Submission by the United States on the First Global Stocktake

The United States is pleased to submit this input for the first global stocktake (GST). This submission provides U.S. views on: (1) the modalities and focus of the technical assessment phase; (2) Parties' collective progress for each of the three themes of the GST (i.e., mitigation, adaptation, and means of implementation and support); and (3) specific examples from the United States of actions on mitigation, adaptation and means of implementation and support in order to inform the GST discussions and highlight opportunities to accelerate collective progress in implementing the Paris Agreement.

1. **Modalities and focus of the technical assessment phase**

Pursuant to 19/CMA.1, the technical assessment phase will focus on (1) taking stock of the implementation of the Paris Agreement to assess the collective progress towards achieving the purpose and long-term goals of the Paris Agreement; and (2) identifying opportunities for enhanced action and support to achieve the Paris Agreement's purpose and goals. The outputs of the technical assessment phase include summary reports for each thematic area of the GST and an overarching factual synthesis of these reports prepared by the co-chairs of the technical dialogue.

To achieve this mandate, the global stocktake in general, and the technical assessment phase in particular, should operate in the following manner:

- **Implementation…Plus.** As the United States and other Parties have highlighted in other contexts, our work under the Paris Agreement should turn to a mode of "Implementation Plus." The global stocktake's mandate – focusing both on identifying opportunities for enhanced action and support and informing NDCs and other actions – perfectly aligns with both helping Parties to enhance implementation of existing goals and commitments, and strengthening or establishing commitments and goals where needed. Across all of the long-term goals, we have seen some collective progress. For example, the world is now substantially closer to keeping a 1.5 degree Celsius limit on temperature rise within reach, as reflected in updated NDCs, mid-century net-zero goals, and many other national and international efforts. Moreover, Parties have made significant progress towards building resilience, adapting to climate change's impacts, and international support for mitigation and adaptation efforts. Nevertheless, substantial gaps remain towards achieving the long-term goals of the Paris Agreement. To achieve those goals, Parties must deliver on existing commitments and goals, strengthen commitments that are not strong enough, and create new commitments where none exist.

- **Focus on the long-term goals in Article 2.1 and Article 7.1.** While we recognize that it is debatable whether certain provisions of the Paris Agreement are or are not "long-term goals" within the meaning of the GST mandate, we think that, as a practical matter, the GST will be less diffuse and therefore more effective if it concentrates on the provisions that appear to be consensus long-term goals in Article 2.1(a) to (c) and Article 7.1.

- **Highlight opportunities to advance collective progress.** Despite gaps and challenges, there are opportunities to strengthen collective progress. In this regard, Article 14.3 of the Paris Agreement provides that the outcome of the GST "shall inform Parties in updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of [the] Agreement, as well as in enhancing

international cooperation for climate action." The GST should include a substantial focus on identifying opportunities for overcoming challenges and advancing progress, both at a more general level and with respect to specific sectors. Parties and non-Party stakeholders should communicate concrete examples that could inspire and inform other countries' actions. In our view this information will provide a rich stock of useful knowledge to draw upon for enhanced ambition and action. Relatedly, the outputs of the technical assessment should be presented in a well-organized way to identify such opportunities.

- **Consideration of equity and best available science.** As decided in 19/CMA.1, equity and best available science will be considered in a Party-driven and cross-cutting manner throughout the global stocktake. There are multiple dimensions to equity and no single definition; therefore the organization and outputs of the GST should not narrow or specifically define equity. It will also be important that the GST rely on the best available science to inform the discussions, in particular focusing on the IPCC reports from the sixth assessment cycle.

- **Incorporate the actions of various actors.** Understanding collective progress towards achieving the purpose and long-term goals of the Paris Agreement requires inputs from and analysis of Party and non-Party efforts. For example, in addition to actions from national governments, there is enormous energy from state, local, and tribal governments and the private sector that is generating critical leadership for ambitious climate action. Capturing this range of actions is necessary for assessing collective progress and for sharing ideas and best practices that can be applied at multiple levels. Thus, the GST should consider:

    - **Actions of Parties under the Paris Agreement**, both in terms of individual efforts of Parties pursuant to the Agreement (e.g., as reflected in NDCs and mid-century net-zero strategies or national adaptation plans) as well as outcomes reflected in decisions of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA).

    - **Efforts made through various initiatives involving interested Parties and/or other stakeholders**. Such initiatives have taken on increasing importance in driving sectoral action or in bringing together relevant stakeholders to address particular challenges across mitigation, adaptation, and finance.

    - **Actions taking place in specialized agencies or other multilateral fora**. This includes fora addressing international emissions from particular sectors (e.g., international aviation and international shipping).

    - **Actions of non-party stakeholders,** including subnational governments and actors, local communities and indigenous peoples, civil society and non-governmental organizations, youth, and businesses and the private sector.

The operation of and outputs of the GST must capture both the collective progress made to date, and the urgent need to do more, faster.

2. Mitigation

Collective progress towards the long-term temperature goal. Actions of Parties and other stakeholders have resulted in substantial increase in collective progress towards the long-term temperature goal in Article 2.1(a) of the Paris Agreement compared to where things stood when the Paris Agreement was adopted. Among other things, collective progress has been advanced by: enhanced NDCs submitted by many Parties; actions at both the national and subnational levels; and sectoral and other initiatives involving Parties and other stakeholders that aim to drive emissions reductions in specific areas. However, the latest scientific findings – particularly as reflected in the recent IPCC Working Group III report – make clear that we still are not collectively on track towards achieving the temperature goal and keeping a limit of 1.5 degrees of warming within reach.

U.S. efforts. Domestically, the United States is pursuing broad and intensive efforts at all levels of government and society to set and achieve ambitious targets domestically, and to support partners around the world in doing the same. We communicated an NDC with the target of achieving a reduction in net greenhouse gas emissions of 50-52 percent below 2005 levels in 2030. We also set a goal of achieving net zero emissions by 2050 as outlined in the *The Long-Term Strategy of the United States: Pathways to Net Zero Greenhouse Gas Emissions by 2050*. The federal government, and partners ranging from our state, county, city, and Tribal leaders to U.S. companies and NGOs, are striving to implement a full range of policies and actions that will make achieving these targets possible within the set timeframes. The United States also sees significant opportunity in sector-based approaches. This ranges from investing in research, to development and deployment of next-generation clean energy, to supporting farmers in reducing emissions and capturing additional carbon, to working with the financial sector to align financial tools with climate objectives.

Across the United States, there is a groundswell of support for climate action, which is also reflected in the dramatic expansion of climate actions taken by states, localities, businesses and financial institutions, and civic organizations of all stripes. At least 24 states and Puerto Rico have committed to reducing collective net greenhouse gas emissions at least 26-28 percent below 2005 levels in 2025 and 50-52 percent in 2030, and to collectively achieving overall net-zero greenhouse gas emissions as soon as practicable, and no later than 2050. This leadership by subnational governments is also critical to achieving emissions reductions across the full economy, and the full geographic sweep of the United States.

Internationally, the United States also recently helped stand up initiatives devoted to enhancing ambition, including the Global Methane Pledge and the LEAF Coalition; announced a groundbreaking Plan to Conserve Global Forests; supports the NDC Partnership and LEDS Global Partnership; and joined the Glasgow Leaders Declaration on Forests and Land Use, the Global Forest Finance Pledge, and the COP-26 Congo Basin Joint Donor Statement, amongst other efforts. We are also mobilizing the full suite of tools of the U.S. government to support partners around the world in setting, implementing, and achieving ambitious targets.

The United States would like to highlight a few sector-specific examples to demonstrate recent challenges and opportunities in reducing GHG emissions:

- **Methane:** The IPCC Working Group III report makes clear that addressing methane is the single most effective near-term strategy to limit warming. Reducing methane emissions will reduce peak warming levels, minimize the risk of overshooting 1.5C, and reduce warming by midcentury. Methane emissions reductions must take place across all anthropogenic sources of methane -- oil and gas, agriculture, waste, and coal -- through infrastructure and operational changes. Low-cost abatement options exist across all sectors and also present strong co-benefits for global health and development. Together with the European Union, the United States spearheaded the launch of the Global Methane Pledge at COP-26, with over 110 countries joining to support a collective goal to reduce methane emissions 30% by 2030. The United States also released its National Methane Emissions Reduction Action Plan at COP26, outlining our activities to reduce methane emissions across sectors. This includes new regulations on oil and gas methane emissions, reducing emissions from landfills, plugging oil and gas wells and remediating abandoned mines, and working with farmers and ranchers to address agricultural emissions. In addition, the United States supports global methane action through the Climate and Clean Air Coalition and the Global Methane Initiative. These entities provide policy and project support to countries to adopt methane mitigation solutions.

- **Subnational Market-Based Cooperation:** Among other subnational actions, some U.S. states have developed regional market-based approaches for reducing emissions. The Regional Greenhouse Gas Initiative (RGGI) is a cooperative, market-based effort among eleven Northeast and Mid-Atlantic states (as of the date of this submission) to cap and reduce CO2 emissions in the power sector. Since RGGI's inception in 2009, power plant CO2 emissions in the region were reduced by 47 percent over its first 10 years of operation (47 percent below 2008 emissions in 2018), outpacing reductions in the rest of the country by 90 percent. The RGGI states recently set a new cap for 2030 that is 30 percent below the 2020 cap. Ninety percent of emission allowances are distributed through auctions. Proceeds from RGGI–totaling over $4.3 billion to date–are reinvested in programs to help electricity consumers including energy efficiency, clean and renewable energy, greenhouse gas abatement, and direct bill assistance.

- **State Renewable and Clean Energy Portfolio Standards:** Thirty-eight states and territorial jurisdictions have renewable or clean energy portfolio standards or goals for electric power that dictate a specific percentage of electricity sold in the state that must come from renewable or clean sources– including sixteen that will achieve 100 percent clean electricity by 2050 or sooner. The designs of these programs vary across states, including components on performance-based standards, geographic and resource eligibility, alternative compliance payments. In several other states, utilities have adopted programs with performance-based incentives, including feed-in tariffs, standard offer payments, and payments in exchange for renewable energy certificates. In fact, 20 of the largest investor-owned utilities committed to reducing emissions by 100 percent (net or absolute) or reaching 100 percent clean electricity by 2050, and some as early as 2035. Financial mechanisms and incentives for clean energy exist in most states, with more than 500 incentives and funding offered by state and local governments across the nation, as well as utilities and nonprofit organizations. States with portfolio standards have demonstrated higher levels of capacity for developing clean and renewable energy.

- **Electric Vehicles (EVs)**: EVs are essential to reducing emissions in the transport sector. One challenge with EVs is developing charging networks, especially in a geographically large country like the United States. In order to address this issue, the Federal Government and States are working together and engaging with private charging operators to support and improve "Alternative Fuel Corridors" to develop and grow networks focused on targeted transportation corridors. The EV market share in the U.S. is growing as policies build support. Specifically, EV sales in the U.S. grew by 85% between 2020 and 2021, while overall light duty vehicle sales increased by only 3%. When transitioning to completely new infrastructure, the U.S. has found it helpful to grow in a strategic way, building upon existing infrastructure like our National Highway System. Public funding can leverage private sector investment to build a robust network from the bottom up. In February 2022, the U.S. Department of Transportation (DOT) released USD $5 billion for a National Electric Vehicle Infrastructure (NEVI) Formula Program to put the U.S. on a path to a nationwide network of 500,000 EV chargers.

- **International Aviation**: At COP26, the United States announced the U.S. Aviation Climate Action Plan, which sets out an ambitious, yet achievable goal of net-zero greenhouse gas emissions from the U.S. aviation sector by 2050. The plan builds on individual and sector-wide commitments announced by the U.S. aviation industry and highlights specific actions and policy measures to foster innovation and drive change across the entire U.S. aviation sector. It includes a partnership between the U.S. Department of Energy (DOE), DOT, and the U.S. Department of Agriculture (USDA) to accelerate research, development, demonstration, and deployment needed for innovative solutions and technologies and the policy framework to enable an ambitious government-wide commitment to scale up the production of sustainable aviation fuels. Internationally, we see the upcoming International Civil Aviation Organization (ICAO) General Assembly as an opportunity to affirm and strengthen ICAO's existing climate initiatives while identifying an aspirational path forward for the sector. This Assembly provides a critical opportunity for international aviation to increase its climate ambition by building on the many commitments for increased ambition from states and private industry.

- **Wind and Solar Energy:** An expansion of wind and solar power is fundamental for decarbonization of the electricity sector. In the United States, wind and solar power have expanded rapidly, with a nearly fourfold increase in the proportion of U.S. electricity generated from the two sources between 2011 and 2020. One of the most important U.S. policy supports for wind and solar has been federal investment and production tax credits. There are also many state and local financial incentives that have assisted with the expansion. The U.S. experience has shown that financial incentives and funding can go a long way in enabling the expansion of wind and solar energy, but at higher levels of renewables, issues other than financing can become significant. The U.S. recently launched the "Building a Better Grid" Initiative, to help support the buildout of transmission and enable a continued expansion of wind and solar generation.

- **Energy Efficient Lighting:** Widespread adoption of the most efficient light-emitted diodes (LEDs) in common lighting applications has the potential to save the energy equivalent of around 20% of total U.S. building electricity use in 2018, and was already

responsible for about a 5% decline in electricity use from buildings in 2018. While high costs were once a barrier, the price of LEDs and other efficient lighting technologies has fallen precipitously. The main U.S. policy to improve lighting energy efficiency has been improved energy efficiency standards. The U.S. experience with such standards has demonstrated how policies can accelerate technological innovation and adoption, and that standards can successfully move the lighting sector towards both energy and cost savings. The U.S. recently announced two new rules for lightbulbs that will further strengthen efficiency standards, resulting in savings to consumers of nearly $3 billion per year and avoiding the CO2 emissions equivalent of 28 million average U.S. homes.

- **Building Codes:** Buildings are responsible for around 12.5% of U.S. greenhouse gas emissions. Building energy codes represent a significant energy savings opportunity for home and business owners. In the United States, building codes are set at the State and local level, which allows for regional flexibility. The Federal Government focuses on providing model building codes, participates in industry processes to develop codes, provides technical assistance to States and localities, and supports compliance. This multi-pronged approach for improving efficiency in the buildings sector has allowed continued improvement in building efficiency while considering regional differences. The further adoption of model building codes are projected to save around USD $138 billion and avoid 0.9 Gton CO2 between 2010 and 2040.

- **Creating Youth Climate Jobs:** The Department of Labor (DOL) YouthBuild program will award 68 organizations more than $90 million to support the development of Registered Apprenticeships and other career pathway models that prepare underserved young adults who are not currently in school for jobs in construction and other in-demand industries, including green building techniques, solar panel installation, and the use of energy efficient appliances. This model will provide valuable training, enabling the acquisition of occupational skills while promoting educational opportunities with youth – splitting time between workplace training and the classroom to obtain their high school diploma or equivalency degree.

- **Nature Based Solutions for Mitigation:** Nature-based solutions (NbS) are approaches that reverse ecosystem degradation and address societal challenges while also benefiting human well-being and biodiversity. The strategic and effective use of NbS plays an important role in addressing resilience challenges. NbS can also offer significant benefits, monetary and otherwise, often at a lower cost than more traditional infrastructure. There are opportunities for carbon sequestration on land and in coastal and marine ecosystems. Forests in the United States absorb more than 10 percent of annual economy-wide greenhouse gas emissions. Conserving old-growth and mature forests domestically and around the world while supporting and advancing climate-smart forestry and sustainable forest products is critical to protecting these and other ecosystem services provided by those forests. The United States has outlined a series of actions to support this work to strengthen the contributions of forests to combat climate change and enhance local economies. Similarly, the United States is actively working on efforts to restore, conserve and create new markets for ”blue carbon.” This includes the NOAA Blue Carbon Inventory (BCI) Project to advance the development of tools, approaches, and capacity

for integrating coastal blue carbon into National Greenhouse Gas Inventories and to enhance monitoring of emissions from wetlands into improved mitigation outcomes.

- **Ocean-based Climate Solutions**: There are many opportunities to mobilize ocean-climate action, including the decarbonization of shipping. For example, the IMO has an opportunity, as it reviews its Initial GHG Strategy, to adopt a goal of zero emissions from the international shipping sector no later than 2050 -- and interim 2030 and 2040 goals that put the sector on a credible pathway to achieve full decarbonization -- to align with the 1.5-degree goal. Many countries have been exploring these opportunities through various conferences and coordination efforts. For example, the seventh Our Ocean Conference, which the United States co-hosted with Palau in April 2022, highlighted the ocean-climate nexus. This year's Conference, which closed with 410 commitments worth approximately $16.35 billion, included a range of announcements that advanced ocean-based climate solutions, such as offshore renewable energy and marine nature-based solutions. They also included announcements on initiatives such as green shipping corridors that will help spur the transition to zero-emission shipping. It is notable that the International Maritime Organization will also have an opportunity to spur this transition as it reviews. Initiated in 2021, the UN Decade of Ocean Science for Sustainable Development is a ten year global effort to generate innovative ocean solutions and facilitate coordination among a wide range of ocean stakeholders.

- **Supporting Research and Innovation:** There is a wide range of existing mitigation solutions, but uncertainties and hard-to-abate sectors remain, and additional research and innovation is necessary. The United States is actively investing in research and creating partnerships to stimulate innovation and technology development. For example, the DOE is involved in multiple streams of research and initiatives to advance the development and reduce the costs of various decarbonization technologies, such as initiatives on heat pumps in cold climates or for long duration energy storage. Similarly, there is untapped potential in ocean-based climate solutions, including offshore renewable energy and decarbonizing the shipping sector. Better ocean observations and monitoring and advanced technologies are helping to scale up the implementation of these opportunities. Lastly, the United States also focuses on emerging issues and needs such as carbon dioxide removal. This includes the recently released *Research Strategy for Ocean Carbon Dioxide Removal and Sequestration* to help prioritize and guide research on the benefits, risks, and potential for responsible implementation of six specific ocean-based carbon-dioxide removal strategies.

3. Adaptation

Collective progress towards the long-term goals in Article 2.1(b) and Article 7.1. Since the adoption of the Paris Agreement, Parties and other stakeholders have made progress towards enhancing adaptive capacity, strengthening resilience and reducing vulnerability. This has come through, among other things, the development and implementation of national adaptation plans and other strategies by many Parties; national and local level actions to increase resilience to a changing climate; and multi-stakeholder initiatives that bring Parties and others together to address adaptation priorities and support. However, as reflected in the IPCC Working Group II report, significantly more effort and support is needed.

The global goal on adaptation sets out clear objectives while recognizing that adaptation priorities and needs will depend largely on different local situations. In that context, we note that the Adaptation Committee Technical Paper *Approaches to reviewing the overall progress made in achieving the global goal on adaptation* provides a robust foundation for considering how the GST can review progress on adaptation. The technical paper is clear that there is no one approach to measuring adaptation progress and that, for most countries, a suite of tools that includes quantitative and qualitative assessments will provide the best picture of adaptation progress. The IPCC WGII report makes clear that the lack of comparability between methodologies for assessing adaptation risks, needs, and outcomes prevents easy comparisons of adaptation progress between different regions and spatial scales.

U.S. Efforts. The United States put forward an Adaptation Communication prior to COP-27 addressing both our domestic efforts and our international support to help vulnerable countries adapt to the impacts of climate change.

Domestically, the United States is advancing five cross-cutting adaptation priorities coordinated by the National Climate Task Force: 1) improving community resilience planning; 2) promoting the design and construction of resilient infrastructure; 3) measuring, disclosing, managing, and mitigating climate-related financial risks to communities and the U.S. economy; 4) conserving and restoring lands and waters; and 5) advancing innovative and measurable resilience solutions. We are also implementing approaches that integrate considerations of equity across the adaptation cycle.

Adaptation takes place at all levels of society. National and regional leadership is important for providing support, but most adaptation actions are implemented locally– as governments, businesses, communities, and individuals respond to today's altered climate conditions and prepare for future change based on the specific climate impacts relevant to their geography and vulnerability. For example, after extreme flooding destroyed or damaged nearly 500 miles of public roads, the State of Colorado is rebuilding roadways to be more resilient to future flooding. The City of Phoenix, Arizona has an ordinance requiring rental units to have cooling capable of maintaining safe temperatures to avoid the health risks of extreme heat. These types of adaptation actions across the nation have been supported by the U.S. federal government and federal agencies, and by state and local governments.

Internationally, the United States has enhanced adaptive capacity, strengthened resilience and reduced vulnerability to climate change through its support. At COP-26 in Glasgow, President Biden launched the President's Emergency Plan for Adaptation and Resilience (PREPARE), which will serve as the cornerstone of the U.S. government response to addressing the increasing impacts of the global climate crisis in developing countries. The three pillars of PREPARE enable countries and communities to deepen their understanding of climate risks and vulnerabilities, plan for and implement adaptation action, and mobilize resources in support of climate resilience. Collectively, these actions will enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change, with a view to contributing to sustainable development.

Consistent with the Paris Agreement, the United States recognizes that increased efforts must be made to avert, minimize, and address loss and damage associated with the adverse impacts of

climate change. In particular, Parties have made substantial progress in operationalizing the Santiago Network, and the United States will continue to work with Parties to ensure that it is fully functional. We also continue to work through a range of bilateral and multilateral institutions focused on preparing for and responding to extreme weather and climate events. This includes creating a range of climate information, products and services to help vulnerable countries build resilience to the impacts of climate change. And we are working to identify ways through different mechanisms to enhance action and support for vulnerable countries to avert, minimize, and address loss and damage.

The United States would like to highlight a few examples to demonstrate recent challenges and opportunities in enhancing adaptive capacity and resilience:

- **Increasing Access to Climate Information to Support Communities**: Climate information is crucial for effective adaptation, influencing choices about where and how development occurs and helping to protect lives, livelihoods, and property. In the United States, such information is used at different levels to enhance resilience. For example, the City of Baltimore, Maryland used climate-informed estimates of increased current and future storm intensity to design its stormwater master plan, which includes green space and bio-swales that capture runoff, to improve water quality and reduce flood risk. Beyond use domestically, the United States provides a broad range of tools and information to our international partners to reduce disaster risk; build resilience to a changing climate; support decision-making to better prepare for and adapt to weather, water and climate extreme events; and understand ecosystem impacts of climate change such as coral bleaching, ocean acidification, and shifting resource populations (e.g. fish stocks).

    - Through climate.gov and the Climate Resilience Toolkit, the U.S. government provides the public with clear, timely, and science-based information about climate.

    - The United States also works with partners around the world to develop early warning systems, and other climate information services, including the Regional Climate Outlook Forums (RCOFs) and World Meteorological Organization Regional Climate Centres (WMO RCCs), and integrate climate knowledge in disaster risk and adaptation planning. NOAA and other U.S. agencies collect and make accessible space-based and in situ Earth observation data and information that is essential for climate scientists and decision makers around the world and that feed into climate and weather models to provide real-time weather forecasts and longer-term climate projections.

    - The United States also supports the Weather and Climate Ready Nations program which aims to improve early warnings of weather, climate and water induced hazards to reduce impact of hydrometeorological disasters. The program also trains local scientists and leaders globally to predict climate and emerging extreme hazards such as heatwaves to support risk-informed decisions.

    - By increasing access to climate data, the United States has found it helpful to focus climate services on the challenges that pose the greatest risks and

opportunities to society and to foster interagency coordination and strategic public-private partnerships to develop, deliver, and continually advance climate services. As part of the PREPARE plan, the United States is working to expand support around the world for similar climate information services.

- **Adapting to Extreme Events:** In October 2012, Hurricane Sandy caused unprecedented damage to the electricity system across New York City—flooding shut down one-third of the city's generating capacity and five major substations. More than two million people lost electricity during the storm. Since then, New York City has collaborated with the utility company Con Edison to reduce the potential for future damage from extreme weather events. Based on an extensive review of which assets are most vulnerable to future flooding, Con Edison is strengthening flood barriers, making equipment submersible, raising or relocating critical equipment, reconfiguring networks for greater redundancy and flexibility, replacing vulnerable overhead lines with underground infrastructure, and expanding their use of monitoring sensors, switches, and related smart grid technologies. In Florida, Miami-Dade County's Capital Improvement Program is addressing hazards related to sea level rise including raising roads, installing pump stations, protecting existing buildings with temporary flood panels and building new infrastructure higher.

- **Nature-based Solutions for Adaptation:** Nature-based approaches for adaptation are newer concepts, so local planners may need additional information and resources to begin integrating NbS into adaptation planning. Implementation of NbS for adaptation requires the integration of nature and biodiversity into adaptation planning and an inclusive process that includes land-managers, particularly indigenous communities.

    - In the United States, NOAA and the U.S. Global Change Research Program have identified Federal Plans and resources available for nature-based approaches to adaptation. Among other things, recent infrastructure legislation can support integration of nature-based solutions into large public works, such as modernizing the nation's power grid and restoring watersheds. This integration could create hundreds of thousands of jobs and result in infrastructure that holds up better in the face of growing climate risks.

    - The America the Beautiful initiative is a locally led and voluntary, nationwide effort to conserve, connect, and restore 30 percent of our lands and waters by 2030.

    - State, tribal, and local governments are also implementing nature-based solutions. For example, in Wisconsin, the Menominee Tribe have adapted forest management practices to address the growing threats of climate change including more prevalent pests and diseases. In their efforts to regenerate areas of the forest, foresters are planting species more adapted to future conditions. The plantings also help to increase forest diversity, reduce the risks of any one species being negatively impacted by climate or forest health issues, and provide for high-quality forest products in the future. Similarly, in Puerto Rico, natural

infrastructure such as mangrove forests and coral reefs are being restored to help provide protection against future storms.

- **Focusing on the Most Vulnerable:** The impacts and risks of climate change are not distributed equally among communities; some populations are more vulnerable than others. Climate change can also exacerbate other challenges. Targeting adaptation to address the most vulnerable and addressing underlying drivers of vulnerability can help address these issues. Therefore, the Biden Administration created the Justice40 Initiative which aims to deliver 40 percent of the overall benefits of domestic federal investments in climate and clean energy to disadvantaged communities. On July 20, 2021, the Office of Management and Budget (OMB) released Interim Implementation Guidance for the Justice40 Initiative. As a key component of the initiative, the Council on Environmental Quality (QEQ) has developed the Climate and Economic Justice Screening Tool (CEJST) to help Federal agencies identify disadvantaged communities (DACs) that are marginalized, underserved, and overburdened by pollution.

- **Tracking Progress and Adaptation Outcomes**: In implementing PREPARE, the United States will develop a process for monitoring, evaluating, and learning from our efforts to track progress towards our goal of supporting more than half a billion people in developing countries to adapt to and manage the impacts of climate change by 2030. Recognizing that measuring progress on adaptation is highly context specific and based on local needs, a useful approach to taking stock of progress towards achieving the global goal on adaptation is to examine best practices and case studies of effective adaptation action and monitoring and evaluating approaches on a sectoral and multi-scalar basis and communicate lessons learned widely, so that other Parties and subnational entities can model their adaptation actions on examples from similar contexts.

4. Means of Implementation and Support

Collective progress towards Article 2.1(c). While Article 2.1(a) and 2.1(b) articulate the long-term goals of the Paris Agreement for mitigation and adaptation, Article 2.1(c) – making financial flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development – represents the means of implementation for achieving these goals. This will require a whole of economy approach, including enhanced efforts from all countries and the full engagement of the public and private sector.

There are three central aspects to achieving Article 2.1(c). First, finance will flow where there is a demand for scaling-up climate smart investments, most prominently in response to official policies and measures. As countries take meaningful action to pursue ambitious action to keep a limit of 1.5 degrees Celsius within reach and build resilience to the impacts of climate change, opportunities and demand for investment will also increase. Governments play an important role in creating such demand through the implementation of pro-climate policies and regulations, as well as convening initiatives that facilitate cooperation and enhanced action. These efforts send powerful signals to investors, domestic and international, which will drive capital flows.

Second, in response to these efforts, we must continue to increase the supply of finance, mobilizing capital from all sources, domestic and international, public and private. This may take a wide variety of forms, including voluntary private sector initiatives, the provision of concessional finance for climate-smart development, and the use of innovative financing mechanisms like green bonds and results-based payments. Further, in addition to scaling-up investments in mitigation and adaptation, we must also continue to scale-down investments in activities in carbon-intensive or maladaptive activities. This includes inefficient fossil fuel subsidies which encourage wasteful consumption, reduce energy security, impede investment in clean energy sources, and undermine efforts to deal with the threat of climate change.

Third, steps must also be taken to better manage climate-related financial risks. The intensifying impacts of climate change present physical risk to assets, publicly traded securities, private investments and companies. The failure of financial institutions to adequately account these risks threatens the competitiveness of companies and markets, the life savings and pensions of workers and families, and the ability of financial institutions to serve communities in the long-term.

Collectively, significant efforts have been made in each of these areas, though opportunities remain to make further progress. Parties have continued to enhance the ambition of their NDCs, but there remains a need for Parties whose NDCs are not yet aligned with a pathway toward 1.5 degrees to increase their ambition, and for all Parties to strengthen their implementation. In terms of mobilizing the supply of finance, over $1.8 trillion in green bonds have been issued as of June 2022, while countries have spent over $2.5 trillion subsidizing fossil fuels since Paris. And the Task Force on Climate Related Financial Disclosures (TCFD) has continued to support firms in their efforts to identify and disclose climate risks, though work remains to increase the diversity of companies and asset managers who are applying the TCFD's recommendations.

U.S. Efforts. The United States has taken a number of steps in this regard, in line with the U.S. International Climate Finance Plan, which identifies making capital flows consistent with low-emissions, climate resilient pathways as a priority area for action.

The U.S. has actively sought to create demand for climate-smart investments domestically, including through the policies and initiatives mentioned in this submission above. From renewable and clean energy portfolio standards to updated building codes, the policies implemented in the United States domestically have created a robust business environment for investments which actively support reducing GHG emissions and building resilience.

In terms of increasing the mobilization of finance, the United States has:

- **Investing in Clean Energy Innovation**: The DOE has established the Office of Clean Energy Demonstrations, which will oversee $20 billion of infrastructure funding to drive net zero investments, scale up clean energy, create new good-paying jobs for American families and workers, and reduce pollution while benefiting underserved communities.
- **Leveraging Community Financial Institutions to Lower Costs and Expand Clean Energy**: Existing programs at the DOE, Treasury, and USDA are collectively poised to support the investment of billions of dollars in state and local distributed energy resources (DER) projects. These investments can be leveraged by institutions like community development financial institutions, credit unions, green banks, regional and

community banks, and state revolving funds to drive climate resilience and clean energy projects in underserved communities across the country.

- **Scaling-Up the Provision of International Climate Finance for Developing Countries**: The United States makes strategic use of a wide variety of channels and instruments to provide and mobilize finance to tackle the climate crisis effectively and efficiently. Through announcements in April and September 2021, President Biden has announced that he will work with Congress to quadruple U.S. international public climate finance to over USD $11 billion per year by 2024. As part of these efforts, the United States will also increase public adaptation finance six-fold.

- **Targeting Fossil Fuel Subsidies**: Shifting investments from those which support fossil fuel use, or other high-emission activities, towards lower-emission alternatives remains a priority of the United States. In E.O. 14008, Tackling the Climate Crisis at Home and Abroad, the Biden Administration directed agencies to identify and eliminate fossil fuel subsidies from the budget request for Fiscal Year 2022 and thereafter. Further, recognizing the importance of international cooperation, the Department of State, Treasury, and other relevant departments and agencies, in coordination with the National Security Council, are working with other countries to promote the flow of capital toward climate-aligned investments and away from high-carbon investments, including promoting the phasing-out of inefficient fossil fuel subsidies internationally and ending international investments in and support for carbon-intensive fossil fuel-based energy projects.

Further, in-line with or building on E.O. 14030, Climate-Related Financial Risk, the United States has:

- **Supporting Climate Resilient Housing**: The Department of Housing and Urban Development (HUD) has begun collecting flood insurance data on single family properties to improve the understanding of borrowers' preparedness and resilience to severe flooding, and improved consumer-facing disclosure for potential purchasers of properties that resided in flood zones. HUD has also updated guidance to allow residents of affordable housing to better access cost-saving community solar subscriptions without having cost savings applied to household income or utility allowance calculations. Further, HUD has recently announced a reduction in required mortgage insurance premiums for residential care facilities where the facilities meet industry-recognized green building certifications and achieve meaningful, measurable energy and water efficiency improvements.

- **Protecting Pensions and Retirement Savings**: E.O. 14030, Climate-Related Financial Risk directed the DOL to identify actions it can take to safeguard the life savings and pensions of U.S. workers and families from the threats of climate-related financial risk. Together, the Employee Retirement Income Security Act and Federal Employees' Retirement System Act provide oversight to over $13 trillion in assets.

- **Strengthening Insurance Approaches to Climate-Related Financial Risk**: The Treasury's Federal Insurance Office (FIO) has expanded efforts on climate related-financial risk and insurance, including joining the Network of Central Banks and

Supervisors for Greening the Financial System (NGFS) in February 2022. The Federal Advisory Committee on Insurance (FACI), which provides advice and recommendations to the FIO, has also launched the Climate-Related Financial Risk Subcommittee, in an effort to provide expert advice and recommendations relevant to the FIO's work on climate-related risks in the insurance sector.

5. Conclusion

The GST is a crucial opportunity to assess progress towards achieving the purpose and long-term goals of the Paris Agreement. However, it's already clear that urgent action is needed now across mitigation, adaptation, and support. Therefore, the GST must also identify opportunities for further action, and catalyze action within and outside the UNFCCC process, in order to put the world on a safe trajectory.

6. Additional Resources

Transparency Accelerator Capacity Building Initiative supports developing countries transition to the *2006 IPCC Guidelines* and develop sustainable GHG inventory management systems

NDC Partnership leverages member resources and expertise to provide countries with the tools they need to implement their NDCs and combat climate change to build a better future

The Climate Explorer provides maps, graphs, and downloadable tabular data of historical data and projected climate conditions for every county in the U.S. (part of the NDC Partnership)

Global Climate Dashboard gives a data-driven readout on the state of the climate system

NOAA Resource Guides - provides links to top info sources on these topics:

1. Hurricane Resource Guide
2. Drought Resource Guide
3. Wildfire Resource Guide
4. Extreme Heat Resource Guide

Sea Level Rise Viewer - mapping tool to visualize impacts on communities from coastal flooding or sea level rise (up to 10 feet above average high tides).

Coastal Inundation Dashboard - provides real-time and historic coastal flooding information at NOAA coastal water level stations.

Climate Prediction Center - weekly to seasonal outlooks.

National Centers for Environmental Information - access to comprehensive oceanic, atmospheric, and geophysical data.

FEMA National Risk Index for Natural Hazards - mapping application that identifies communities most at risk to 18 natural hazards.

Data.gov - federal datasets related to climate change.

NASA.Earthdata.gov - federal datasets related to NASA Earth Science Activities