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U.S. Withdrawal from the Paris Agreement: Process and Potential Effects

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U.S. Withdrawal from the Paris Agreement: Process and Potential Effects

On January 20, 2025, President Trump issued Executive Order (E.O.) 14162, in which Section 3(a) provided direction to the U.S. Ambassador to the United Nations (UN) regarding withdrawing the United States for a second time from the “Paris Agreement under the United Nations Framework Convention on Climate Change” (PA). Some Members of Congress have expressed strong disapproval of the decision to withdraw from the PA, while others have voiced approval for this action.

The PA is an internationally recognized treaty under the United Nations Framework Convention on Climate Change (UNFCCC). The PA identifies specific climate mitigation temperature and emissions goals, among other provisions. The United States joined the PA in 2016. Under President Trump the United States withdrew from the PA in 2020. Under President Biden the United States rejoined the PA in 2021. In 2025, President Trump issued E.O. 14162, which states, “The United States will consider withdrawal from the [Paris] Agreement and any attendant obligations to be effective immediately upon this provision of notification.” PA Article 28 states that a withdrawal “shall take effect upon expiry of one year from the date of receipt by the Depository of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.” In 2025, the UN Secretary General issued a depositary notification of the U.S. withdrawal from the PA.

The PA is the first UN climate treaty to include specific climate goals, stated as limiting global temperature increases “to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.” The PA’s emissions goals are for emissions of greenhouse gases (GHGs) to peak as soon as possible, then to rapidly decline, achieving a balance between GHG emissions and removals in the second half of the 21st century.

The PA requires that Parties submit climate mitigation nationally determined contributions (NDCs) every five years. Parties have sovereign discretion over their contributions. The PA established a range of market and nonmarket mechanisms to reduce GHG emissions. Each Party to the PA is required, as appropriate, to engage in adaptation planning and the implementation of adaptation actions. Parties to the PA agreed to undertake the first Global Stocktake in 2023 to assess collective progress toward achieving the PA’s stated purpose and long-term goals.

The PA includes provisions on loss and damage associated with adverse effects of climate change. The PA did not establish remedies for loss and damage. PA provisions state that developed country parties are obligated to provide financial resources to developing countries with respect to both mitigation and adaptation as part of their obligations under the UNFCCC, and other countries are encouraged to voluntarily contribute financial resources. PA provisions encourage countries to use a “wide variety” of financial resources.

With regard to climate change mitigation, some researchers have examined the quantity and timing of GHG emissions and the connection of such changes in GHG emissions with global temperature increases and the likelihood of achieving the PA’s temperature goals. Researchers using varying techniques and different assumptions have found differing potential effects on the U.S. economy as a result of withdrawal from the PA.

With regard to international climate cooperation, some observers have expressed concern that other countries will follow the United States in withdrawing from the PA or will fail to maintain their ambition to reduce GHG emissions. As of April 11, 2025, no other country has withdrawn from the PA. A November 2024 synthesis report by the UNFCCC Secretariat (issued prior to E.O. 14162), which examined the ambition for climate action in the NDCs, stated that the NDC ambition levels reflected “a stagnation in aggregate NDC ambition level.” Some researchers have stated the concern that a U.S. withdrawal from the PA could delay emissions reductions, precluding achieving the PA’s temperature goals. Other researchers hold the point of view that U.S. withdrawal from the PA is unlikely to result in increased emissions.

Congress may choose to support policies such as emissions reductions, consistent with the PA’s goals; alternatively, Congress may choose to repeal emissions reductions and other policies after the withdrawal decision. Congress may choose to gather additional information on the effects of withdrawal by directing federal programs and agencies to study these effects and report to Congress.

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Introduction

On January 20, 2025, President Trump issued Executive Order (E.O.) 14162, in which Section 3(a) provided direction to the U.S. Ambassador to the United Nations (UN) regarding withdrawing the United States for a second time from the “Paris Agreement under the United Nations Framework Convention on Climate Change” (PA).¹ The United Nations Framework Convention on Climate Change (UNFCCC) is a treaty ratified by the United States and other countries in 1992 that provides the principal structure of collaboration on climate change.² Parties to the UNFCCC adopted the PA in 2015, outlining goals and a structure for international cooperation to address climate change and its impacts.³ The PA, which entered into force on November 4, 2016, sets specific temperature and emissions goals, among other provisions, in the context of climate change mitigation.⁴ While E.O. 14162 references an immediate effect for the PA withdrawal, the UN Secretary General issued a depositary notification of the U.S. withdrawal from the PA effective January 27, 2026.⁵ Various Members of Congress have expressed an interest in the U.S. withdrawal decision and its potential effects.⁶

This report describes the history of U.S. participation in and withdrawal from the PA, and discusses the potential effects of the withdrawal. This report provides information on some treaty provisions, including its temperature and emissions reduction goals, the financial obligations of developed countries to developing countries, and reporting requirements, among others. This report focuses on the implications of a U.S. withdrawal from the PA and does not address the entirety of E.O. 14162.⁷ For example, in its discussion of the effects of the U.S. withdrawal from the PA and the uncertainty around those effects, it focuses on the United States’ efforts to reduce its greenhouse gas (GHG) emissions; it does not address the portions of E.O. 14162 related to

¹ Executive Order 14162 of January 20, 2025, “Putting America First in International Environmental Agreements,” 90 *Federal Register* 8455, January 30, 2025, <https://www.federalregister.gov/documents/2025/01/30/2025-02010/putting-america-first-in-international-environmental-agreements>. The official designation for this agreement is the “Paris Agreement” (PA). For example, that is how it is identified in the United Nations (UN) document stating that the agreement had met the conditions for entry into force on October 5, 2016. See UN, “Paris Agreement Entry into Force,” depositary notification C.N.735.2016. TREATIES-XXVII.7.d, December 12, 2015, <https://treaties.un.org/doc/Publication/CN/2016/CN.735.2016-Eng.pdf>.

² CRS Report R46204, *The United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement: A Summary*, by Richard K. Lattanzio. President George H. W. Bush signed the instrument of ratification and submitted it to the UN on October 13, 1992 (depositary notification C.N.148.1993).

³ Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), “Adoption of the Paris Agreement,” in *Report of the Conference of the Parties on Its Twenty-First Session, Held in Paris from 30 November to 13 December 2015, Addendum, Part Two: Action Taken by the Conference of the Parties at Its Twenty-First Session*, FCCC/CP/2015/10/Add.1. Decision 1/CP.21, January 29, 2016 (hereinafter UNFCCC, “Adoption of the Paris Agreement”).

⁴ Paris Agreement to the United Nations Framework Convention on Climate Change, December 12, 2015, T.I.A.S. No. 16-1104 (hereinafter UNFCCC, Paris Agreement); UNFCCC, “Key Aspects of the Paris Agreement,” <https://unfccc.int/most-requested/key-aspects-of-the-paris-agreement>. The threshold for the PA to enter into force was for at least 55 countries to ratify the agreement, accounting for at least 55% of global greenhouse gas (GHG) emissions.

⁵ UN, “Paris Agreement: United States of America—Withdrawal,” depositary notification C.N.71.2025. TREATIES-XXVII.7.d, January 27, 2025.

⁶ Some Members have introduced resolutions opposing withdrawal from the PA; see H.Res. 68 and S.Res. 36. Some Members have expressed support for withdrawal from the PA; see Rep. LaMalfa, remarks in the House, *Congressional Record*, vol. 171, no. 14 (March 4, 2025), p. H954, <https://www.congress.gov/congressional-record/volume-171/issue-41/house-section/article/H954-2>. See also Sen. Barrasso, remarks in the Senate, *Congressional Record*, vol. 171, no. 41 (March 4, 2025), p. S1468, <https://www.congress.gov/congressional-record/volume-171/issue-41/senate-section/article/S1468-1>.

⁷ This report does not assess the implications of the other components of E.O. 14162, such as Section 3(b) related to U.S. withdrawal “from any agreement, pact, accord, or similar commitment made under” the UNFCCC.

ceasing financial commitments under the UNFCCC and the U.S. International Climate Finance Plan. This report examines selected research on the potential effects of withdrawal from the PA on (1) the climate system and global temperatures, (2) the U.S. domestic economy, and (3) efforts at global cooperation to address climate change.⁸ The last section of this report includes considerations for Congress and policy options associated with the January 20, 2025, withdrawal announcement.

The Paris Agreement (PA): Background

The PA is one of the primary vehicles for international cooperation to address global climate change.⁹ The PA is part of the UNFCCC, a framework of international cooperation on climate change established in 1992.¹⁰ This section provides information on the framework of international climate cooperation, its objectives, and the position of the PA within that framework.

In 2015, 195 governments attending the 21st Conference of Parties (COP) to the UNFCCC in Paris, France, adopted the PA.¹¹ The PA outlines goals and a structure for international cooperation to address climate change and its impacts. The PA is a subsidiary agreement, an international treaty that, by enhancing implementation of the UNFCCC, “aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty.”¹² The objective of the UNFCCC is as follows:

Stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved 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.¹³

The PA creates a structure for nations to pledge to abate their GHG emissions, adapt to climate change, and cooperate toward these ends, including through the provision of financial and other support.¹⁴

History of U.S. Participation in the PA

The United States is the only country that has joined and subsequently withdrawn from the PA. Debate continues in the United States over whether and how the federal government should address human-related climate change. Most scientists and governments accept that stabilizing the concentrations of GHGs in the atmosphere and avoiding further GHG-induced climate change

⁸ This report discusses different findings and points of view on these potential effects. A full analysis of these topics is beyond the scope of this report.

⁹ UNFCCC, Paris Agreement.

¹⁰ CRS Report R46204, *The United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement: A Summary*, by Richard K. Lattanzio. President George H. W. Bush signed the instrument of ratification and submitted it to the UN on October 13, 1992 (depository notification C.N.148.1993).

¹¹ UNFCCC, “Adoption of the Paris Agreement.”

¹² UNFCCC, Paris Agreement, Article 2.1.

¹³ UNFCCC, Article 2, Objective.

¹⁴ UNFCCC, Paris Agreement, Articles 4.1, 7.1, 9.1, among others.

would require concerted effort by all major emitting countries.¹⁵ This section presents a chronology of U.S. participation in the PA.

Joining the PA

The PA entered into force on November 4, 2016.¹⁶ The United States deposited the instrument of acceptance with the UN Secretary on September 3, 2016. By this action, the United States joined the PA.¹⁷

First Withdrawal and Rejoining

On June 1, 2017, President Trump announced his intent to withdraw the United States from the PA.¹⁸ The United States notified the UN Secretary General of its decision to withdraw on November 4, 2019.¹⁹ The withdrawal took effect on November 4, 2020, in accordance with Article 28 of the PA, which states that withdrawal takes effect one year after notification of withdrawal.²⁰ On January 20, 2021, President Biden signed the instrument of acceptance, bringing the United States back into the PA, and on February 19, 2021, the United States rejoined the PA.²¹

Second Withdrawal

On January 20, 2025, President Trump issued E.O. 14162 directing the withdrawal of the United States from the PA.²² On January 27, 2025, the UN Secretary General issued a depositary notification of the withdrawal of the United States from the PA.²³

Section 3(a) of E.O. 14162 directs the U.S. Ambassador to the UN to immediately submit formal written notification of the U.S. withdrawal from the PA. The executive order goes on to state that

¹⁵ The UNFCCC states, “All States and regional economic integration organizations to which the UNFCCC is open have expressed their consent to be bound by it.” UNFCCC, “What Is the United Nations Framework Convention on Climate Change?” <https://unfccc.int/process-and-meetings/what-is-the-united-nations-framework-convention-on-climate-change>. See also Naomi Oreskes. “The Scientific Consensus on Climate Change,” *Science*, vol. 306, no. 5702 (2004), p. 1686.

¹⁶ UN, “Paris Agreement Entry into Force,” depositary notification C.N.735.2016.TREATIES-XXVII.7.d, December 12, 2015, <https://treaties.un.org/doc/Publication/CN/2016/CN.735.2016-Eng.pdf>.

¹⁷ UN Treaty Collection, Chapter XXVII: Environment, 7.d, “Paris Agreement,” December 12, 2015, <https://treaties.un.org/doc/Publication/CN/2016/CN.612.2016-Eng.pdf>.

¹⁸ Trump White House, “Statement by President Trump on the Paris Accord,” June 1, 2017, <https://trumpwhitehouse.archives.gov/briefings-statements/statement-president-trump-paris-climate-accord/>

¹⁹ U.S. Department of State, “On the U.S. Withdrawal from the Paris Agreement,” press release, November 4, 2019, <https://2017-2021.state.gov/on-the-u-s-withdrawal-from-the-paris-agreement/>.

²⁰ UNFCCC, Paris Agreement, Article 28.1, 28.2. See also UN Treaty Collection Depositary, Chapter XXVII: Environment, 7.d, “Paris Agreement,” https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en#7.

²¹ U.S. Department of State, “The United States Officially Rejoins the Paris Agreement,” press release, February 19, 2021, <https://2021-2025.state.gov/the-united-states-officially-rejoins-the-paris-agreement/>.

²² Executive Order 14162 of January 20, 2025, “Putting America First in International Environmental Agreements,” 90 *Federal Register* 8455, January 30, 2025, <https://www.federalregister.gov/documents/2025/01/30/2025-02010/putting-america-first-in-international-environmental-agreements>.

²³ UN, “Paris Agreement: United States of America—Withdrawal,” depositary notification C.N.71.2025.TREATIES-XXVII.7.d, January 27, 2025. The UN Secretary General is the depositary of multilateral treaties under the UN, and the UN Treaty Collection contains certified true copies of these treaties. For more information see UN, United Nations Treaty Collection, https://treaties.un.org/Pages/Home.aspx?clang=_en.

“the United States will consider withdrawal from the Agreement and any attendant obligations to be effective immediately upon this provision of notification.”²⁴ The depositary notification in the UN Treaty Collection states the following:

The action [Withdrawal] shall take effect for the United States of America on 27 January 2026 in accordance with paragraphs 1 and 2 of article 28 of the Agreement which read as follows:

“1. At any time after three years from the date on which this Agreement has entered into force for a Party, that Party may withdraw from this Agreement by giving written notification to the Depositary.

2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.”²⁵

Selected PA Provisions

The PA sets goals for addressing climate change and establishes international mechanisms for furthering these goals; these include the establishment of the Conference of the Parties serving as the meeting of the Parties to the PA (CMA), among other provisions.²⁶ These and other selected PA provisions are discussed below.

Temperature Goals

The PA is the first UN climate treaty to include specific climate goals for limiting global temperature increases. The aim of these goals is to enhance the objective of the UNFCCC and avoid increased climate change risks. The relationship of these goals to the UNFCCC and the specific climate components of these goals are presented in this section.

The goal of the PA set out in Article 2.1 is to “strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including through specific steps.” It does this by “enhancing the implementation of the Convention,”²⁷ including the objective to prevent dangerous human interference in the climate system.²⁸ The UNFCCC does not state a specific temperature threshold for achieving this

²⁴ Executive Order 14162 of January 20, 2025, “Putting America First in International Environmental Agreements,” 90 *Federal Register* 8455, January 30, 2025, <https://www.federalregister.gov/documents/2025/01/30/2025-02010/putting-america-first-in-international-environmental-agreements>.

²⁵ UN, “Paris Agreement: United States of America—Withdrawal,” depositary notification C.N.71.2025.TREATIES-XXVII.7.d, January 27, 2025.

²⁶ The UNFCCC states describes the CMA as

The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to the Paris Agreement. All States that are Parties to the Paris Agreement are represented at the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA), while States that are not Parties participate as observers. The CMA oversees the implementation of the Paris Agreement and takes decisions to promote its effective implementation.

UNFCCC, “Conference of the Parties Serving As the Meeting of the Parties to the Paris Agreement (CMA),” <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-serving-as-the-meeting-of-the-parties-to-the-paris-agreement-cma>.

²⁷ UNFCCC, Paris Agreement, Article 2.1.

²⁸ UNFCCC, May 9, 1992, S. Treaty Doc. No. 102-38.

objective. To enhance the objective of the UNFCCC, the PA states a multifaceted temperature goal.²⁹

Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.³⁰

Holding the increase in global temperatures to these levels would not avoid all climate change risks and impacts. With each incremental increase in global temperatures there are detectable increases in the frequency and intensity of some adverse climate impacts.³¹ Climate change impacts have started to occur due to increased global temperatures, and climate impacts are likely to increase further if global average temperatures exceed the 1.5°C goal.³² The PA does not specify how temperature increase is measured; researchers using different datasets and temperature baselines may find differing calculated values for global average temperature increases.³³

Global Peaking of Greenhouse Gas (GHG) Emissions

In addition to setting specific temperature goals, the PA states an aim of Parties achieving a balance between GHG emissions and removals of GHGs from the atmosphere.³⁴ Pursuant to PA Article 4, the PA states some actions that Parties should take to achieve the agreement's temperature goals. Parties to the PA are to take actions to reduce GHG emissions to reach a maximum or peak of GHG emissions as soon as possible, followed by rapid reductions in GHG emissions.³⁵ The aim is to achieve a balance between GHG emissions and GHG removals, sometimes referred to as *net-zero GHG emissions*, by the second half of the 21st century.³⁶

²⁹ UNFCCC, Paris Agreement, Article 2.1.

³⁰ UNFCCC, Paris Agreement, Article 2.2.

³¹ Intergovernmental Panel on Climate Change (IPCC), "Summary for Policymakers," in *Climate Change 2021: The Physical Science Basis—Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, 2021, Section B.2, states the following:

Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation, and, in some regions, agricultural and ecological droughts; an increase in the proportion of intense tropical cyclones; and reductions in Arctic sea ice, snow cover and permafrost.

See also the U.S. Global Change Research Program (USGCRP), which stated, "With every additional degree of warming, the United States is expected to see increasingly adverse consequences." S. Hsiang et al., "Chapter 19. Economics," in *Fifth National Climate Assessment*, ed. A. R. Crimmins et al. (USGCRP, 2023); hereinafter USGCRP, *Fifth National Climate Assessment*.

³² IPCC, "Summary for Policymakers," in *Climate Change 2021: The Physical Science Basis*. See Also USGCRP, "Chapter 19. Economics," in *Fifth National Climate Assessment*. See also National Oceanographic and Atmospheric Administration (NOAA), "What's in a Number? The Meaning of the 1.5-C Climate Threshold: Do Impacts Start at 1.5°C of Warming?" <https://www.climate.gov/news-features/features/whats-number-meaning-15-c-climate-threshold>.

³³ NOAA, "What's in a Number? The Meaning of the 1.5-C Climate Threshold: When Do We Know We've Passed It?" states: "The Paris Agreement does not specify how many years should make up this long-term trend, which dataset should be used, and which time period makes up the pre-industrial period. That means different scientists, governments and groups might come to different conclusions about when Earth passes this critical threshold."

³⁴ UNFCCC, Paris Agreement, Article 4.1.

³⁵ UNFCCC, Paris Agreement, Article 4.1.

³⁶ UNFCCC, Paris Agreement, Article 4.1. For more information on the concept of net-zero, see CRS In Focus IF12753, *Climate Change: What Are Net-Zero Emissions?*, by Jonathan D. Haskett.

Achieving such a balance would stabilize atmospheric GHG concentrations, an outcome consistent with the UNFCCC's objective.³⁷

Nationally Determined Contributions (NDCs) to Climate Change Mitigation

The PA establishes a process that obliges Parties to communicate—every five years—their expected contributions to achieving the UNFCCC's climate objectives as set out in Article 2.³⁸ The PA refers to these periodic submissions as *nationally determined contributions* (NDCs).³⁹ Although the PA requires this communication, the PA does not include mandatory targets and timetables for Parties to reduce their GHG emissions.⁴⁰ Article 4.2 of the PA obliges Parties to take action to meet the NDCs, stating that “Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.”⁴¹ As of 2023, the United States was the second-largest emitter of GHGs, after China.⁴² The U.S. NDC communicates “an economy-wide target of reducing its net greenhouse gas emissions by 61-66 percent below 2005 levels in 2035.”⁴³

NDC Elements

The NDCs reflect each country's own national climate objectives and plans, including emissions reduction goals, adaptation activities, and other elements.⁴⁴ NDCs from developed countries are expected to include economy-wide absolute emissions reduction targets, while developing countries are encouraged to move to economy-wide emissions reduction depending on their national circumstances.⁴⁵

Timing of and Requirements for NDCs

Each Party to the PA is to communicate successive NDCs every five years, and each successive NDC is to reflect an increasing ambition in its contribution to mitigating climate change.⁴⁶ PA Article 4 states the following:

³⁷ UNFCCC, Article 2, Objective.

³⁸ UNFCCC, “Adoption of the Paris Agreement,” paragraphs 13, 27. See also UNFCCC, Paris Agreement, Article 4.2, 4.9.

³⁹ UNFCCC, Paris Agreement, Article 4.2.

⁴⁰ UNFCCC, Paris Agreement, Article 4.2.

⁴¹ UNFCCC, Paris Agreement, Article 4.2.

⁴² European Commission, Joint Research Centre, M. Crippa et al., *GHG Emissions of All World Countries*, Publications Office of the European Union, JRC138862, 2024.

⁴³ UNFCCC, “The United States of America—Nationally Determined Contribution. Reducing Greenhouse Gases in the United States: A 2035 Emissions Target,” <https://unfccc.int/sites/default/files/2024-12/United%20States%202035%20NDC.pdf>. On December 19, 2024, President Biden announced a climate target for the United States reducing economy-wide GHG emissions by 61%-66% from 2005 levels. Biden White House, “FACT SHEET: President Biden Sets 2035 Climate Target Aimed at Creating Good-Paying Union Jobs, Reducing Costs for All Americans, and Securing U.S. Leadership in the Clean Energy Economy of the Future,” December 19, 2024, <https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2024/12/19/fact-sheet-president-biden-sets-2035-climate-target-aimed-at-creating-good-paying-union-jobs-reducing-costs-for-all-americans-and-securing-u-s-leadership-in-the-clean-energy-economy-of-the-future/>.

⁴⁴ UNFCCC, Paris Agreement, Article 4.6.

⁴⁵ UNFCCC, Paris Agreement, Article 4.4.

⁴⁶ UNFCCC, Paris Agreement, Article 4.9, 4.3.

Each Party’s successive nationally determined contribution will represent a progression beyond the Party’s then current nationally determined contribution and reflect its highest possible ambition.... A Party may at any time adjust its existing nationally determined contribution with a view to enhancing its level of ambition, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement.⁴⁷

NDCs are not explicitly dependent on other countries’ actions. Changes in one country’s NDC do not directly affect that of another country, as NDCs are to be determined by national circumstances, although they are part of collective action under the PA to achieve the agreement’s climate goals.⁴⁸

The PA elaborates on a “transparency framework,” and all parties to the agreement are to participate in this framework.⁴⁹ In the transparency framework each party is to provide (1) “a national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases,” and (2) information to track progress on achieving NDCs.⁵⁰ Each Party to the PA is to provide “information related to climate change impacts and adaptation under Article 7 [on adaptation], as appropriate.”⁵¹ Developed countries must, and other countries should, also provide information on financial, technology transfer, and capacity-building support provided to developing country Parties in the transparency framework.⁵² The implementation and achievement of NDCs is one of the reporting elements in the PA subject to technical expert review.⁵³

Voluntary Cooperation, Market and Nonmarket Mechanisms

Article 6 of the PA establishes mechanisms that allow parties to meet the goals of their NDCs through the transfer of credits for mitigation activities.⁵⁴ The PA establishes a range of market and nonmarket mechanisms to accomplish such transfers and specifies that they are subject to accounting standards to avoid double counting.⁵⁵

Articles 6.2 and 6.4 of the PA include two distinct carbon market frameworks to allow these transfers in the form of emission reduction credits.⁵⁶ Articles 6.8 and 6.9 establish a nonmarket

⁴⁷ UNFCCC, Paris Agreement, Article 4.3, 4.11.

⁴⁸ UNFCCC, Paris Agreement, Article 4.4.

⁴⁹ UNFCCC, Paris Agreement, Article 13.1.

⁵⁰ UNFCCC, Paris Agreement, Article 13.7.

⁵¹ UNFCCC, Paris Agreement, Article 13.8.

⁵² UNFCCC, Paris Agreement, Article 13.9.

⁵³ UNFCCC, Paris Agreement, Article 13.12.

⁵⁴ UNFCCC, Paris Agreement, Article 6, multiple provisions. The IPCC states, “Climate change mitigation refers to actions or activities that limit emissions of greenhouse gases (GHGs) from entering the atmosphere and/or reduce their levels in the atmosphere.” M. Grubb et al., “Introduction and Framing,” in IPCC, *Climate Change 2022: Mitigation of Climate Change—Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. P. R. Shukla et al. (Cambridge University Press, 2022).

⁵⁵ UNFCCC, Paris Agreement, Article 6.3, 6.4, 6.8, 6.9.

⁵⁶ UNFCCC, Paris Agreement, Article 6.2, 6.4. Emission reduction credits allow the transfer of the outcomes of climate mitigation activities from one party to another. The World Bank has stated the following:

An Emission Reduction Credit (ERC) represents a standard unit to measure an emission reduction equivalent to one metric ton of carbon dioxide. Emission reductions credits can be generated through either avoidance or removal projects. Avoidance involves activities that reduce emissions by preventing the release of carbon dioxide or other greenhouse gases into the atmosphere....

(continued...)

process to support a range of objectives, including climate mitigation in other countries.⁵⁷ The UNFCCC states that a difference between the market-based mechanisms of Articles 6.2 and 6.4 and the nonmarket-based mechanisms of Articles 6.8 and 6.9 is that while the market-based mechanisms may involve transfer of mitigation outcomes between parties, the nonmarket-based mechanisms do not.⁵⁸

Article 6.2 allows Parties to trade emissions reductions through bilateral or multilateral agreements.⁵⁹ Such transfers are subject to “corresponding adjustment” in which each Party must account for the sale of the credit in its NDCs or emissions goals, to avoid double counting.⁶⁰ Article 6.4 establishes a market-based mechanism that would allow for one Party to generate carbon credits and sell them through a centralized system to another party that would use them to meet its NDC.⁶¹ Article 6.4 creates a “supervisory body” accountable to the PA Parties to register projects in a public database and issue carbon credits. The supervisory body met in Bhutan in February 2025 and issued documents on the modalities of operation and the procedure of the Article 6.4 mechanism registry.⁶² Both public and private entities would be eligible to participate in the mechanisms established under Article 6.4.⁶³

Article 6.8 establishes a nonmarket mechanism in which countries cooperate to achieve their NDCs through approaches that are not transactions but rather the provision of other forms of support, such as public and private funds and technology transfer.⁶⁴

Adaptation

Each Party to the PA is required, as appropriate, to engage in adaptation planning and the implementation of adaptation actions.⁶⁵

The PA establishes a global goal on adaptation of

Enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate

Removals refer to activities that pull carbon dioxide out of the atmosphere such as GHG sequestration via reforestation or climate smart agriculture.

The World Bank Public Private Partnership Resource Center, “Emission Reduction Credits,” <https://ppp.worldbank.org/public-private-partnership/emission-reduction-credits>.

⁵⁷ UNFCCC, Paris Agreement, Article 6.8, 6.9.

⁵⁸ UNFCCC, “FAQs on Non-market Approaches Under Article 6.8,” <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/cooperative-implementation/faqs-on-non-market-approaches-under-article-68#What-is-Article-68-of-the-Paris-Agreement>.

⁵⁹ UNFCCC, Paris Agreement, Article 6.2.

⁶⁰ UNFCCC, Paris Agreement, Article 6.2, 6.5.

⁶¹ UNFCCC, Paris Agreement, Article 6.4.

⁶² UNFCCC, *Meeting Report: Fifteenth Meeting of the Article 6.4 Mechanism Supervisory Body*, A6.4-SBM015, <https://unfccc.int/sites/default/files/resource/A6.4-SBM015.pdf>. See also UNFCCC, “Modalities for Operation of the Article 6.4 Mechanism Registry,” A6.4-SB008-AA-A16, <https://unfccc.int/sites/default/files/resource/a64-sb008-aa-a16.pdf>; and UNFCCC, “Procedure Article 6.4 Mechanism Registry,” A6.4-SBM015-A12, <https://unfccc.int/sites/default/files/resource/A6.4-SBM015-A12.pdf>.

⁶³ UNFCCC, Paris Agreement, Article 6.4 (b).

⁶⁴ UNFCCC, Paris Agreement, Article 6.8. See also UNFCCC, “Unlocking Climate Ambition: The Significance of Article 6 at COP28,” <https://unfccc.int/news/unlocking-climate-ambition-the-significance-of-article-6-at-cop28>. See also UNFCCC, “NMA Platform,” <https://unfccc.int/process-and-meetings/the-paris-agreement/cooperative-implementation/Article-6-8/nma-platform/main/non-market-approaches>.

⁶⁵ UNFCCC, Paris Agreement, Article 7.9.

adaptation response in the context of the temperature goal referred to in Article 2 [of the PA].⁶⁶

The Parties to the PA established a global goal on adaptation and enhancement of adaptive capacity.⁶⁷ Parties to the PA are to engage in adaptation planning and implementation processes, including the formulation of national adaptation plans.⁶⁸ Such plans may include implementation of adaptation actions, assessments of climate change impacts and vulnerability, and monitoring of adaptation policies, programs, and actions.⁶⁹

Parties are encouraged to submit and update periodically adaptation communications.⁷⁰ No timeline is specified.⁷¹ Regarding these communications, the PA states that they

Shall be, as appropriate, submitted and updated periodically, as a component of or in conjunction with other communications or documents, including a national adaptation plan, a nationally determined contribution....⁷²

Information submitted by all parties regarding adaptation efforts (under Article 7) is subject to technical expert review.⁷³

The Global Stocktake

The PA includes provisions that oblige the Parties to assess their collective progress toward achieving the purpose of the agreement.⁷⁴ Article 14 of the PA directs that Parties shall periodically take stock of PA implementation and collective progress toward achieving the PA's stated purpose and long-term goals, which include, among other things, (1) adhering to the PA's temperature goals; (2) increasing adaptive capacities, climate resilience, and low-GHG-emissions development without threatening food production; and (3) aligning finance flows with low-GHG-emissions and climate-resilient development.⁷⁵ According to the UNFCCC Secretariat, the Global Stocktake is the “key mechanism under the PA to ratchet up climate ambition and accelerate implementation.”⁷⁶

The PA states that the Parties agreed to undertake the first Global Stocktake in 2023.⁷⁷ The Report of the Conference of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from November 30 to December 13, 2023, included the outcome of the first

⁶⁶ UNFCCC, Paris Agreement, Article 7.1.

⁶⁷ UNFCCC, Paris Agreement, Article 7.1.

⁶⁸ UNFCCC, Paris Agreement, Article 7.9.

⁶⁹ UNFCCC, Paris Agreement, Article 7.9.

⁷⁰ UNFCCC, Paris Agreement, Article 7.10.

⁷¹ UNFCCC, Paris Agreement, Article 7.11.

⁷² UNFCCC, Paris Agreement, Article 7.11.

⁷³ UNFCCC, Paris Agreement, Article 13.11.

⁷⁴ UNFCCC, Paris Agreement, Article 14.1.

⁷⁵ UNFCCC, Paris Agreement, Article 2.1(a)-(c), Article 14.

⁷⁶ UNFCCC Secretariat, *Synthesis Report: Views on the Elements for the Consideration of Outputs Component of the First Global Stocktake*, October 4, 2023, https://unfccc.int/sites/default/files/resource/SYR_Views%20on%20%20Elements%20for%20CoO.pdf.

⁷⁷ UNFCCC, Paris Agreement, Article 14.2. A description of the Global Stocktake and access to information on the governance structure, components, and outcomes of the first Global Stocktake are available at UNFCCC, “Global Stocktake,” <https://unfccc.int/topics/global-stocktake>.

Global Stocktake.⁷⁸ The Parties are to undertake a Global Stocktake every five years after the first Global Stocktake.⁷⁹

Loss and Damage

Loss and damage refers to a range of impacts that countries may sustain due to the adverse impacts of climate change. Loss and damage has been a subject of discussion and debate within the UNFCCC.⁸⁰ The PA includes provisions on loss and damage that are part of the ongoing negotiation and development process within the UNFCCC.⁸¹

Repeated scientific assessments have concluded that ongoing climate change would be increasingly adverse, and potentially catastrophic, for a widening scope of populations and ecosystems.⁸² Both slow-onset changes (e.g., desertification) and extreme weather events contribute to an array of losses and damages.⁸³ Negotiations on financial remedies to address climate losses and damages have been contentious since the UNFCCC's inception.⁸⁴ The text of the PA includes provisions on loss and damage, and these have been part of the basis for the ongoing process of establishing a fund for loss and damage within the UNFCCC system.⁸⁵

The PA includes provisions referring to loss and damage that are based on the recognition of

The importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage.⁸⁶

The 19th UNFCCC Conference of the Parties (COP19) in Warsaw, Poland, established the Warsaw International Mechanism (WIM) to address loss and damage associated with the effects of climate change.⁸⁷ Article 8.2 of the PA states that the WIM will be subject to the authority of the CMA and may be strengthened and enhanced by the CMA.⁸⁸

The negotiators agreed in Article 8 to explore cooperation and facilitation that could include early warning systems, emergency preparedness, and comprehensive risk assessment and management,

⁷⁸ UNFCCC, “Outcome of the First Global Stocktake,” FCCC/PA/CMA/2023/16/Add.1, 1/CMA.5, March 15, 2024.

⁷⁹ UNFCCC, Paris Agreement, Article 14.2.

⁸⁰ UNFCCC, “Loss and Damage Chronology,” <https://unfccc.int/process-and-meetings/bodies/constituted-bodies/wim-excom/chronology>.

⁸¹ UNFCCC, Paris Agreement, Article 8.

⁸² IPCC, “Summary for Policymakers” in *Climate Change 2022: Impacts, Adaptation and Vulnerability—Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. H.-O. Pörtner et al. (Cambridge University Press, 2022), pp. 3-33.

⁸³ UNFCCC, Paris Agreement, Article 8.1. See also CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio.

⁸⁴ UNFCCC, Paris Agreement, Article 8.1. See also CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio.

⁸⁵ UNFCCC, Paris Agreement, Article 8.1. See also CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio.

⁸⁶ UNFCCC, Paris Agreement, Article 8.1.

⁸⁷ UNFCCC, “Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts,” <https://unfccc.int/topics/adaptation-and-resilience/workstreams/loss-and-damage/warsaw-international-mechanism>.

⁸⁷ UNFCCC, Paris Agreement, Article 8.2.

⁸⁸ UNFCCC, Paris Agreement, Article 8.2.

as well as improved resilience.⁸⁹ The Parties to the PA did not adopt proposals that established remedies or compensation for loss and damage.⁹⁰

Negotiations on “new funding arrangements” to address loss and damage began, for the first time, in November 2022 at the 27th UNFCCC Conference of the Parties (COP27) in Sharm el-Sheikh, Egypt. While COP27 decided to establish “new funding arrangements” and “a fund,” these items are largely procedural.⁹¹ The language in the Sharm el-Sheikh decisions does not connote new funding arrangements to be “liability,” “compensation,” or “reparations.” The U.S. delegation and others have consistently and successfully opposed inclusion of these concepts in negotiated texts.⁹² In the following year at COP28, parties agreed to operationalize the loss and damage fund to make it accountable to, and function under the guidance of, the governing bodies of the UNFCCC and the PA.⁹³

Finance

In a continuation of obligations under the UNFCCC, Article 9 of the PA states the obligation for developed country Parties to provide financial assistance to developing countries with respect to both mitigation and adaptation.⁹⁴ Developing countries are encouraged to voluntarily provide financial support.⁹⁵

Developed countries are to provide biennial reporting of quantitative and qualitative information on mobilizing climate finance, including, if available, levels of public finance.⁹⁶ Select finance provisions of the PA are described in this section of the report.

One of the sections of the PA that addresses financial aspects of the agreement, Article 9, states the financial obligations that developed countries have to developing countries.⁹⁷ Article 9

⁸⁹ UNFCCC, Paris Agreement, Article 8.4.

⁹⁰ UNFCCC, “Adoption of the Paris Agreement,” FCCC/CP/2015/10/Add.1, 1/CP.21, paragraph 51, states, “Agrees that Article 8 of the [Paris] Agreement does not involve or provide a basis for any liability or compensation.”

⁹¹ UNFCCC, “Funding Arrangements for Responding to Loss and Damage Associated with the Adverse Effects of Climate Change, Including a Focus on Addressing Loss and Damage,” FCCC/CP/2022/10/Add.1 Decision 2/CP.27, paragraphs 2, 3, state that parties

2. Decide to establish new funding arrangements for assisting developing countries that are particularly vulnerable to the adverse effects of climate change, in responding to loss and damage, including with a focus on addressing loss and damage by providing and assisting in mobilizing new and additional resources, and that these new arrangements complement and include sources, funds, processes and initiatives under and outside the Convention and the Paris Agreement;

3. Also decide, in the context of establishing the new funding arrangements referred to in paragraph 2 above, to establish a fund for responding to loss and damage whose mandate includes a focus on addressing loss and damage;

See also CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio.

⁹² CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio.

⁹³ UNFCCC, “Operationalization of the New Funding Arrangements for Responding to Loss and Damage and the Fund Established in Paragraph 3 of Decisions 2/CP.27 and 2/CMA.4,” FCCC/CP/2023/9–FCCC/PA/CMA/2023/9, 2023. See also UNFCCC, “Fund for Responding to Loss and Damage,” <https://unfccc.int/loss-and-damage-fund-joint-interim-secretariat>; and UNFCCC, “Governing and Subsidiary Bodies,” <https://unfccc.int/process-and-meetings/bodies/governing-and-subsiary-bodies>.

⁹⁴ UNFCCC, Paris Agreement, Article 9.1.

⁹⁵ UNFCCC, Paris Agreement, Article 9.2.

⁹⁶ UNFCCC, Paris Agreement, Article 9.5.

⁹⁷ UNFCCC, Paris Agreement, Article 9.1.

describes some sources of climate finance that can be used, states the reporting requirements for developed countries, and describes the mechanisms for providing access to financial resources.⁹⁸

The agreement states that developed country Parties should take the lead in mobilizing climate finance and that the mobilized resources may come from a wide variety of sources—noting the significant role of public funds.⁹⁹ It adds that the mobilization of climate finance “should represent a progression beyond previous efforts.”¹⁰⁰ The scaled up financial support coming from developed countries should be balanced in addressing climate change mitigation and climate change adaptation.¹⁰¹

Developed country Parties are required to provide biennial reports on the provision of financial resources to developing countries, including projected public financing.¹⁰² The Party’s information on progress of efforts under Article 9 will be subject to multilateral technical expert review.¹⁰³ The PA uses the financial mechanism in place under the UNFCCC.¹⁰⁴

Potential Effects on Climate Change Mitigation

This section examines the potential effects of a U.S. withdrawal from the PA on climate change mitigation. Researchers and commentators have differing points of view and findings with respect to the effect of U.S. withdrawal from the PA on the quantity and timing of GHG emissions. Some researchers have also examined the connection of a U.S. withdrawal and changes in GHG emissions with global temperature increases and the likelihood of achieving the PA’s temperature goals. These analyses differ in their assumptions of what happens to emissions of the United States and other countries after a U.S. withdrawal.

During the first Trump Administration, some researchers questioned whether withdrawal from the PA would result in increased U.S. GHG emissions. The authors stated in 2018 that U.S. emissions would be unlikely to increase with a withdrawal from the PA due, in part, to the shift that the United States was already making in electricity generation from high-emissions sources of energy (such as coal) to lower-emissions sources (such as natural gas and wind power).¹⁰⁵ In 2017, other researchers had argued the concern that a U.S. withdrawal from the PA could result in a delay in implementation of emissions reductions by the United States, and other countries could follow suit. These researchers stated that such a delay could preclude keeping the global temperature increase to below 1.5°C-2°C above preindustrial global average temperatures, the temperature goals of the PA.¹⁰⁶

⁹⁸ UNFCCC, Paris Agreement, Article 9.3, 9.5, 9.8.

⁹⁹ UNFCCC, Paris Agreement, Article 9.3.

¹⁰⁰ UNFCCC, Paris Agreement, Article 9.3.

¹⁰¹ UNFCCC, Paris Agreement, Article 9.4.

¹⁰² UNFCCC, Paris Agreement, Article 9.5.

¹⁰³ UNFCCC, Paris Agreement, Article 13.11.

¹⁰⁴ The Financial Mechanism of the UNFCCC includes as operating entities the Global Environment Facility (GEF) and the Green Climate Fund (GCF), which assist developing countries to address climate change through the provision of grants and other concessional financing for mitigation and adaptation activities. See also CRS In Focus IF10763, *U.S. International Climate Finance: A Primer*, by Richard K. Lattanzio.

¹⁰⁵ Johannes Urpelainen and Thijs Van de Graaf, “United States Non-Cooperation and the Paris Agreement,” *Climate Policy*, vol. 18, no. 7 (2018), p. 839 (hereinafter Urpelainen and Van de Graaf, “United States Non-Cooperation and the Paris Agreement”).

¹⁰⁶ Benjamin M. Sanderson and Reto Knutti, “Delays in US Mitigation Could Rule out Paris Targets,” *Nature Climate Change*, vol. 7, no. 2 (2017), p. 92.

Other researchers have used simulation models and other types of analysis to estimate the effects of a U.S. withdrawal from the PA on domestic and global GHG emissions. Researchers in 2017 analyzed what would happen if other countries maintained the global commitment to keeping the global temperature increase to less than 2°C by further limiting their cumulative emissions of GHGs following a U.S. withdrawal from the PA; the study assumed the withdrawal led to the United States not fulfilling its NDC. In this study, U.S. emissions could increase beyond the pledge identified in the first U.S. NDC, and the emissions of other countries in the study—China, Japan, and the European Union (EU) member states—were assumed to correspondingly decrease by 2030.¹⁰⁷ For example, in a scenario in this study in which the United States withdrew from the PA and its emissions were not reduced below 2005 levels, China, Japan, and the EU would have to further reduce their emissions by about 5% each to keep cumulative emissions consistent with achieving the 2°C climate goal.¹⁰⁸

One 2024 study compared (1) the emissions reductions achieved by the PA if all countries were to fulfill their NDC commitments active at the time of the study, and (2) the emissions reductions if the United States were to follow its business-as-usual (BAU) emissions path rather than fulfill its NDC commitment, while the other countries fulfilled their NDC commitments. The study, which used a multisector structural trade model, found that “US non-participation in the Paris Agreement lowers the achieved global emission reduction by more than a third (38.2).”¹⁰⁹ The scale of this impact is influenced by the United States’ role as a lead emitter and its ambitious NDC target.

A complicating factor for evaluating the effects of U.S. withdrawal from the PA on U.S. emissions is that withdrawal is just one factor shaping emissions. Other actions by the Trump Administration and Congress could also affect the future trajectory of U.S. emissions. These actions include changes related to domestic emissions regulations, as well as financial support—such as grants, loans, and tax incentives—enacted in the 117th Congress and under implementation during the Biden Administration. For example, the Trump Administration and the 119th Congress are considering reversing or altering some Biden Administration policies and legislation enacted in earlier Congresses, such as provisions of P.L. 117-169, commonly referred to as the Inflation Reduction Act (IRA). The IRA included provisions that may have financially facilitated this shift to lower U.S. GHG emissions. For example, the IRA would be repealed under proposed legislation (e.g., H.R. 191).

Potential Domestic Economic Effects

U.S. withdrawal from the PA could affect the U.S. economy. The previous U.S. withdrawal lasted 77 days, which limits the usefulness of observations from that period for informing how the U.S. economy may respond to a second PA withdrawal. However, the debate around that withdrawal, as well as U.S. participation in the PA, have led to various studies of the potential effects of PA participation and withdrawal on the U.S. economy. These studies, which use different approaches

¹⁰⁷ The United States’ first NDC provided for GHG emissions reductions of 26%-28% below 2005 levels by 2025. See CRS Report R46945, *Greenhouse Gas Emission Reduction Pledges by Selected Countries: Nationally Determined Contributions and Net-Zero Legislation*, by Kezee Procita and Claire M. Jordan.

¹⁰⁸ Han-Cheng Dai et al., “The Impacts of U.S. Withdrawal from the Paris Agreement on the Carbon Emission Space and Mitigation Cost of China, EU, and Japan under the Constraints of the Global Carbon Emission Space,” *Advances in Climate Change Research, Including Special topic on U.S. Withdrawal from the Paris Agreement and Its Impacts*, vol. 8, no. 4 (2017), p. 226.

¹⁰⁹ Mario Larch and Joschka Wanner, “The Consequences of Non-Participation in the Paris Agreement,” *European Economic Review*, vol. 163 (2024), p. 104699.

and assumptions, provide a range of potential effects but not a consensus on the likely domestic economic effects of withdrawal from the PA.

For example, some researchers assumed that when a U.S. PA withdrawal occurred, there would be in place a U.S. climate policy of either a tax on carbon emissions or a national emissions trading scheme (ETS) in which GHG emissions were capped.¹¹⁰ In these scenarios, these policy options were used to meet the emissions goals of the U.S. NDC and resulted in an increase in the cost of fossil energy. However, the United States has not enacted a carbon tax or trading scheme; therefore, the applicability of these studies under current policy conditions is unclear. Also, these studies were published before the enactment of legislation that included a number of climate-related provisions, including the IRA, the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), and the CHIPS and Science Act (P.L. 117-167). The climate change mitigation provisions in these acts were primarily financial incentives to encourage the adoption of low-emissions energy sources and increases in energy efficiency. The IRA included a number of policies that provide an incentive to reduce GHG emissions. In addition, the IRA directed EPA to impose and collect a methane fee, levied on specific methane emissions from facilities in the oil and gas sector.¹¹¹

Some have criticized the economic modeling approaches of many previous studies because these approaches do not include the potential for net negative climate impacts resulting from a withdrawal.¹¹² These could include the economic effects from extreme heat events, droughts, flooding, and agricultural losses, among others, and how they would change with U.S. participation or withdrawal from the PA.¹¹³ The specific impacts of climate change associated with U.S. participation in or withdrawal from the PA, if any, are uncertain; another complication is the timing of those impacts, whether in the near term or at some future time. Some researchers have considered these types of climate impacts. Some of this research has indicated that withdrawing from the PA would likely negatively affect the U.S. economy because of enhanced negative climate effects due both to increased U.S. emissions and potential emissions increases from other countries.¹¹⁴ In this scenario, a U.S. withdrawal from the PA would result in increased U.S. GHG emissions, reduced climate mitigation ambition for other countries, and increased emissions on their part. Other researchers found that withdrawal from implementing the NDCs of large emitters, such as the United States or China, “would impose considerable costs for all countries, including those that withdraw.”¹¹⁵ Another researcher using a cost-benefit analysis found that the costs associated with potential negative climate impacts due to a PA withdrawal outweigh the benefits, such as increased employment in fossil fuel industries (e.g., coal).¹¹⁶

¹¹⁰ For background on carbon tax and trading schemes, see CRS In Focus IF11103, *A Brief Comparison of Two Climate Change Mitigation Approaches: Cap-and-Trade and Carbon Tax (or Fee)*, by Jonathan L. Ramseur.

¹¹¹ P.L. 117-169, §60113.

¹¹² Personal communication with Dr. Irving Mintzer, Senior Research Scholar, Robert H. Smith School of Business, University of Maryland, 2025.

¹¹³ USGCRP, *Fifth National Climate Assessment*, “Table 1.2 Climate Change Is Already Affecting All US Regions and Will Continue to Have Impacts in the Near Term: Example Impacts,” <https://nca2023.globalchange.gov/chapter/1#table-1-2>.

¹¹⁴ Alex Bowen et al. “The Economic Case for the United States to Remain in the Paris Agreement on Climate Change,” Policy Brief, Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, 2020.

¹¹⁵ Francisco Estrada and W. J. Wouter Botzen, “Economic Impacts and Risks of Climate Change Under Failure and Success of the Paris Agreement,” *Annals of the New York Academy of Sciences*, vol. 1504, no. 1 (2021), p. 95. The metric for cost in this study is the median total discounted economic costs of climate change over this century, expressed as a percentage of a region’s current GDP.

¹¹⁶ Carolina Arlota, “Does the United States’ Withdrawal from the Paris Agreement Pass the Cost-Benefit Analysis Test?” *University of Pennsylvania Journal of International Law*, vol. 41, no. 4 (2020), p. 881.

Just as researchers attempted to assess the economic effects of a potential first U.S. withdrawal from the PA, researchers also may assess the economic implications of a second withdrawal. These studies may better reflect U.S. climate policies at the time of the second withdrawal, while also accounting or controlling for other potential U.S. policy changes.

Potential Effects on International Climate Cooperation

This section examines some of the concerns that have been raised about the effect of the U.S. withdrawal from the PA on international efforts to address global climate change. Some observers have expressed concern that other countries may follow the United States in withdrawing from the PA.¹¹⁷ Other observers have stated that the U.S. withdrawal may make it difficult to maintain the level of global ambition necessary to continue to reduce GHG emissions.¹¹⁸ Still other observers have said that U.S. withdrawal is unlikely to affect emissions reduction commitments by other countries. Some researchers support the point of view that a U.S. withdrawal from the PA is unlikely to result in reduced climate mitigation ambition by other parties to the PA, in part because the mechanism for ambition setting—the NDCs—is based not on reciprocity between parties, but on action that parties independently determine is consistent with their national interest.¹¹⁹

To examine these concerns regarding international climate cooperation, this section reviews other countries' actions since the initial 2017 announcement of U.S. withdrawal with respect to their participation in the PA and their ambition with respect to addressing global climate change.

No other country withdrew from the PA after the U.S. withdrawal on November 4, 2020, and no other country has withdrawn after the most recent (January 20, 2025) U.S. announcement of the decision to withdraw (as of April 11, 2025).¹²⁰

Assessing the level of global ambition regarding climate change mitigation is complex, and there is no generally agreed-upon methodology for doing so. One approach is to assess NDCs, the vehicle through which Parties to the PA communicate the level of ambition of their intended contributions to achieving the agreement's collective goals.¹²¹ The UNFCCC prepares an annually updated synthesis report on NDCs that includes an assessment of the ambition of the NDCs toward achieving the PA's goals.¹²² A synthesis report prepared by the UNFCCC in 2022, after the United States had withdrawn and then rejoined the PA, found that the ambitions of the majority of

¹¹⁷ Rob Bailey and Gitika Bhardwaj, "What Trump's Withdrawal from Paris Means for Global Climate Action," Chatham House, June 2, 2017, <https://www.chathamhouse.org/archive/what-trumps-withdrawal-paris-means-global-climate-action>. See also Urpelainen and Van de Graaf, "United States Non-Cooperation and the Paris Agreement."

¹¹⁸ Matti Goldberg and Dave McGlinchey, "Five Things to Know About the U.S. Withdrawal from the Paris Agreement: What President Trump's Executive Order Does—and Does Not—Mean for Federal and International Climate Action," Woodwell Climate Research Center, January 30, 2025, <https://www.woodwellclimate.org/us-withdrawal-paris-agreement/>. See also Urpelainen and Van de Graaf, "United States Non-Cooperation and the Paris Agreement."

¹¹⁹ Urpelainen and Van de Graaf, "United States Non-Cooperation and the Paris Agreement."

¹²⁰ United Nations Treaty Collection Depository, Chapter XXVII: Environment, 7.d, "Paris Agreement," https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en#7

¹²¹ Lauri Peterson et al., "What Determines Climate Ambition? Analysing NDC Enhancement with a Mixed-Method Design," *Npj Climate Action*, vol. 2, no. 1 (2023), p. 1.

¹²² UNFCCC, *Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat*, October 28, 2024, p. 4, Executive Summary I.1, <https://unfccc.int/documents/641792> (hereinafter UNFCCC, *Synthesis Report*, 2024).

the Parties continued to increase, as reflected in their individual NDCs.¹²³ At the time of the synthesis report, the United States was a Party to the PA. The synthesis report stated that “most of the Parties (74 percent) that submitted new or updated NDCs have strengthened their commitment to reducing or limiting GHG emissions by 2025 and/or 2030, demonstrating increased ambition in addressing climate change.”¹²⁴

A synthesis report issued by the UNFCCC in November 2024 (prior to E.O. 14162) aggregated all of the NDCs and examined their combined effect on reducing emissions, as an indicator of NDC ambition to meeting the PA’s climate goals. Its examination of the aggregate levels of ambition in the NDCs, rather than the levels of ambition stated in the NDCs for individual countries, found a “stagnation” in aggregate ambition level.¹²⁵ Specifically, the report stated that the slight increase in NDC ambition levels reflected “a stagnation in aggregate NDC ambition level.”¹²⁶ Countries have continued to submit their NDCs after the U.S. decision to withdraw was announced in E.O. 14162 on January 20, 2025. As of April 8, 2025, the UNFCCC registry listed 17 countries that had submitted NDCs after the E.O. 14162 announcement.¹²⁷

Congressional Interest and Options

Since the issuance of E.O. 14162, Members of Congress have shown interest in the U.S. decision to withdraw from the PA. Some Members have expressed disapproval of the decision, while other Members have expressed approval.¹²⁸ Congress may consider legislative options with respect to the PA, including support for programs that promote the PA’s goals in absence of U.S. participation, such as economy-wide GHG emissions reductions. Alternatively, some Members may support legislation that repeals or amends existing programs that support GHG emissions reductions. Furthermore, as there is currently no consensus among experts as to the withdrawal’s likely effects on the Earth’s climate system, on the U.S. economy, or on global cooperation to address climate change, Congress may consider directing research by federal agencies or the National Academy of Sciences to investigate these questions before taking legislative action.

¹²³ UNFCCC, *Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat*, October 26, 2022, p. 4, <https://unfccc.int/documents/619180> (hereinafter UNFCCC, *Synthesis Report*, 2022); Center for Climate and Energy Solutions, “Q&A: Understanding Paris Agreement NDCs,” at <https://www.c2es.org/content/q-and-a-understanding-paris-agreement-ndcs/>. UNFCCC, *Synthesis Report*, 2022, reviewed 166 NDCs, including 142 new or updated NDCs communicated by 195 Parties that were available in the NDC registry as of September 23, 2022.

¹²⁴ UNFCCC, *Synthesis Report*, 2022, Executive Summary, paragraph 4 (e).

¹²⁵ UNFCCC, *Synthesis Report*, 2024.

¹²⁶ UNFCCC, *Synthesis Report*, 2024, Section IV B, paragraph 59, p. 14, states the following:

In comparison, the total GHG emission levels resulting from implementation of the NDCs presented in the previous version of this report were estimated to be around 53.2 (51.6– 54.8) Gt CO₂ eq in 2025 and 51.6 (48.3–54.8) Gt CO₂ eq in 2030. The levels presented in this report, which reflect a stagnation in aggregate NDC ambition level and updated emission data, are therefore only 0.2 Gt CO₂ eq (or 0.5 per cent) lower for 2025 and 0.1 Gt CO₂ eq (or 0.1 per cent) lower for 2030 than the estimated emission levels indicated previously.

¹²⁷ UNFCCC, “Nationally Determined Contributions Registry,” <https://unfccc.int/NDCREG>.

¹²⁸ Some Members have introduced resolutions opposing withdrawal from the PA; see H.Res. 68 and S.Res. 36. Some Members have expressed support for withdrawal from the PA; see Rep. LaMalfa, remarks in the House, *Congressional Record*, vol. 171, no. 14 (March 4, 2025), p. H954, <https://www.congress.gov/congressional-record/volume-171/issue-41/house-section/article/H954-2>. See also Sen. Barrasso, remarks in the Senate, *Congressional Record*, vol. 171, no. 41 (March 4, 2025), p. S1468, <https://www.congress.gov/congressional-record/volume-171/issue-41/senate-section/article/S1468-1>.

Some Members have expressed disapproval of the announcement that the United States would withdraw from the PA. On January 24, 2025, Representative Bradley Schneider sponsored H.Res. 68, “Expressing strong disapproval of the President’s announcement to withdraw the United States from the Paris Agreement,” with 161 cosponsors. On the same day, Senator Edward Markey sponsored S.Res. 36, “A resolution expressing the sense of the Senate that the United States, States, cities, Tribal nations, businesses, institutions of higher education, and other institutions in the United States should work toward achieving the goals of the Paris Agreement,” with 21 cosponsors. Both resolutions, if adopted, would express disapproval of the U.S. withdrawal from the PA, citing the potential negative impacts on the economy, national security, and U.S. public health that could result from the withdrawal and the potential benefits in these areas from participation in the PA.

Other Members have expressed approval of the withdrawal announcement. For example, speaking in favor of withdrawal from the PA, Representative Douglas LaMalfa cited the need to “unleash America’s full energy potential,” and Senator John Barrasso cited withdrawal from the PA as an early accomplishment of President Trump.¹²⁹

The most recent U.S. NDC of 2024 included commitments to take domestic actions to further the PA’s goals, including the temperature goals and the emissions reduction goals, such as economy-wide emissions reductions.¹³⁰ Whether the United States continues to take these actions is not contingent on the United States continuing to participate in the PA. Legislation passed in the 117th Congress, particularly the IRA (P.L. 117-169), included a number of climate-related provisions that supported these goals and had been projected to reduce U.S. GHG emissions over the next decade. Examples of such provisions include production tax credits for electricity produced from low-GHG-emitting renewable energy sources and for domestic production of qualifying solar and wind components.¹³¹ Some researchers estimated that full implementation of the IRA could have resulted in economy-wide emissions reductions of 43%-48% below 2005 emissions levels by 2035.¹³² Even with full implementation of the IRA, based on analyses in several studies, these reductions are unlikely to meet U.S. NDC goals.¹³³ Some Members may choose to provide continued support for these programs or adjust them to encourage further emissions reductions.

¹²⁹ Rep. LaMalfa, remarks in the House, *Congressional Record*, vol. 171, no. 14 (March 4, 2025), p. H954, <https://www.congress.gov/congressional-record/volume-171/issue-41/house-section/article/H954-2>. See also Sen. Barrasso, remarks in the Senate, *Congressional Record*, vol. 171, no. 41 (March 4, 2025), p. S1468, <https://www.congress.gov/congressional-record/volume-171/issue-41/senate-section/article/S1468-1>.

¹³⁰ UNFCCC, Paris Agreement, Article 2.1a and Article 4.1, 4.4. See also UNFCCC, “The United States of America: Nationally Determined Contribution,” <https://unfccc.int/sites/default/files/2024-12/United%20States%202035%20NDC.pdf>. The U.S. NDC states that with respect to the temperature goals of the PA,

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.

Further, the U.S. NDC states the following general target: “Economy-wide target of reducing net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030.”

¹³¹ P.L. 117-169, §13101, “Extension and Modification of Credit for Electricity Produced from Certain Renewable Resources”; §13502, “Advanced Manufacturing Production Credit.” See also CRS Report R47262, *Inflation Reduction Act of 2022 (IRA): Provisions Related to Climate Change*, coordinated by Jonathan L. Ramseur.

¹³² John Bistline et al., “Emissions and Energy Impacts of the Inflation Reduction Act,” *Science*, vol. 380, no. 6652 (2023), p. 1324.

¹³³ CRS Report R47385, *U.S. Greenhouse Gas Emissions Trends and Projections from the Inflation Reduction Act*, by Jonathan L. Ramseur.

By contrast, in the 118th and 119th Congresses, a number of Members have called for the repeal of some or all of these climate-related provisions, as well as other emissions reduction legislation. For example, H.R. 2811, introduced in the 118th Congress, included the repeal of the Greenhouse Gas Reduction Fund, created under the IRA, that provides financial and technical assistance to carry out activities to reduce GHG emissions. In an example from the 119th Congress, in February 2025, both the House and the Senate passed a joint resolution (H.J.Res. 35) disapproving of EPA’s “Waste Emissions Charge” (WEC) rule imposing a fee on methane emissions. President Trump signed the measure on March 14, 2025, enacting the resolution (P.L. 119-2). It is uncertain what effect the enacted joint resolution will have on the implementation of the WEC, which is required by statute (IRA; P.L. 117-169, §60113). Considering the announcement to withdraw from the PA, some Members in the 119th Congress may pursue efforts to repeal or amend existing programs that support U.S. NDC commitments; there also may be Members who pursue efforts to codify or continue funding existing programs that support reducing U.S. GHG emissions.

Given the uncertainty of the withdrawal’s effects on climate change mitigation, the U.S. economy, and international climate cooperation, Congress may seek to obtain additional information on these and other potential effects before considering legislative action. Congress may consider directing the National Academies of Sciences, Engineering, and Medicine, or federal programs and agencies, to study these effects and to report to Congress.

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