The United States of America

Nationally Determined Contribution

Reducing Greenhouse Gases in the United States:
A 2030 Emissions Target

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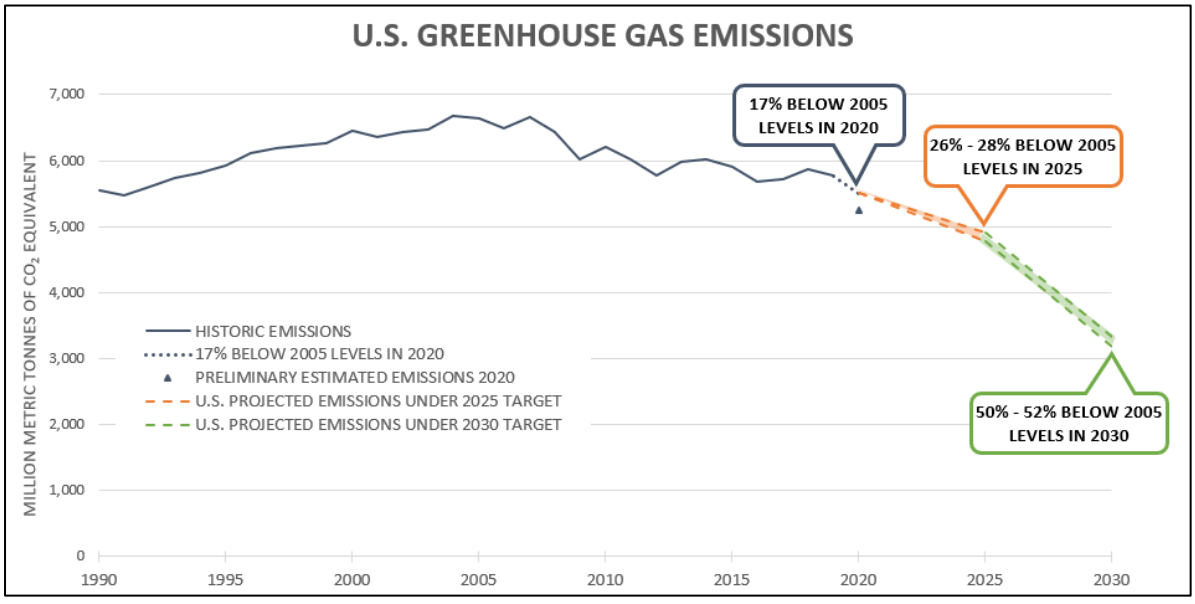
INTRODUCTION

This submission communicates the United States' nationally determined contribution (NDC) in line with Article 4 of the Paris Agreement. The Paris Agreement establishes a goal of holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature to 1.5° C.

Climate change is an existential threat and demands bold action. Solutions exist today to reduce emissions rapidly while supporting economic growth and improving quality of life. Addressing the climate crisis requires scaling the many solutions we already have, while investing in innovation to improve and broaden the set of solutions, enabling multiple pathways to reach global net zero emissions.

After a careful process involving analysis and consultation across the United States federal government and with leaders in state, local, and tribal governments, **the United States is setting an economy-wide target of reducing its net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030.** The National Climate Advisor developed this NDC in consultation with the Special Presidential Envoy for Climate, and it was approved by President Joseph R. Biden Jr..



United States Historic Emissions and Projected Emissions Under 2030 Target

Deploying zero-carbon solutions in the United States will create good jobs and improve the health of our families and communities. Local air pollution reductions that come along with reaching this goal will avoid tens of thousands of premature deaths by 2030. The United States is committed to standing with the workers and communities too often left behind — people and places that have suffered as a result of economic and energy shifts – and creating well-paid employment in the low carbon economy. The United States reaffirms its commitment to the creation of decent work and quality jobs as an integral part of its efforts to combat climate change. The United States will work to ensure that our firms and workers are not put at an unfair competitive disadvantage and cooperate with allies and partners that are committed to fighting climate change. As appropriate, and consistent with domestic approaches to reduce United States greenhouse gas emissions, this includes consideration of carbon border adjustments in relation to carbon-intensive goods.

Furthermore, acknowledging that the worst impacts of climate change have hit historically disadvantaged communities hardest, the United States is committed to environmental justice and to prioritizing investment that benefits these communities. In addition, American innovation will increase the diversity of available and accessible low-cost low-carbon technologies to eliminate greenhouse gas emissions. The United States also notes the importance of natural climate solutions, terrestrial and marine, in climate ambition and resilience. It further recognizes the role of the broader suite of ocean-based climate solutions, including scaling-up offshore renewable energy and reducing emissions from shipping and ports, in increasing climate ambition and creating jobs.

There are multiple paths to reach this goal, and the United States federal and subnational governments have many tools available to work with civil society and the private sector, mobilizing investment to meet these goals while supporting a strong economy. The solutions are affordable, and the cost of inaction far outweighs the cost of action in economic and humanitarian terms.

Based on preliminary estimates, the United States is expected to have met and surpassed its 2020 target of net economy-wide emissions reductions in the range of 17 percent below 2005 levels and is broadly on track to achieve 26-28 percent emissions reductions below 2005 levels in 2025. The 2030 target represents increased ambition made possible in part through advances in technology and resulting market responses.

A whole-of-government approach on climate action at the federal level will play an important role in achieving our target in 2030, building upon and benefiting from a long history of leadership on climate ambition and innovation from state, local, and tribal governments. Strong and predictable policy frameworks support private investment in innovation and deployment of carbon pollution-free technology and infrastructure, spurring markets that drive continued progress. All levels of government and the private sector will partner to drive and implement this NDC and create a more equitable, resilient, zero carbon future for the American people.

The National Climate Advisor and the White House Office of Domestic Climate Policy, in consultation with relevant departments and agencies across the federal government, conducted a detailed analysis to underpin this 2030 target, reviewing a range of pathways for each sector of the economy that produces CO_2 and non-CO_2 greenhouse gases: electricity, transportation, buildings, industry, and the land sector. Technology availability, current costs and available savings, and future cost reductions were considered, as well as the role of enabling infrastructure. Standards, incentives, programs, and support for innovation were all weighed in the analysis.

In addition to the techno-economic analysis, the National Climate Advisor and the White House Office of Domestic Climate Policy ran an interagency process across the federal government and consulted a range of other stakeholders, including groups representing: tens of millions of advocates and activists including environmental justice leaders; the unions that collectively bargain for millions of Americans who have built our country and work to keep it running; thousands of scientists; hundreds of governmental leaders including governors, mayors, and tribal leaders; hundreds of businesses; hundreds of schools and institutions of higher education; as well as many specialized researchers focused on questions of pollution reduction.

Sector-by-sector Pathways to 2030

In developing the NDC, the United States considered sector-by-sector emissions reduction pathways. Each policy considered for reducing emissions is also an opportunity to improve equity and support good jobs in the United States.

The United States will decarbonize the energy sector, including by cutting energy waste; shifting to carbon pollution-free electricity; electrifying and driving efficiency in vehicles, buildings, and parts of industry; and scaling up new energy sources and carriers such as carbon-free hydrogen. Actions to be pursued include, for example:

- **Electricity:** The United States has set a goal to reach 100 percent carbon pollution-free electricity by 2035, which could be achieved through multiple cost-effective technology and investment pathways, each resulting in meaningful emissions reductions in this decade. Eliminating greenhouse gases from the electricity sector will also reduce air and water pollution, improving public health while supporting good jobs building modern infrastructure. Policies that contribute to emissions reduction pathways consistent with the NDC include incentives and standards to reduce pollution. The federal government will work with state, local, and tribal governments to support the rapid deployment of carbon pollution-free electricity generating resources, transmission, and energy storage and leverage the carbon pollution-free energy potential of power plants retrofitted with carbon capture and existing nuclear, while ensuring those facilities meet robust and rigorous standards for worker, public, environmental safety and environmental justice. The United States will also support research, development, demonstration, commercialization, and deployment of software and hardware to support a carbon pollution-free, resilient, reliable, and affordable electricity system.

- **Transportation:** The largest sources of emissions from transportation are light-duty vehicles like SUVs, pickup trucks, and cars, followed by heavy trucks, aircraft, rail, and ships. These transportation modes are highly dependent on fossil fuels, with more than 90 percent of transportation energy use coming from petroleum. Transportation provides essential access to services and economic opportunities, but has historically contributed to racial and environmental inequities in the United States. There are many opportunities to reduce greenhouse gas emissions from transportation while also saving money for households, improving environmental quality and health in communities, and providing more choices for moving people and goods. Policies that can contribute to emissions reduction pathways consistent with the NDC include: tailpipe emissions and efficiency standards; incentives for zero emission personal vehicles; funding for charging infrastructure to support multi-unit dwellings, public charging, and long-distance travel; and research, development, demonstration, and deployment efforts to support advances in very low carbon new-generation renewable fuels for applications like aviation, and other cutting-edge transportation technologies across modes. Investment in a wider array of transportation infrastructure will also make more choices available to travelers, including transit, rail, biking, and pedestrian improvements to reduce the need for vehicle miles traveled. While the emissions pathways analyzed focus on domestic emissions reduction, the United States is also exploring ways to support decarbonization of international maritime and aviation energy use through domestic action as well as through the International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO).

- **Buildings:** Building sector emissions come from electricity use, as well as fossil fuels burned on site for heating air and water and for cooking. There are many options to avoid these emissions while reducing energy cost burden for families and improving health and resilience in communities. The emissions reduction pathways for buildings consider ongoing government support for energy efficiency and efficient electric heating and cooking in buildings via funding for retrofit programs, wider use of heat pumps and induction stoves, and adoption of modern energy codes for new buildings. The United States will also invest in new technologies to reduce emissions associated with construction, including for high-performance electrified buildings.

- **Industry:** Emissions in the heavy industry sector come from energy use, including on-site fuel burning as well as electricity, and direct emissions resulting from industrial processes. The United States government will support research, development, demonstration, commercialization, and deployment of very low- and zero-carbon industrial processes and products. For example, the United States will incentivize carbon capture as well as new sources of hydrogen – produced from renewable energy, nuclear energy, or waste – to power industrial facilities. In addition, the United States government will use its procurement power to support early markets for these very low- and zero-carbon industrial goods.

Beyond the energy sector, the United States will also reduce emissions from forests and agriculture and enhance carbon sinks through a range of programs and measures for ecosystems ranging from our forests and agricultural soils to our rivers and coasts. Actions to be pursued include, for example:

- **Agriculture and lands:** America's vast lands provide opportunities to both reduce emissions, and sequester more carbon dioxide. The United States will support scaling of climate smart agricultural practices (including, for example, cover crops), reforestation, rotational grazing, and nutrient management practices. In addition, federal and state governments will invest in forest protection and forest management, and engage in intensive efforts to reduce the scope and intensity of catastrophic wildfires, and to restore fire-damaged forest lands. Alongside these efforts, the United States will support nature-based coastal resilience projects including pre-disaster planning as well as efforts to increase sequestration in waterways and oceans by pursuing "blue carbon."

The United States also recognizes the crucial importance of reducing non-CO_2 greenhouse gases, including methane, hydrofluorocarbons and other potent short-lived climate pollutants. Actions to be pursued include, for example:

- **Non-CO_2 Greenhouse Gas Emissions:** The United States will implement the American Innovation and Manufacturing (AIM) Act to phase down the use of hydrofluorocarbons. To address methane, the United States will update standards and invest in plugging leaks from wells and mines and across the natural gas distribution infrastructure. In addition, it will offer programs and incentives to improve agricultural productivity through practices and technologies that also reduce agricultural methane and N_2O emissions, such as improved manure management and improved cropland nutrient management.

NATIONALLY DETERMINED CONTRIBUTION

The nationally determined contribution of the United States of America is:
To achieve an economy-wide target of reducing its net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030.

INFORMATION FOR CLARITY, TRANSPARENCY, AND UNDERSTANDING

Recalling Article 4.8 of the Paris Agreement, as well as decision 4/CMA1 and its Annex 1, the United States provides the following descriptive and contextual information to enhance the clarity, transparency, and understanding of the United States' NDC.

Information to facilitate clarity, transparency and understanding of the United States nationally determined contribution		
1. Quantifiable information on the reference point (including, as appropriate, a base year):		
a	Reference year(s), base year(s), reference period(s) or other starting point(s);	2005
b	Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year;	United States net emissions in 2005, as published in the Inventory of U.S. Greenhouse Gas Emissions and Sinks ("Inventory") on an annual basis. At the time of submission, this value is reported as 6635 million tonnes CO_2e in the Inventory submitted April 15 2021. This value may be adjusted in the future as described below in 1(f).
c	For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information;	n/a
d	Target relative to the reference indicator, expressed numerically, for example in	A 50-52 percent reduction below 2005 net emissions levels

	percentage or amount of reduction;	
e	Information on sources of data used in quantifying the reference point(s);	Information sources of data on greenhouse gas emissions and removals as reported in the Inventory on an annual basis. At the time of submission, Annex 6.4 of the Inventory submitted on April 15, 2021, linked here, contains a full list of sources of data for the Inventory.
f	Information on the circumstances under which the Party may update the values of the reference indicators	Consistent with IPCC good practice guidance, and paragraph 28 of Decision 18/CMA1 Annex 1, the United States is committed to improving the quality of its inventory and will perform recalculations to the inventory time series as needed to reflect the latest data and to maintain methodological consistency over time. The carbon dioxide equivalent mass of net greenhouse gas emissions used as a basis in tracking progress towards the NDC target will be the 2005 net emissions reported in the most recent Inventory at the time of submission of the relevant biennial transparency report (BTR).
2. Time frames and/or periods for implementation:		
a	Time frame and/or period for implementation, including start and end date;	2030[1]
b	Whether it is a single-year or multi-year target, as applicable.	Single-year target
3. Scope and coverage:		
a	General description of the target;	Economy-wide target of reducing net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030

[1] As described in Section 5, progress towards the implementation and of the NDC will be tracked using annual net GHG emissions for 2021 through 2030, compared with net greenhouse gas emissions for 2005. The achievement of the NDC will be assessed by comparing net greenhouse gas emissions for 2030 with net greenhouse gas emissions for 2005.

b	Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	The NDC is economy-wide. It reflects all anthropogenic emissions and removals as reported in the Inventory, and specifically: • All sectors, as defined by the IPCC 2006 guidelines; • All greenhouse gases included in the IPCC 2006 guidelines; • All categories, as included in the IPCC 2006 guidelines, occurring in the United States; • All carbon pools, as included in Volume 5 of the IPCC 2006 guidelines.
c	How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21;	The United States has included all categories of anthropogenic emissions or removals in its NDC. No source, sink, or activity that was included in the previous version of the NDC has been excluded.
d	Mitigation co-benefits resulting from Parties' adaptation efforts and/or economic diversification plans, including description of specific projects, measures and or initiatives of Parties adaptation actions and/or economic diversification plans	n/a
4. Planning processes:		
a	Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans including, as appropriate:	
a(i)	Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner;	Executive Order 14008, dated January 27, 2021, specified that the United States would immediately begin the process of developing its NDC under the Paris Agreement and that the process would include analysis and input from relevant executive departments and agencies, as well as appropriate outreach to domestic stakeholders.

		The National Climate Task Force[2] conducted a whole-of-government process to develop this nationally determined contribution. The process included a bottom-up analysis of existing and potential policies and measures at the federal level, accounting for capital stock turnover, technology trends, infrastructure needs, and continued subnational policies and measures. The analysis considered multiple pathways across all sources of greenhouse gas emissions: • The energy sector including electricity, transportation, buildings, and industry; • Land sector CO_2 including forests and soil carbon, as well as other opportunities for emissions reductions, such as ocean-based solutions; and, • Non-CO_2 greenhouse gases including hydrofluorocarbons, methane and N_2O, as well as other opportunities for reducing black carbon emissions. In addition to the emission reductions included in the Inventory and as part of the NDC, the United States continues to explore opportunities to advance reductions in black carbon emissions and ocean-based emissions. In addition to the techno-economic analysis, the National Climate Advisor and the White House Office of Domestic Climate Policy ran an interagency process across the federal government and consulted a range of other stakeholders, including groups representing tens of millions of advocates and activists including youth; the unions that collectively bargain for millions of Americans who have built our country and work to keep it running; thousands of scientists; hundreds of governmental leaders including governors, mayors, and tribal leaders; hundreds of businesses; hundreds of schools and institutions of higher education; as well as many specialized researchers focused on questions of pollution reduction.

[2] The National Climate Task Force is comprised of the National Climate Advisor (Chair), Secretary of the Treasury, Secretary of Defense, Attorney General, Secretary of the Interior, Secretary of Agriculture, Secretary of Commerce, Secretary of Education, Secretary of Labor, Secretary of Health and Human Services, Secretary of Housing and Urban Development, Secretary of Transportation, Secretary of Energy, Secretary of Homeland Security, Administrator of General Services, Chair of the Council on Environmental Quality, Administrator of the Environmental Protection Agency, Director of the Office of Management and Budget, Director of the Office of Science and Technology Policy, Assistant to the President for Domestic Policy, Assistant to the President for National Security Affairs, Assistant to the President for Homeland Security and Counterterrorism, and the Assistant to the President for Economic Policy.

		Following this analysis, modeling, and consultation, the NDC was approved by President Joseph R. Biden Jr.
a(ii)	Contextual matters, including, inter alia, as appropriate:	
a(ii)a	a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;	The United States is the largest economy in the world and the third largest country in terms of population and geographic area. The United States is a federal republic of 50 states. The Constitution of the United States assigns certain powers to the federal government, with other responsibilities devolved to the states. Local governments are charged with governance responsibilities at the corresponding level of subnational government. Indian tribal governments exercise governmental authority over a broad range of internal and territorial affairs. This shared responsibility for policy in areas such as economic growth, energy development, transportation, land use planning, and natural resource use creates the opportunity for action at multiple levels. The United States federal government is divided into three branches: executive, legislative, and judicial. Each branch of government is assigned specific authorities and plays distinct roles in enacting, implementing, and adjudicating laws and regulations. This same three-branch structure is also replicated at the state level, and often at lower levels of government as well. This structure creates a system of "checks and balances," which shapes the development and implementation of policy. Responsibility for addressing energy, environment, and climate change-related issues within the federal government cuts across each of the three branches within their assigned constitutional roles. The estimated population of the United States as of July 1, 2020 was 329.5 million, making the United States the third most populous country. This represents an increase of over 30% above 1990 levels. From 2019-2020, the United States population grew at a rate of 0.35%. reflecting both net births and net international migration. By 2050 the total population of the United States is expected to reach nearly 400 million people. This estimate reflects United States Census Bureau assumptions that growth rates will decline slightly over the coming decades. The population is not evenly distributed across the country; rather, the distribution of the population is affected by a series

		of biogeophysical, climactic, social, and economic factors. In the United States, the amount of energy used per unit of economic growth (energy intensity) has declined steadily for many years, while the amount of CO_2 emissions associated with energy consumption (carbon intensity) has generally declined since 2008. With a mainland bounded by the Atlantic Ocean to the east, the Pacific Ocean to the west, Canada to the north, and Mexico and the Gulf of Mexico to the south, the United States is a large and diverse country. Its 9,192,000 square kilometers (3,548,112 square miles) are spread across six time zones. Given the size and extent of United States territory, its biogeophysical profile is diverse. Ecosystems range from the Arctic tundras of northern Alaska to the tropical forests of Hawaii and the overseas United States territories. Approximately 60 percent of land in the United States is privately owned. Another 28 percent is owned and managed by the federal government. This area includes protected areas such as national parks, wilderness areas, wildlife refuges, and monuments; national forests; rangelands; and other public lands. Approximately 8 percent of land is owned and managed by state and local governments, and 3 percent is held in trust for Native Americans by the Bureau of Indian Affairs. The United States is the world's second-largest producer and consumer of energy. This creates significant opportunities to mitigate greenhouse gas emissions through energy efficiency, electrification of end-uses that currently burn fossil fuels, and carbon-free energy supply. The United States is a leader in clean energy innovation and deployment, with recent increases in investment into research, development, demonstration, and deployment of clean energy, other greenhouse-gas mitigating activities, and technologies to support resilience and adaptation to the changing climate. The evolving energy mix has a direct impact on greenhouse gas emissions, with carbon intensity declining largely as a result of a decrease in the consumption of carbon-intensive fuels, and an increase in lower- or zero-carbon fuels. In 2020, United States renewable generation reached a new record of 761 million megawatt-hours (MWh) – approximately 19 percent of the total United States electricity use. This

		was more than double the renewable generation in 2010, with more than 90 percent of the increase in renewables over the past decade coming from wind and solar generation. Total carbon-free generation in 2020 represented approximately 39 percent of total United States electricity generation. From 2005 to 2019, total net greenhouse gas emissions fell at an average annual rate of 0.8 percent. This decline reflects the combined impacts of policy (e.g., efficiency standards for vehicles and appliances and renewable energy incentives) and energy market and technological trends. In 2016, the United States transportation sector overtook the power sector as the leading source of greenhouse gas emissions for the first time since the late 1970s, and represented 29 percent of 2019 gross United States greenhouse gas emissions. Transportation emissions have grown significantly since 1990, in large part due to increased demand for travel. The power sector still represented 25 percent of total gross greenhouse gas emissions in 2019, though its carbon intensity has fallen rapidly over the past decade. The industrial sector as a whole, excluding emissions from electricity used by industry but generated offsite, represented 23 percent of total gross greenhouse gases in 2019. The carbon intensity of the industrial sector has fallen substantially, declining nearly 7 percent between 2005 and 2019. As a result of energy efficiency improvements and other structural factors – including shifts in industrial output away from energy-intensive manufacturing products to less energy-intensive products (e.g., from steel to computer equipment) – industrial energy consumption was only about 5 percent higher in 2019 than in 2005. Agriculture remains a critical industry in the United States. United States farmers and ranchers produce food and fiber crops, feed grains, oil seeds, fruits and vegetables, and other agricultural commodities for domestic consumption and export. While the area under harvest today is roughly the same area as was harvested in 1910, United States agriculture now feeds a population three times larger and still exports additional product. Emissions from agriculture come from a number of sources, including soil, fertilizer use,

		enteric fermentation, and manure. Agricultural soil management activities, such as fertilizer application and other cropping practices, were the largest source of United States nitrous oxide (N_2O) emissions in 2019, accounting for 75 percent of emissions of this gas. However, soils also have the potential to sequester and store large quantities of carbon, reducing atmospheric CO_2 concentrations. N_2O from fertilizer use and methane from farm animals' enteric fermentation and manure are other large sources of emissions. Forests play a key role in the economy, ecology, and culture of the United States, with the approximately 290 million hectares of forest comprising the fourth largest forest area of any country in the world. This area has remained fairly stable since the beginning of the 20th century, even as the population of the country tripled. In recent decades, the area of forest land has even increased slightly. The dynamics vary from region to region. In the East, active farmland is decreasing and returning to a forested state. In 2019, total net sequestration from land use, land use change, and forests was approximately 800 million metric tonnes of CO_2e, which offset approximately 12 percent of total United States greenhouse gas emissions. Sequestration was primarily the result of carbon uptake by standing United States forests, forest management, increased tree cover in urban areas, storage in harvested wood products, and the management of agricultural soils.
a(ii)b	Best practices and experience related to the preparation of the nationally determined contribution;	The United States developed its NDC to be both ambitious and achievable. It promotes the achievement of the Paris Agreement's aims, including pursuing efforts to limit global average temperature increase to 1.5 degrees Celsius, as well as the need to drive toward net zero global emissions no later than 2050. The NDC was developed based on sector-by-sector assessments of emission reduction potential informed by a whole-of-government process via the National Climate Task Force, led by the White House Office of Domestic Climate Policy. Economy-wide projections about future greenhouse gas emissions were conducted using a detailed, bottom-up system dynamics model accounting for capital stock turnover timelines and relative costs of technology and equipment in each greenhouse gas emitting sector of the economy. It also considered and compared against economy-wide modeling from

		external research. The analysis considered the emissions reducing benefits from federal actions, including standards, investments, incentives, taxes, programs, and support for innovation. The assessments also included consideration of contributions from subnational actions, noting that states and local governments contribute substantially under the United States federal system to national efforts to reduce emissions. These analyses show that the United States can deliver on its NDC, including by investing in efficiency, beneficial electrification, clean energy, plugging methane leaks, addressing direct greenhouse gas emissions from industrial processes, climate smart agriculture and forestry, innovation, and other priorities. These actions will also create good jobs, improve public health, and help to advance equity and achieve environmental justice priorities. These investments will allow American firms to invest to develop and export innovative greenhouse gas-reducing solutions and put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050.
a(ii)c	Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;	n/a
b	Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4,	n/a

	paragraphs 16 18, of the Paris Agreement;	
c	How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	n/a
d	Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:	n/a
d(i)	How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;	n/a
d(ii)	Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information	n/a

	on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.	
5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals:		
a	Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;	The United States intends to apply a net-net accounting approach in accounting for the NDC. Net emissions in the target year will be compared against net emissions in the base year to calculate the percentage emissions reductions achieved. Consistent with Articles 4 and 6 of the Paris Agreement and any applicable guidance, in tracking progress towards and accounting for the NDC, the United States intends to make corresponding adjustments for any internationally transferred mitigation outcomes that the United States Government authorizes for use towards NDCs, and for mitigation outcomes that the United States authorizes for other international mitigation purposes. The estimates of emissions and removals used in accounting for the NDC are those reported in the Inventory, which follows IPCC good practice guidance and the guidance included in Section II of the Annex to 18/CMA1. The definitions, data sources, and

		models used to estimate net emissions are those described in the Inventory. The most recent submission can be found here: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks In accounting for the NDC on a net-net basis using the estimates of economy-wide emissions and removals reported in the Inventory, and consistent with the inventory guidance contained in the Annex to decision 18/CMA1, the United States' accounting approach strives for transparency, accuracy, completeness, and consistency, and promotes environmental integrity. The accounting approach described above is consistent with Article 4.13 of the Paris Agreement, decision 4/CMA.1, paragraphs 13-17, and Annex II to that decision. The estimates of emissions and removals used in accounting for the NDC are those reported in the Inventory, which follows IPCC guidance and guidelines, and the guidelines included in Section II of the Annex to decision 18/CMA1.
b	Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;	n/a
c	If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4,	Please see the information below on the approach to natural disturbances (e)(i) and harvested wood products (e)(ii), both of which take into account existing methods and guidance under the Convention.

	paragraph 14, of the Paris Agreement, as appropriate;	
d	IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;	In accounting for the NDC, the United States intends to use the IPCC 2006 guidelines (or any updated IPCC guidelines that may be agreed upon by the CMA in the future), and 100 year global warming potential from AR5, for estimating anthropogenic emissions and removals.
e	Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:	n/a
e(i)	Approach to addressing emissions and subsequent removals from natural disturbances on managed lands;	The United States may address emissions and subsequent removals from natural disturbances on managed lands in accounting for its NDC. Should such an approach be used, the same methodology will be applied for both the base year (2005) and target year (2030). The emissions and subsequent removals from such natural disturbances would be included in the national totals of the Inventory. Any approach used to address emissions and removals from natural disturbances will be consistent with the guidance included in the IPCC 2006 guidelines and any subsequent version or refinement, as applicable, and will draw on best practices generated by Parties that have addressed natural disturbances under the UNFCCC and the Kyoto Protocol. These include: • Reporting the CO_2 and non-CO_2 effects of natural disturbances where natural disturbances occur on lands that are subject to land-use change following the disturbance. • Reporting emissions from salvage logging.

		• Reflecting the same methodological approach to addressing natural disturbances in estimations for the base year and the target year.
e(ii)	Approach used to account for emissions and removals from harvested wood products;	The United States intends to use a production approach consistent with the IPCC 2006 Guidelines to estimate emissions and removals from Harvested Wood Products, consistent with paragraph 56 of the Annex to decision 18/CMA.1. The methodology is described in detail in the Inventory.
e(iii)	Approach used to address the effects of age-class structure in forests;	n/a
f	Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:	n/a
f(i)	How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;	The reference indicator for the NDC is net greenhouse gas emissions in 2005, as published in the Inventory on an annual basis. The definitions, data sources, and models used to estimate net emissions are those described in the Inventory.

f(ii)	For Parties with nationally determined contributions that contain non greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;	n/a
f(iii)	For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated;	n/a
f(iv)	Further technical information, as necessary;	n/a
g	The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	At this time, the United States does not intend to use voluntary cooperation using cooperative approaches referred to in Article 6.2 or the mechanism referred to in Article 6.4 in order to achieve its target. Should the United States decide to use such voluntary cooperation towards achievement of its target or to authorize the use of internationally transferred mitigation outcomes towards the NDCs of other Parties, it would report on such use or authorization through its biennial transparency reports and consistent with any guidance adopted under Article 6.
6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:		

a	How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;	The United States' NDC exceeds a straight-line path to achieve net-zero emissions, economy-wide, by no later than 2050. It also promotes the goal of keeping within reach a 1.5 degree Celsius limit on global average temperature increase.
b	Fairness considerations, including reflecting on equity;	See 6(a)
c	How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;	While Article 4.3 does not necessarily apply to this NDC, the United States nevertheless notes that this NDC substantially increases ambition compared to the NDC previously submitted in relation to 2025.
d	How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	The NDC is an absolute economy-wide emissions reduction target.
e	How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	n/a
7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:		
a	How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	As noted above, this NDC exceeds the pace required for a straight-line path to achieve net-zero emissions, economy-wide, by no later than 2050. This NDC would therefore contribute substantially towards achieving the ultimate objective of the UNFCCC of stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, and within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

b	How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	As noted above, the United States' NDC is consistent with the Paris Agreement temperature goal of holding the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change (Article 2.1(a)). This NDC is expected to put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050, which would contribute substantially to the aim outlined in Article 4.1 to reach global peaking of greenhouse gas emissions as soon as possible, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.