorological Services, the Interagency Science Committee on Disaster Reduction, and the Subcommittee on Ocean Science and Technology (SOST).
- NIH/NCI staff are leading and participating in a Society of Behavioral Medicine (SBM) Presidential Working Group on "*Climate Change, Behavior Change and Health*," as well as organizing a conference to take place in the fall of 2021 on "*Climate Change, Cancer and Health: A Multilevel Examination of Sustainable Health Behavior Change*."

2.2 PRIORITY ACTION #2: Improve HHS Responses to the Climate Crisis

Climate Adaptation Action Name: Improve HHS Responses to the Climate Crisis.

Action Description/Narrative: Executive Order 14008 mandates that the Department of Health and Human Services establish a new Office of Climate Change and Health Equity (OCCHE), "to address the effect of climate change on the health of the American people." The new office will achieve this mission in part by working with the other divisions of HHS to ensure they are taking climate change health issues into account in their strategic planning and operations.

The office, in collaboration with other HHS leadership, will create a template for the development of OpDiv and StaffDiv-specific climate actions plans, and assist with subject matter expertise as needed to support their development. The office will also provide coordination to ensure that OpDiv CAPs are appropriately integrated into the overall HHS CAP.

The division's specific plans will address programmatic activities as well as the sustainability and climate resilience of their operations.

Action Goal: Improve HHS preparedness and responses through a consultative planning process for each OpDiv/StaffDiv supported by the new OCCHE and the HHS Sustainability Team.

HHS Lead: OCCHE **Timeframe**: FY 2021–FY 2023

Scale: National/Global

Risk or Opportunity: Incorporating climate change resilience into the missions and programs of all relevant operating and staff divisions of HHS will greatly increase the ability of the Department to achieve its broader mission of protecting and enhancing the health and well-being of all Americans.

Implementation Methods:

- Develop OpDiv CAP template, schedule, and instructions utilizing the agency CAP as an example.
- Identify OpDiv leads and subject matter expert (SME) partners within the OCCHE and HHS Sustainability Team.
- Review – by SMEs – OpDiv CAP within 60 days of submission to OCCHE and Office of Assistant Secretary for Administration (ASA) and provide feedback to OpDivs.
- Post HHS approved CAPs on OpDiv intranet and internet webpages.
- Integrate individual OpDiv and StaffDiv plans into revised HHS Climate Action Plan.

Performance:

- Advancement in convening teams within each OpDiv and StaffDiv to develop specific CAPs.
- Completion of HHS-approved OpDiv CAP by FY 2022.
- Revision of HHS CAP reflecting broader implementation across HHS.

Intergovernmental Coordination: When various locations develop their CAPs, they will coordinate with other agencies/field offices in their region to share resources and facilitate joint federal decision-making as a standard operating procedure. An example is the CDC coordination efforts of early release/closures by federal agencies in Atlanta, Georgia to avoid traffic congestion, such as the 2014 ice storm that closed the Atlanta area transportation system and stranded motorists on the roads for hours.

Resource Implications: OpDivs will develop their CAPs using existing resources. As the CAPs are incorporated into the budget process, OpDivs will evaluate staff and budget resources needed to implement identified climate resilience actions and evaluate progress on these priorities.

Challenges/Further Considerations:

- OpDivs have limited climate expertise and SME resources to develop and implement plans.
- Most HHS OpDivs do not currently have staff dedicated to climate action and climate health. Additional support will be needed for proper coordination, policy development and review, and vetting of CAP actions. The OCCHE will work with OpDivs and StaffDivs to accomplish these goals.

Highlights of Accomplishments to Date: HHS OpDivs have in place active sustainability, emergency preparedness, and risk management programs that will be able to contribute to the development of OpDiv CAPs. CDC and NIH have a vast amount of experience in climate resilience, literacy, vulnerabilities, and the climate change impacts on health.

2.3 PRIORITY ACTION #3: Develop Climate-Resilient Grant Policies at HHS

Climate Adaptation Action Name: Develop language across the range of HHS grant-making programs and funding announcements to advance federal sustainability and climate resilience goals.

Action Description/Narrative: HHS is the largest grant-making agency in the US. In FY 2019, HHS grants accounted for 29 percent of federal government grants, direct payments, and other financial assistance, with $531 billion awarded. Most HHS grants are provided directly to states, territories, tribes, and educational and community organizations, then given to people and organizations who are eligible to receive funding.

There are many types and purposes of HHS grants, ranging from individually awarded biomedical research, to block financial assistance provided to states and localities for impoverished individuals and families. Different types of grants serve the HHS mission of protecting populations from the health threats of climate change in different ways. Each OpDiv will need to consider its grant programs and how they may be updated to reflect the needs of meeting the health challenges of the climate crisis.

As part of this process, the HHS Sustainability Program will lead a team of subject matter experts on sustainable and climate resilient facilities, including biomedical research and clinical services facilities to support relevant OpDivs in updating instruction requirements – through virtual teams during telework posture – addressing sustainability and climate change.

The added language will:

- encourage and incentivize awardees to maximize energy and water efficiency
- employ clean energy
- reduce greenhouse gas emissions
- reduce waste
- share grant equipment and institution lab and storage space to reduce grant direct and indirect costs
- implement healthy building strategies for design and operations

- implement resilience planning for climate related events.

Sustainability measures that increase efficiency or reduce the need for energy and other natural resources also contribute to operational resilience in times of extreme events or resource shortages. Performance measures will be included in future grants to ensure they address the impacts of the climate crisis.

Action Goal: The goal is to include climate resilience and sustainability efforts in all types of grants. To increase the likelihood that grants, and financial assistance policies improve awardee climate resiliency and sustainability to meet the HHS Climate Change mission.

HHS Lead: ASA/OCCHE

Scale: National/Global

Timeframe: Action will begin in FY 2021 with the goal of having new language available for use in future grants beginning in FY 2023

Risk or Opportunity: As the largest grant-making agency in the United States, HHS has a significant impact on the health and well-being of Americans, especially disadvantaged populations. This creates an opportunity to improve the health resilience of at-risk communities. It also opens opportunities for addressing social determinants of health through climate mitigation and adaptation actions. Including climate language into grants demonstrates HHS's commitment to addressing climate change and improving public health and aligns with the goals of EO14008.

One example of an opportunity to increase resilience and at the same time, reduce GHG emissions, would be to allow for the sharing of laboratory space and equipment instead of requiring duplicative purchases from individual awardees. Sharing practices will reduce the burden on grant recipient institutions from excess energy use and property. In addition, including sustainability and resilience language in all grants will improve the efficiency of operations of grantees and allow funds that may have been used for operational costs to be utilized for mission purposes.

Implementation Methods:

- Establish a team of SMEs to assist with developing grant policies by the end of FY 2021.
- Survey OpDivs and StaffDivs for existing grant policy language and identify opportunities for revisions by June 2022.
- Include recommended language in an HHS grant as a case study beginning FY 2023.
- Apply newly developed grant language, once approved, in all grants beginning FY 2024.

Performance:

- Verify that the team of SMEs have proper representation to ensure developed language meets the goal of increasing climate resilience and sustainability with appropriate performance measures in FY 2022.
- Report performance measure in grant case studies using new grant language, resulting cost savings, and GHG reductions by sharing space and equipment in FY 2023.
- Report future grants performance measure indicating the additional grant mission-related work that is possible by cost avoidance in FY 2023.

Intergovernmental Coordination: Interagency coordination will be needed to review the special instruction language for the grant forms to ensure compliance with grant regulations. In addition, other granting agencies such as Department of Energy (DOE), Department of Defense (DoD), Department of Transportation (DOT), Department of Education (ED), Department of the Interior (DOI), Environmental Protection Agency (EPA), National Science Foundation (NSF), and Department of Housing and Urban Development (HUD) could apply the new climate resilience and sustainability language to their future grants.

Resource Implications:

- Development of proposed grant climate resilience language and instructions will be developed by a team of existing SMEs that will be assigned to this task. This approach allows for accomplishing the action without the need for additional funding.
- Development of possible future training resources, after the recommended approved language becomes grant policy, may require funding for content development and release.

Challenges/Further Considerations:

- Acceptance from members of grantee communities if language is viewed unfavorable to current grant holders.
- External and internal government partners unable or unavailable to coordinate on this effort due to resource constraints or other priorities.
- Grant recipient requirements are based in regulation and cannot be superseded by policy. This will require ensuring that our proposed policies are within the framework with the current regulations.
- HHS needs to assure that it has the proper statutory authority to incorporate climate change policy objectives into grant actions that are not directly designed to support climate change actions.
- State laws and procedures govern the use and disposal of equipment. HHS will need to ensure compliance with equipment regulations found at 45 CFR 75.320.

Highlights of Accomplishments to Date: HHS staff have engaged with institutions, including International Institute for Sustainable Laboratories and My Green Lab, to understand the opportunities for grants language to encourage sustainable and climate adaptive actions by grantees. We have participated in listening sessions and conversations with the grantee community to understand the limitations and possibilities for improvement in grants including freezer management, sharing of equipment, and grant evaluation/funding structures.

CDC led a consortium of research institutions, non-profits, and industry leaders to develop the International Freezer Challenge as a mechanism for helping individual grantees become educated and skilled in operating their laboratories in a more climate-responsible manner. This outward-facing activity helped prepare grant-seeking institutions to meet potential grant-related requirements in future grant guidance.

NIH efforts with their green teams for their freezer cleanout programs and freezer inventory teams can provide guidelines to add to what CDC is doing in a similar aspect with their consortium. This can also provide leadership to the biomedical grant community in relation to managing cold storage and reducing energy demand.

HHS partnered with non-profit and industry organizations to create programs that encourage voluntary sustainability improvements in the way laboratories are managed and operated. Grantees have expressed a willingness and even a desire for these sorts of requirements to be included in the grant evaluation process to help guide the conversation and the direction of climate-responsible grant making. These partnerships and conversations have begun to build a foundation for the work of incorporating actionable language in grants going forward.

2.4 PRIORITY ACTION #4: Climate Resilience by Optimizing Workforce and Operational Footprint through Space Management

Climate Adaptation Action Name: Workplace optimization and effective space management for climate resilience.

Action Description/Narrative: The COVID-19 related events of the past year have allowed us to re-examine the ways we are using space to support work, under normal and crisis conditions. By focusing on the needs of our workforce including positive and negative implications of various space strategies on the health and effectiveness of our workforce, we are dynamically re-thinking the amount and types of space we need going forward to meet normal and crisis situations.

This emerging Workplace Optimization Initiative addresses cross-cutting concerns through a new space strategy which allows us to simultaneously improve health and well-being for our workforce, decrease commuting traffic stress and pollution, increase workforce collaboration, improve space efficiency, and further climate adaptation by providing an avenue to enable HHS to continue functioning through extreme weather events that would have in the past translated to closure of an HHS facility.

As an additional societal benefit, this initiative could allow our agency to expand federal employment to other localities and simultaneously reduce commuting time for staff, who do choose to live away from large employment centers. Additional hiring options within exurban and rural communities may become a catalyst for expanding internet connectivity, economic/job opportunity, and potentially increasing justice, equity, diversity, and inclusion in our overall workforce. These measures contribute to a flexible, distributed, technology enabled, climate-ready workforce.

The first phase of the work is centered around an ongoing CDC Workforce and Space Reconfiguration Project, with participation of the workforce housed in Atlanta-owned and leased office facilities. Subsequent years would engage the workforce in virtually all HHS workforce locations globally.

Action Goal: Assess workforce needs, owned and leased space amenities, and work activities; and then recalibrate our space strategy to improve workforce experience, as evidenced by higher Employee Viewpoint Survey scores, and lower embodied and operational carbon emissions for our enterprise while simultaneously improving connectivity, collaboration, and technology tools and utilization.

HHS Lead: ASA **Timeframe**: FY 2021-FY 2024

Scale: Local/Regional/Global

Risk or Opportunity: This initiative addresses multiple climate crisis threats by:

- mitigating the creation of carbon emissions through pollution
- reducing health risks and associated carbon emissions for health care
- reducing stress on our transportation systems
- providing readiness for future emergency operations
- reducing footprint and associated operating costs, which can be diverted to programmatic mission activities.

This initiative also improves quality of work-life and workforce effectiveness, and helps staff be ready for climate emergencies.

Although risks exist, many have already been identified or mitigated during the execution of the CDC project. Information Technology (IT) connectivity has largely been addressed over the past year; however, some resource-intensive actions, such as future updates and program downloads, may still be necessary. On-site IT amenities (such as in meeting rooms and conference centers) need to be evaluated holistically and IT master plans and standards need to be put into place.

Team building, communications, and effective collaboration are often cited as risks, but can be overcome through additional attention. Sociological concerns about not having staff co-housed together for a long-term and the emotional effects of isolation can be addressed through thoughtful team building, periodic on-site and group video conferencing, as well as individual coaching, counseling, and skill building.

Providing safe, ergonomic, and effective home office environments is a new challenge that the General Services Administration (GSA) is beginning to address with offerings such as their Office in a Box Program, which could become more mainstream in the coming months.

Initially there may be limitations on rural hiring due to lack of internet infrastructure allowing connectivity, but with advances such as satellite-based broadband, this issue could be mitigated. Similarly, time zone coordination may be challenging at times; however, there are strategies to mitigate, and experience has shown that collaboration is manageable.

Many staff would require training on leading/participating in remote teams, measuring remote performance, and how to identify areas of concern. Hiring and onboarding can also be more challenging but manageable.

Implementation Methods:

- Assess space, workforce needs, and work activities between FY 2021 and FY 2022.
- Re-configure space to meet new needs and activities. Strategically terminate leases. This will be phased from FY 2022-FY 2024.
- Adjust space and work policies to support new ways of working effectively from new contexts and locations, from FY 2021-FY 2022.
- Publish a case study of lessons learned and key performance measures in FY 2023. Establish Department-wide plan of possible next steps by FY 2023.

Performance:

- Monitoring Employee Viewpoint Survey scores for workplace satisfaction, telework/remote work program, support of health and work-life balance, and management support for sustainability/climate initiatives.
- Recording number of people housed per gross square foot and number of people served by remote IT access platforms.
- Completing update of policies for Real Estate and Workforce Management.

Intergovernmental Coordination: GSA has developed an Indefinite Delivery/Indefinite Quantity (IDIQ) contract vehicle with a cadre of 10 consultants that are available to support workplace evaluation for other federal agencies. CDC is working with GSA to contract the work. HHS will align with future GSA programs for off-site work when they are available.

HHS staff occupy numerous facilities that are owned and/or managed by GSA or are leased via GSA using GSA language and clauses. HHS is fully supportive of and looks to GSA to take the lead role to ensure that those facilities are upgraded to meet HHS standards for health, sustainability, adaptation, and resilience for the protection of HHS staff.

HHS will seek a partnership with GSA and look to GSA to be a strong leader in meeting these new standards for the federal government. To this end, HHS is committed to share best practices from the HHS updated Facilities Program Manual, Environmental Handbook, Logistics Management Manual, Fitwel Healthy Building Certification System, Legionella Guidance, and other programs to support GSA's leadership position in these efforts.

Other departments that would help inform this workforce optimization approach will include DOT, HUD, ED, DOE, and EPA.

As more agencies implement these initiatives, larger metropolitan regions could experience synergistic reductions in traffic, positive physical and mental health effects, reduced office space demand, and see new urban/suburban/rural development patterns.

Resource Implications:

- Procurement for a CDC Workforce and Space Reconfiguration Project is in progress. Expect to award by early fall of 2021.
- Additional phases of work will be resourced through normal budgeting.

Challenges/Further Considerations: Current work-from-home operations is an ideal starting point for exploring new flexibilities for our workforce. As staff return to the workplace, they may return to non-sustainable work patterns because they are not optimized. Time is of the essence in supporting the culture change necessary for this initiative to be successful.

Highlights of Accomplishments to Date: CDC has completed pilot programs pre-pandemic and is currently conducting a more extensive project for one floor of one office building. Maximum telework has allowed systems to be tested for remote connectivity and no unresolvable issues have been noted at this time.

2.5 PRIORITY ACTION #5: Promoting Sustainable and Climate Resilient Operations at HHS Facilities

Climate Adaptation Action Name: Update HHS facilities policy manuals and guidance documents to address sustainability and climate resilience.

Action Description/Narrative: Climate impacts are a local/regional phenomenon, which vary from one location to the next. Requiring OpDiv plans allows for a more local approach for facilitating, coordinating, and sharing of resources, as appropriate, across the OpDiv portfolio. Facilities and operations can be addressed to minimize the potential impacts of climate events, establishing contingencies for various scenarios, and raising awareness at each location.

Some OpDiv locations have been proactive in addressing availability of utilities and established backup systems to address potential loss of certain utilities. Another tool to achieve climate resilience at OpDiv facilities will be utilizing Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) to develop green energy alternatives and reduce utility inefficiencies, which can ensure facilities are more resilient against climate vulnerabilities.

Update Facilities Program Manual (FPM), HHS Environmental Handbook (EHb), General Administrative Manual Part 30: Environmental Protection (GAM-30), and HHS Logistic Management Manual (LMM) policies to meet EO14008, *Tackling the Climate Crisis at Home and Abroad*, and the Energy Act of 2020 requirements.

HHS identifies facilities to be a primary component of the CAP. When assessing the status of facilities climate adaptation, HHS realizes the need to ensure that cohesive efforts, initiatives, and standards are set forth throughout the agency.

HHS is comprised of four land-holding OpDivs that operate, manage, and/or construct HHS-owned and delegated leased facilities. While the OpDivs are autonomous in operations, they look to HHS headquarters for overall direction, coordination, and consolidation of facility requirements and standards to meet existing federal mandates and directives.

There are four primary documents that guide OpDiv facilities engineering and management activities: the FPM, the EHb, the GAM-30, and the LMM. HHS recognizes the need to review and revise these documents to include enhanced language, strategies, and requirements on climate adaptation and resiliency, and the new requirements of EO14008, *Tackling the Climate Crisis at Home and Abroad*, and the Energy Act of 2020.

Action Goal: Existing policies and guidance are out of date and insufficient to guide Department staff to meet newly developed environmental sustainability and climate resilience requirements set by Congress and the Administration. The goal is to develop a workgroup comprised of HHS OpDiv Climate and Sustainability SMEs to collaborate and update the FPM, EHb, GAM-30, and LMM to include enhanced strategies and requirements to meet the demands of climate change mitigation, adaptation, and resiliency. These documents serve as a framework for OpDiv efforts and design and construction guidelines.

HHS Lead: Program Support Center (PSC)

Scale: National

Timeframe: Action will begin in FY 2021 with goal of having new guidance

documents available for use by the end of FY 2022

Risk or Opportunity: HHS has facilities nationwide that are subject to severe weather events and shifting regional climates. In addition, HHS staff globally work in federal and partner facilities subject to similar climate pressures. Examples of climate challenges include thawing of permafrost in Alaska and the Southwest becoming more arid.

The update to the manuals will enable HHS to include stronger guidelines and requirements to address climate adaptation and sustainability including topics such as net-zero energy/water/waste, electric vehicle charging, solar arrays, bio-based and sustainable materials procurement, building resiliency, and environmental justice.

The scope will include daily operations and maintenance, renovations, and new construction. Updating these manuals will also create a conversation point with global partners to help protect our staff housed in other's facilities. These updates also provide the opportunity to influence the private sector to become carbon free.

Implementation Methods:

- Increase the use of sustainable practices to reduce utility requirements and prepare for times of interruption through redundancy and storage.
- Include tracking of make-up water, for loss of steam condensate, chilled water, and hot water, to provide visibility on opportunities for improvement for a given facility.
- Ensure there are adequate plans within each agency to maintain redundancy to ensure operational continuity.
- Provide quarterly performance monitoring on aggregate totals of system inefficiencies to identify an agency's total potential of actual progress towards achieving goals.
- Reduce, where possible, the requirement for utility demand and provide more resiliency by leveraging opportunities for alternate work from home arrangements and/or hoteling to increase workspace density.
- HHS Environmental Handbook
- HHS General Administration Manual Part 30: Environmental Protection
- HHS Facilities Program Manual
- HHS Logistics Management Manual

Performance:

- Identifying key individuals, and developing and distributing manuals for internal review.
- Developing annual energy and sustainability reports.
  - Metrics and benchmarks will be established and tracked at a minimum on a yearly basis.
  - Timelines will be developed.
  - Meetings will be held.

Intergovernmental Coordination: Work with GSA, DOE, U.S. Department of Veterans Affairs (VA), EPA, tribal partners, and others to share existing facility manual updates and obtain ideas to improve the HHS manuals. DOE and VA also have laboratories and healthcare

facilities and can collaborate on issues regarding these facility types. The U.S. Department of State is a global partner that can inform on global issues and policy updates.

HHS staff occupy numerous facilities that are owned and/or managed by GSA or are leased via the GSA using GSA language and clauses. HHS is fully supportive of and looks to GSA to take the lead role to ensure that those facilities are upgraded to meet HHS standards for health, sustainability, adaptation, and resilience for the protection of HHS staff. HHS will seek a partnership with GSA and look to GSA to be a strong leader in meeting these new standards for the federal government. To this end, HHS is committed to share best practices from the HHS updated FPM, EHb, GAM-30, LMM, Fitwel Healthy Building Certification System, Legionella Guidance, and other programs to support GSA's leadership position in these efforts.

Resource Implications:

- Initiation of this work is within scope of existing personnel resources and initiatives to review and revise current standards and policy. Funding support for individual project requirements will be resourced through established project management processes.
- This may require additional support for implementation. Existing human capital may need to be redirected at HHS within allowable appropriation constraints.

Challenges/Further Considerations:

- Conflicting mission priorities.
- Resistance to change due to lack of understanding of urgency for risk mitigation.
- Climate literacy/knowledge about the climate crisis.
- Limited time of the existing staff to work on the manuals' updates.
- Identify individual(s) responsible for review and updates, as necessary.

Highlights of Accomplishments to Date: HHS landholding OpDiv Facility and Sustainability Program managers have worked on several initiatives with the International Institute of Sustainable Labs (I2SL) to reduce low temp freezer use including sharing freezer space to reduce Intramural Research costs and GHG savings.

CDC, Food and Drug Administration (FDA), and NIH have implemented Green Lab programs demonstrating opportunities for making labs more efficient and greener. CDC has two buildings that are currently Fitwel certified, two pending certifications, and three more in the pipeline for submission in the next year. CDC recently completed the renovation of an existing lab building designed to meet net zero energy criteria, demonstrating how laboratory research can be accomplished in an energy and water efficient manner. NIH is also working on scoring labs to encourage further full implementation. The HHS Environmental Handbook was updated in 2020 but will need to be revised to address the Energy Act of 2020, executive orders regarding resilience to the climate crisis, and National Environmental Policy Act (NEPA) revisions. The HHS Facilities Program Manual update was initiated in 2020, and is being reevaluated to incorporate new energy, water, and sustainability targets.

The HHS Logistics Policy Office is reviewing the LMM and working with the Logistics Management Council (LMC) members to identify issues to be addressed. All LMC members were notified and this discussion was on the agenda during a meeting held June 1, 2021.

3. Topic 1: Update Climate Vulnerability Assessments

Previously released information has been updated below, and framed based on hazards and vulnerabilities outlined in the Fourth National Climate Assessment and the Climate and Health Assessment. Guidance from CDC's Building Resilience Against Climate Effects (BRACE) framework can be used to assist HHS OpDivs in utilizing data to assesses vulnerability to mission and workforce. In particular, Assessing Health Vulnerability to Climate Change describes how local and regional data on hazards and risks can be used to determine vulnerability.

Five Key Climate Vulnerabilities for HHS: The vulnerabilities below are organized by climate hazard. Each of these climate hazards create vulnerabilities to HHS management functions, facilities, procurements, workforce, and the agency's mission and program implementation. All the hazards below can be amplified during "compound hazard" events, for example, a power outage during a heatwave or a flooding event during an infectious disease outbreak. For this initial HHS CAP, the focus will be on HHS operations, facilities, and staff. Future revisions will reflect broader consideration of climate vulnerabilities for populations served by HHS divisions.

3.1 Vulnerability to Heat

Climate Threat and the Expected Impact: Increasing ambient summer temperatures and longer, more frequent, and more intense heat waves pose a threat. Many facilities may need new HVAC systems. Operating costs for maintaining cool indoor environments will increase. Heat is also a threat to data servers and electronic equipment that must be kept below maximum operating temperatures. Workforce health and safety is directly threatened by heat, including high temperature days outside of extreme heat waves. Transportation infrastructure can be damaged by extreme heat, impacting HHS's supply chain and operations. In addition, HHS's mission to protect and improve the health of communities is threatened by rising temperatures and more frequent heat waves.

Adaptation Action: Build resilience into HVAC systems and electrical systems in all facilities. Develop and maintain a plan for power outages during high temperatures. In addition, HHS will work to ensure digital alerting tools are accessible to facilities teams across HHS. Explore moving IT infrastructure to the cloud to avoid localized impact. Provide information or training for all workers on heat safety. Assess local potential impacts of heat waves for each major facility and assess potential surge in health care demands during heat waves. HHS is also working programmatically to better protect communities from the health threats of high temperatures.

Timeline: Facilities assessments can begin in FY 2022 to identify buildings that may need updated HVAC systems. Worker trainings can utilize existing information from CDC, National Institute for Occupational Safety and Health (NIOSH), NIH, and other sources. Assessment and infrastructure improvement in facilities is a long-term adaptation.

Feasibility within Agency's Budget Request: Updates to plans can be achieved within current budgetary structure. HHS will evaluate staff and budget resources needed to implement identified climate resilience actions and evaluate progress on these priorities.

Disclosure and Integration into Risk Management Process: HHS OpDivs should consider including vulnerabilities in their Enterprise Risk Management Profiles, if available.

3.2 Vulnerability to Extreme Weather

Climate Threat and the Expected Impact: Extreme weather events, including severe storms and hurricanes, introduce an array of vulnerabilities to HHS. These events can cause direct infrastructure damage, injury to the workforce, power outages that disrupt operations, disruption to provision of healthcare services, and interruption of transportation and supply chains. In addition, there can be interruption in broadband internet capabilities that would cause loss in effort and delays in research activities of universities and extramural research teams. This will lead to increased cost for preparation and repairs, as well as lost work hours. In addition, HHS's mission to protect and improve the health of communities is also threatened by extreme weather events. Interruptions and limitations in access to health care resulting from extreme weather events can lead to severe illness and increased deaths.

Adaptation Action: Infrastructure improvements are needed to ensure resiliency of facilities, especially older facilities and those located in the Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) flood hazard areas, or on the coast. Each major facility should have a risk profile assessment to determine vulnerability to extreme events. Comprehensive Occupancy Emergency Plans, including shelter-in-place and evacuation guidance should be created or updated to specifically include extreme event response. HHS can provide workforce resources and training relevant to extreme events. Coordinated early warnings between healthcare facilities, emergency operations, and the workforce will help to ensure continuity of operations. HHS will also work with other federal agencies and the private sector to enhance the resilience of health care facilities to extreme weather events.

Timeline: Updating of safety and response plans can begin in FY 2022. Assessment and infrastructure improvement in facilities is a long-term adaptation.

Feasibility within Agency's Budget Request: Updates to plans can be achieved within current budgetary structure. HHS will evaluate staff and budget resources needed to implement identified climate resilience actions and evaluate progress on these priorities.

Disclosure and Integration into Risk Management Process: HHS OpDivs should consider including vulnerabilities in their Enterprise Risk Management Profiles, if available.

3.3 Vulnerability to Wildfires

Climate Threat and the Expected Impact: The climate crisis has led to longer wildfire seasons, and larger more destructive wildfires, especially in the Western United States. Wildfires can:

- cause direct damage to facilities and property
- interrupt transportation and supply chain routes
- directly harm the HHS workforce
- disrupt power supplies
    - potentially leading to the evacuation of healthcare facilities and interruption in broadband internet capabilities causing delays in research activities.

In addition to direct fire impacts, wildfire smoke can cause health effects hundreds of miles downwind, impacting operations and workforce. In addition, HHS's mission to protect and improve the health of communities is threatened by wildfires.

Adaptation Action: Each major facility should assess vulnerability to wildfire. Where relevant, comprehensive safety plans, including shelter-in-place and evacuation guidance, should be created or updated to specifically include impacts of wildfire. HVAC systems should be updated or designed to effectively remove particulates. Facilities management staff in wildfire regions should be connected to federal, state, and local emergency response personnel and should monitor wildfire warning systems. A stockpile of critical medical devices could aid in response after a wildfire event.

Timeline: Updating of Occupancy Emergency Plan and other response plans can begin in FY 2022. Assessment and infrastructure improvement in facilities is a long-term adaptation.

Feasibility within Agency's Budget Request: Updates to plans can be achieved within current budgetary structure.

Disclosure and Integration into Risk Management Process: HHS OpDivs should consider including vulnerabilities in their Enterprise Risk Management Profiles, if available.

3.4 Vulnerability to Drought

Climate Threat and the Expected Impact: The climate crisis is causing droughts in some regions to increase in frequency, duration, and severity. Droughts can reduce water availability, affecting water quality. Increased water temperatures can impact cooling of thermal plants, reducing power generation and interrupting power supply. Water supply shortage could also increase water cost rates. HHS HVAC site operations could be affected by the shortage of water supply and increased water temperatures.

Droughts can lead to respiratory and mental health impacts in the HHS workforce. Droughts also impact wildlife and ecosystems, potentially exposing the HHS workforce to shifts in vector-borne and zoonotic disease. In addition, the health of communities is threatened by several risks, such as dust-related diseases, that can be worsened by drought.

Adaptation Action: Drought risk assessment across facilities. Examine drought stress on facilities, workforce, and health systems, especially in rural areas reliant on agriculture. Consider incorporating water resiliency into new HHS facilities, for example with water capture and cleaning technologies.

Timeline: Updating of safety and response plans can begin in FY 2022. Assessment and infrastructure improvement in facilities is a long-term adaptation.

Feasibility within Agency's Budget Request: Updates to plans can be achieved within current budgetary structure.

Disclosure and Integration into Risk Management Process: HHS OpDivs should consider including vulnerabilities in their Enterprise Risk Management Profiles, if available.

3.5 Vulnerability to Flooding

Climate Threat and the Expected Impact: Climate change is increasing the frequency and intensity of flooding in many regions. Flooding can occur in coastal areas from sea level rise or storm surge, or along rivers and other inland waterways after periods of extended or

intense rain, or from melting snowpack. While there is some overlap with the "extreme events" hazard, flooding poses distinct threats and requires distinct responses.

Flooding can lead to facility damage, power outages, direct workforce injury, disruption of transportation and supply chains, and interruption in broadband internet capabilities causing delays in research activities. After floods, mold and water-borne and infectious disease can result in closing of facilities and harm to the workforce. In addition, HHS's mission to protect and improve the health of communities is threatened by direct impacts of flooding as well as interruption or lack of access to health care due to flooding.

Adaptation Action: Facilities should be assessed for flood risk, in coordination with assessments for extreme events. Plans should be put in place to ensure worker safety before, during, and after floods. Facility and operational resiliency can be ensured through actions such as moving backup power generators and other critical infrastructure out of basements to more flood-resilient locations. New HHS facilities should not be in FEMA flood hazard areas. Ensure routes to facilities (e.g., entrance roads and gates) are accessible during 100-year flood events. Upgrade drainage and stormwater infrastructure on HHS-owned properties. Have plans in place for mold remediation following flood events.

Timeline: Updating of safety and response plans can begin in FY 2022. Assessment and infrastructure improvement in facilities is a long-term adaptation.

Feasibility within Agency's Budget Request: Updates to plans can be achieved within current budgetary structure.

Disclosure and Integration into Risk Management Process: HHS OpDivs should consider including vulnerabilities in their Enterprise Risk Management Profiles, if available.

4. Topic 2: Describe Agency Efforts to Enhance Climate Literacy in Its Management Workforce

Leadership Vision: A statement from the HHS Secretary on the climate crisis and its impact on the agency's mission will be developed for a global message to all staff. It is anticipated that this message will be issued concurrent with the Council on Environmental Quality (CEQ) required public posting of the HHS CAP.

Literacy Team Formation: HHS is planning to bring together an HHS Climate Literacy Team (CLT), in the next few months, consisting of HHS Climate and Training SMEs from the HHS and OpDivs' Office of Human Resources, HHS Office of Climate Change and Health Equity, and HHS Sustainability Outreach Workgroup. Additional SMEs from CDC Climate and Health Program, NIH National Institute of Environmental Health Science (NIEHS), and other OpDivs will be consulted as needed.

Existing available climate change and health content from the CDC, NIH, EPA, NOAA, and NASA websites will be evaluated. Examples of such resources include existing available CDC webinars and documents; content from the NIEHS Climate, Environment, and Health Seminar Series; and existing NIEHS educational materials. In addition, the team will review and improve climate literacy education modules on the HHS Learning Management System.

It is anticipated that this review and recommendation regarding available existing training content and the need for additional content can be completed by the end of CY 2021.

The HHS CLT will initially promote CDC's existing climate and health material at Resources for Public Health Professionals to help educate the HHS workforce. This material includes general background information and videos on the human health effects of climate change that can help to provide a baseline level of knowledge in management-level staff, and more specific guidance for staff working in relevant areas, such as a social media toolkit that would be relevant for communications staff across the agency.

HHS will also consider developing a required basic climate literacy course for relevant staff (potentially through the HHS's Learning Management System), incorporating existing information from NIH, CDC, and the fourth National Climate Assessment.

Upon completion of the training survey, the HHS CLT will begin to address the most effective manner to integrate the needed climate literacy training into the mission of the HHS OpDiv programs. This delivery method could include a combination of online training, including content into new employee and Senior Executive Service (SES) onboarding handbooks, monthly climate literacy seminars, and including content in existing sustainability outreach events (Earth Day, World Water Day, Energy Month, etc.).

It is anticipated that the training needs will be broken down into the following three category types: 1) ***Basic climate literacy***, *what is the climate crisis? what is causing it? what are we doing about it?* 2) ***Basic climate and health literacy***, *how is health affected? how does climate change relate to health equity?* and, 3) ***Specific information about how climate change affects the mission and operations of individual HHS divisions. The CLT will develop various forms of training, including participatory workshops, to build the capacity of HHS to address the climate crisis in fulfillment of its mission.***

Increasing Literacy through Policies and Procedures and Organizational Culture: To emphasize the importance of climate literacy and sustainability efforts within the HHS workforce, the HHS Climate Literacy Team will investigate including language into SES, supervisor, and employees' Performance Management Appraisal Programs (PMAPs) beginning in FY 2023. Consistent global messaging on the climate crisis, climate and human health, and climate actions will be developed to incorporate in all aspects of HHS activities, meetings, events, and documents. This is also addressed in the context of facilities policies and guidance in Priority Action 1.5. To enhance awareness, the HHS CLT will consider creating banners, displays, and portraits on major climate literacy topics and displaying them throughout facilities.

The HHS CLT will also consider including climate resilience in the current HHS language of the Federal Employee Viewpoint Survey (FEVS) asking HHS employees to evaluate if "*Sustainability Management Practices are supported by management in my organization*." This will help guide HHS management in determining the success of climate literacy efforts.

Initial Actions: The HHS Climate Literacy Team will identify courses that could be shared with HHS staff as initial steps towards increasing literacy and begin development of a video message from an HHS senior leader by the end of 2021.

The HHS Sustainability Outreach Workgroup will coordinate outreach events, including Green Bag Lunches, as well as work to set up an initial Climate Action page on the Go Green Get Healthy HHS intranet site, offering information on the climate crisis and existing training beginning in FY 2022.

5. Topic 3: Describe Agency Actions to Enhance Climate Resilience

5.1 Topic 3a. Describe Agency Actions for Climate-Ready Sites and Facilities

HHS strives to implement technologies and design strategies to develop climate-ready and resilient facilities. Using the strategies outlined in the Adaptation Actions on Addressing Emergencies and Facilities Guidance Documents, and those actions outlined in the Vulnerability Risk Assessment of this document, HHS will advance climate-readiness and resiliency of sites to maintain mission operations.

5.1.1 New Construction/Major Renovation

Strategy:

- Use the HHS Sustainable Buildings Implementation Plan and the OpDiv design and construction standards to incorporate the Guiding Principles for Federal Sustainable Buildings (GPs).
- Require contracted architectural and engineering (AE) firms to follow OpDiv sustainability requirements that are based on meeting the Energy Star and U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) at a minimum of Silver certification.
- Meet Fitwel healthy building certification standards at the three-star level for all new CDC buildings.

Current Accomplishments and Actions:

- New building designs at CDC, Indian Health Service (IHS), NIH, and FDA are designed to meet a minimum of LEED Silver certification and include on-site renewable energy systems and healthy building attributes are also prioritized as seen by CDC's. commitment to constructing and establishing Fitwel rated buildings.
- IHS Alamo Navajo Health Center project is incorporating Biophilic Design supporting Evidence-Based Design (EBD) practices and pursuing LEED Gold certification. Biophilic Design EBD strategies and features are integrated into the project by incorporating elements of nature in the indoor environment to achieve healthy outcomes.
- IHS requires 5 percent of new construction and major renovation projects budgets to be dedicated to sustainability/LEED features, on-site renewable energy, and Biophilic Design EBD practices for occupant health and wellness.
- CDC recently constructed a net-zero parking structure with a photovoltaic (PV) solar system, electric vehicle charging stations, and rainwater reclamation to provide wash-down of the deck and eliminate potable water use.
- New designs are reviewed by OpDiv sustainability subject matter experts for inclusion of sustainability and resiliency criteria using the 2016 Guiding Principles (GP) checklist including the impact on the surrounding community and utility infrastructure.
- HHS Capital Investment Review Board (CIRB) meets bi-annually to review OpDiv master plans and major construction projects.
- A detailed facilities vulnerability assessment was performed at the NIIEHS campus and climate vulnerability assessments were compiled as a part of CDC Campus Master Plans for San Juan, Puerto Rico and Ft. Collins, Colorado.

Future Actions:

- HHS High-Performance Buildings Workgroup will re-evaluate and revise the 2016 GP checklist to meet modifications set forth by the updated 2020 Guiding Principles for Sustainable Federal Buildings instructions and to ensure that climate vulnerabilities and risks as outlined in 4th National Climate Assessment (Volume II), the EPA Environmental Justice Screening and Mapping Tool (EJSCREEN), and the "*U.S. Global Change Research Program: The Impacts of Climate Change on Human Health in the United States*" are incorporated in designs. Complete in FY 2021.
- HHS High-Performance Buildings Workgroup will analyze how to include vulnerability assessments as part of its master plans and existing campus and facilities evaluations.
- Prioritize implementation of renewable energy projects, as identified in site evaluations to meet EO14008 zero-emissions requirements.
- IHS is working with the National Renewable Energy Laboratory to use future predicted weather modeling for new staff quarters. IHS is also developing a design guide for healthier building materials.

5.1.2 Existing Facilities

Strategy:

- Include projects to address existing weather-related issues in OpDivs master plans.
- Complete facility energy and water evaluations at existing facilities to identify and implement efficiency projects that reduce site power loads, which will in turn lessen the burden of emergency power systems and provisions.
- Install renewable energy projects to improve facility resiliency and meet EO14008 zero-emissions requirements.

Current Accomplishments and Actions:

- A large new process water storage tank, chilled water storage system, and increased diesel generator capacity were installed at the NIH Bethesda Campus in Maryland to maintain operations during power outages. In addition, upgraded backup oil tanks are currently under design.
- FDA is upgrading backup generators at the Muirkirk Road Complex in Maryland and replacing a backup water well at the Jefferson Laboratories Complex in Arkansas to improve resiliency.
- IHS Alaska Native Tribal Health Consortium (ANTHC) Rural Energy Program installed a biomass boiler and heat recovery system to improve energy resiliency in remote areas.
- More than 1,350-kilowatts of PV systems have been installed, or planned to be installed, at NIH, CDC, and IHS in the FY 2020 to FY 2021time frame.
- Dual-fuel boilers and a 2.74-MW PV system are included in a FY 2021 utility energy service contract (UESC) awarded contract at the NIH Poolesville Campus.
- NIH Bethesda Campus is currently replacing three R-22 chillers with R-134a chillers. In addition, NIH Bethesda Campus Cogeneration Black Start Project is currently under design, which provides climate resiliency.

Future Actions:

- HHS Energy and Water Workgroup and the High-Performance Buildings Workgroup will analyze the potential to include vulnerability assessments in conjunction with or as part of facility energy and water evaluations. Complete in FY 2021.

- Implement energy and water conservation measures as identified in covered facilities evaluations within two years of evaluation completion date.

5.1.3 Leased Facilities

Strategy:

- Work with lessors to identify energy and water efficiency projects, utility supply, or building envelope projects to improve climate resiliency.
- Require sustainability elements in new government-occupied lease agreements.

Current Accomplishments and Actions:

- HHS headquarters the Hubert H. Humphrey (HHH) Building has GSA-delegated authority for maintenance and operations. Facility management is focusing on efficient operations for energy and water.
- PSC has responsibility for maintenance and operations of the 5600 Fishers Building in Maryland. Facility management is focusing on energy and water management and working closely with the lessor to implement efficiency projects.
- PSC Supply Chain Management Service (SCMS) is currently working on a Due Diligence Study to complete a real property assessment for two PSC-leased buildings on the Veterans Administration Campus at Perry Point, Maryland. The study will provide the true state of the property/buildings and prepare SCMS for future Architectural Engineering (A/E) and construction renovation for both buildings.

Future Actions:

- HHS facilities managers and directors will work with lessors of leased facilities to address climate resiliency.
- HHS will seek a partnership with GSA and look to GSA to be a strong leader in meeting health, sustainability, adaptation, and resilience standards for the federal government.

5.2 Topic 3b. Describe Agency Actions to Ensure a Climate-Ready Supply of Products and Services

To ensure a climate-robust supply of critical goods and services, HHS will take the following actions to reduce the risk of disruption due to HHS's five identified climate vulnerabilities of heat, drought, wildfires, flooding, and acute extreme weather events or long-term climatic change:

- The 2021 HHS CAP will include the development of 11 HHS OpDiv CAPs. The instructions for the development of the OpDiv CAPs will include local evaluations of critical supplies and services to identify possible additional climate vulnerabilities for their sites and missions and proposed actions to make these procurements more climate robust.

- HHS's Assistant Secretary for Financial Resources' Office of Acquisitions will collaborate with the HHS Sustainability Program Office and program officials to establish an OpDiv/StaffDiv team to develop standard requirements language to enable future HHS procurements to become more climate resilient and more sustainable in their contract actions.

- The HHS CAP Team has identified the following five categories of HHS critical acquisitions and services:

1. Medical Supplies
2. Utilities (Refrigerated Samples Storage, Data Collection, and Surveillance Backup Services, and IT Services)
3. Vivarium Support Services
4. Medical Supplies Stockpile Warehouse
5. Vaccines (Policies and Production)

These five procurement categories will be specifically investigated to determine the climate vulnerability of planned future acquisitions of these supplies and services. The goal of this review will be to determine possible approaches to make more climate robust decisions when making procurements involving these products. The planned action will be to collaborate with the specific program managers to increase their climate literacy and, if deemed necessary, include standardized climate resilience language in the programs' Statement of Work for inclusion into the programs' procurement strategy used to purchase the supply or service.

This initiative will also include the development of a tool such as a decision tree to help the acquisition workforce understand the climate risks of their procurements. This will help ensure risk mitigation is considered and help select appropriate language to reduce the risks using the measures taken.

- In FY 2022, the HHS Supply Chain Management Services will investigate establishing a proof-of-concept contract utilizing a commercial off-the-shelf (COTS) solution as the unique intersection for pharmaceutical and medical supply acquisition from vendors, customer order management, warehouse management, and distribution for customers around the world. The goal of this proof of concept is to reduce carbon emissions by decreasing the number of supply chain nodes per transaction by using information technology to bridge the gaps.

  These actions will allow HHS to minimize the amount of readily available medical commodities owned and stored by HHS, minimize the number and size of supporting warehouses, maximize utilization of existing private sector delivery capabilities, all while increasing order fill rates and minimizing cost to the government. These actions would allow HHS to focus on building reserves of strategic and often hard-to-get items to alleviate disruptions in supply chains, including those caused by climate change.

6. Summary

The aforementioned actions reaffirm HHS's commitment to meet climate action objectives across multiple disciplines, which aligns with our mission to protect the health and well-being of all Americans.