A U.S.-Centric Chronology of the International Climate Change Negotiations

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Summary

The United States is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), but not to its subsidiary Kyoto Protocol (discussed below). The UNFCCC treaty was intended to address growing global concern about the possibility of human-induced global warming. As a Party, the United States has certain obligations under the treaty, and our behaviors in that context are likely to continue to draw attention on the world stage. The executive branch continues to negotiate and implement international obligations, while committees of Congress engage in oversight, providing input to the executive branch formally and informally, and deciding on program authorities and appropriations for these activities. In addition, the United States has exercised leadership for decades on climate change science, and has supported related partnerships, technology research and development, and other forms of international cooperation. Given the continuing public and legislative debate over whether and how to address climate change, the 112th Congress may continue to engage on international climate change activities.

The United States, like other industrialized countries, reports greenhouse gas (GHG) emissions annually and submits quadrennial national communications of policies and programs. The United States is the only one of 194 UNFCCC Parties that is not also party to the Kyoto Protocol. Under the Kyoto Protocol, 37 of the highest income countries committed to reduce their GHG emissions to specific levels during the period 2008 to 2012. The Kyoto Protocol allows Parties to use emissions trading markets to minimize the costs of achieving those reductions. Developing countries, however, have no GHG obligations, and their exemption has become a focal point of conflict in negotiations on actions in the period after 2012. Negotiations under way since 2007 have run on two tracks: one under the Kyoto Protocol (which is subsidiary to the Convention), to extend commitments of developed, *Annex I*, Parties beyond 2012, and the second track under the UNFCCC, regarding commitments for all Parties. Both tracks convened in Copenhagen, Denmark, in 2009 under a deadline to agree on steps to address climate change beyond 2012.

The 2009 Copenhagen conference was beset by strong differences among countries. The Parties did not adopt, but "took note of," a "Copenhagen Accord," agreed among the United States and two dozen countries (notably including China). The Copenhagen Accord may have marked a turning point, by addressing all countries' commitments in one instrument and laying out essential compromises. In December 2010, many elements of the Copenhagen Accord were adopted by Parties in the "Cancun Agreements." These embody GHG pledges made by all major emitting Parties; enhancements to reporting and review systems to ensure "transparency" of implementation; pledges for financial assistance; and additional new points of agreement.

As background for congressional deliberations, this document provides a U.S.-centric chronology of international climate change policy from 1979 to 2010. This chronology identifies selected external events and major multilateral meetings that influence both the current legal and institutional arrangements, and the contentious choices about future international cooperation.

Many in Congress are concerned with the merits of a treaty, or the goals and obligations one might embody. A particular concern regards parity of actions and effects on trade competitiveness among countries. Additional issues include the compatibility of any international agreement with U.S. domestic policies and laws; the adequacy of appropriations, fiscal measures, and programs to achieve any commitments under the agreement; and the desirable form of the agreement and related requirements. A new treaty would require Senate consent to ratify it and federal legislation to assure that U.S. commitments are met.

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Overview of the International Climate Change Negotiations

Members of Congress hold mixed views about the value of international cooperation to address climate change. While some members are convinced that human-induced climate change is a high priority risk that must be addressed through federal actions and international cooperation, others are not convinced of significant risk. Some are wary, as well, of international processes that could impose costs on the United States, undermine national sovereignty, or lead to trade advantages for other countries. This report provides a chronology, from a U.S. perspective, on more than two decades of multilateral negotiations aimed at addressing this global issue.

Formal international negotiations were launched in December 1990 to address growing scientific and political concern about human-driven climate change. The negotiations on a Framework Convention on Climate Change marked the progress of decades of scientific research toward conclusions—with uncertainties—that have remained remarkably stable in the years since: greenhouse gas (GHG)[1] emissions from human-related activities are very likely causing the major portion of climate change observed in recent decades and, if these continue, could lead to impacts on human societies and their environment, potentially including catastrophes. Predicting the precise timing, magnitude and implications of changes remains subject to a variety of uncertainties; many questions may not be resolvable in a time frame consistent with making effective and cost-effective decisions to address the risks of climate change. Since emissions come from all countries, only concerted reductions by all major emitters can stabilize GHG concentrations. The United States historically has contributed the most—almost one-fifth of the rise of GHG concentrations in the atmosphere since the Industrial Revolution. In 2007, however, China surpassed the United States as the leading current emitter of GHG. The greatest growth in GHG emissions is expected from industrializing countries, such as China, India, and Brazil. These countries historically have contributed less, and still emit much less per person, and arguably have lower economic and governance capacities to address the problem. The question of how to share any effort to address climate change, given these differences, has been a core challenge for international cooperation.

The primary issues for negotiation in 1990 remain the same today:

[1] "Greenhouse gases" are defined in the United Nations Framework Convention on Climate Change as "those gaseous constituents of the atmosphere, both natural and anthropogenic [human-driven] that absorb and re-emit infrared radiation." They may alter the composition of the atmosphere, changing the balance of radiation entering and leaving the Earth system, and consequently change the temperature or patterns of climate on Earth. The most important is water vapor, but it is believed not to be altered by human activities. Carbon dioxide (CO_2) is the most important human-related GHG, with about ¾ from fossil fuel use and about ¼ due to land use change and forestry. Other important gases listed under the Kyoto Protocol are methane (CH_4), nitrous oxide (N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6). Additional greenhouse gases are partially controlled internationally under the *Montreal Protocol* of the Vienna Convention for the Protection of the Ozone Layer, including chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC), etc., while others are emerging (e.g., nitrogen trifluoride (NF_3). Other radiatively important substances are significant but difficult to treat similarly, such as aerosols or tropospheric ozone. These latter substances have not (yet) been addressed by the UNFCCC.

- when and by how much to reduce greenhouse gas emissions globally in order to achieve the UNFCCC's objective of avoiding "*dangerous anthropogenic interference with the climate system*";[2]
- how to share "*common but differentiated responsibilities*" among countries taking into account "*historic contributions*" and "*respective capacities*" of different people—in particular, the acceptable degree of participation of developing countries;
- what mechanisms are best suited to assuring GHG reductions by all parties at the lowest cost, respecting national sovereignty and while supporting "*sustainable economic development*" and "*the eradication of poverty*";
- how cooperatively to understand the risks and facilitate adaptation to climate changes, especially by those people least able to cope on their own; and
- how to adapt international arrangements over time as science, social conditions, and capabilities evolve.

The United Nations Framework Convention on Climate Change (1992)

The international negotiations launched in 1990 culminated in the 1992 adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in Rio de Janeiro, Brazil. The U.S. Senate quickly gave its advice and consent,[3] leading the United States to be the fourth nation to ratify the UNFCCC, and the first among industrialized countries. As of January 2011, 194 governments were Parties to the UNFCCC. As a framework convention, this treaty provides the structure for collaboration and evolution of efforts over decades, as well as the first step in that collaboration. The UNFCCC does not, however, include measurable and enforceable objectives and commitments.[4] By the time the treaty entered into force and the Conference of the Parties (COP) met for the first time in 1995, the Parties agreed that achieving the objective of the UNFCCC would require new and stronger GHG commitments. Nonetheless, the 1995 Berlin Mandate for further negotiations deferred any new commitments for developing countries to future agreements.

The Kyoto Protocol (1997)

As a first step toward meeting the objective of the UNFCCC, the 1997 Kyoto Protocol promised to reduce the net GHG emissions[5] of industrialized country Parties (Annex I Parties) to 5.2%

[2] Terms used particularly in association with the international climate change negotiations are frequently highlighted in italics in this document, to alert the reader to their significance.

[3] Treaty Doc. 102-38, S. Exec. Rept. 102-55.

[4] The commitment by industrialized Parties to prepare national action plans aiming to reduce GHG emissions to 1990 levels is measurable, but no effective penalties or mechanisms were established to address any non-compliance with obligations.

[5] "Net" emissions are the gross emissions minus the removals of GHG from the atmosphere by "sinks" (sequestration), particularly by growing forests and other vegetation (or prevention of release of GHG by burning or decomposing (continued...)

below 1990 levels in the period of 2008 to 2012. It also pledged to assess the adequacy of these commitments early in the new century.

The United States signed the Kyoto Protocol in December 1997. However, opposition in Congress was strong. In the "Byrd-Hagel" Resolution[6] in July 1997, the Senate expressed its opposition (95-0 vote) to the terms of the Berlin Mandate, by stating that the U.S. should not sign any treaty that does not include specific, scheduled commitments of non-Annex I Parties in the same compliance period as Annex I Parties, or that might seriously harm the U.S. economy. The Kyoto Protocol (KP) was not submitted to the Senate for ratification by President Clinton, nor by his successor, President George W. Bush. Newly elected President Bush announced in 2001 that the United States would oppose the agreement because it did not include GHG commitments by other large emitting (developing) countries and because of his conclusion that it would cause serious harm to the U.S. economy. As of January 2011, 194 governments had become Parties to the Kyoto Protocol, with the United States being the only Party to the UNFCCC to remain outside of the Kyoto Protocol.

In KP Article 9, the Parties to the Kyoto Protocol agreed to begin a process no later than 2005 to consider commitments beyond 2012, when the first commitment period ends. Only in late 2007 were Parties able to agree on the terms for negotiations regarding the post-2012 period.

The Bali Action Plan and Kyoto Protocol Tracks (2007)

In 2007, Parties agreed to establish two tracks for negotiation of further commitments of Parties, one under the Kyoto Protocol and the other under the UNFCCC. The first track was a mandate among the Kyoto Protocol Parties (not including the United States) to pursue an amendment to the Protocol on further commitments of Annex I Parties for the period(s) beyond the year 2012. The first commitment period runs from 2008 through 2012.

The second track was established in December 2007, when the Conference of the Parties (COP) to the UNFCCC agreed to a "Bali Action Plan" to negotiate new GHG mitigation targets for Annex I Parties, "nationally appropriate mitigation actions" for non-Annex I Parties, and other commitments for the post-2012 period. The mandates specified that the products of negotiation should be ready by the end of 2009, for decision at the 15th meeting of the COP and the fifth Meeting of the Parties to the Kyoto Protocol (CMP, or sometimes COP/MOP), in Copenhagen, Denmark. The form(s) of agreement were not clear, nor how the two negotiating tracks might converge.

The Bali Action Plan framed the key items for the "Copenhagen" negotiations to address climate change beyond 2012 as:

- mitigation of climate change (primarily to reduce GHG emissions or to enhance removals of carbon by forests and other vegetation "sinks");

(...continued)

vegetation).

[6] S.Res. 98.

- adaptation to impacts of climate change;
- financial assistance to low income countries;
- technology development and transfer; and
- a shared vision for long-term goals and action.

In addition, provisions for "monitoring, reporting, and verification" (MRV) permeated the negotiations. Provisions to reduce GHG emissions from deforestation and forest degradation (REDD-plus) were also pursued under the Bali Action Plan.

Four meetings in 2008 and four in 2009, along with numerous inter-sessionals,[7] regional group meetings, ministerial meetings, and summits, constituted an ambitious attempt to reach an agreement of some kind by the Copenhagen meetings in December 2009. While most scrutiny was placed on the positions of the United States and China, neither of which had accepted international, quantitative targets for GHG reductions, the many groupings of countries advocated disparate—conflicting and sometimes extreme—proposals, and displayed little inclination to compromise. While the inter-sessionals showed little movement, public and many diplomatic expectations were high that the United States, and perhaps China and other developing countries, would come to Copenhagen with a new willingness to change positions.

The Copenhagen Sessions and the "Copenhagen Accord" (2009)

While many experts and stakeholders around the world opined that the Copenhagen sessions in December 2009 failed, bringing the United Nations' process close to collapse,[8] others judge the meetings differently. Certainly, the Copenhagen meetings did not meet the very high expectations set by the UNFCCC Secretariat and many advocates for commitments to aggressive action. The practical outcomes of the Copenhagen negotiations under the UNFCCC and the Kyoto Protocol, however, may include new recognition of the political and economic barriers in some countries to setting aggressive international obligations that Parties are not sure to fulfill, and a greater focus on verifiable actions in countries. The U.S. Deputy Envoy for Climate Change, Jonathan Pershing, has called the Copenhagen Accord a "paradigm shift"[9] in the long-term path of the UNFCCC negotiations, from top-down designation to country-up delineation of responsibilities.

The Copenhagen negotiations revealed distance among many countries' "bottom lines," without ground of consensus on major issues, such as the form and structure of agreements; obligations for GHG reductions and actions; the legal nature of future commitments; and acceptable provisions for monitoring, reporting, and verification (MRV). Given the inability to reach consensus among the 193 delegations present, the United States, China, Brazil, India, and South Africa negotiated a "Copenhagen Accord" that bridges some difficult differences and identifies a

[7] An inter-sessional is a meeting of a subsidiary body or another formal meeting occurring between sessions of the Conference of the Parties.

[8] For examples, see http://green.blogs.nytimes.com/2010/10/08/the-last-u-n-climate-extravaganza/?scp=1-b&sq=climate+negotiations+United+Nations&st=nyt.

[9] Jonathan Pershing, *What Happened in Cancun and Where Do the Climate Negotiations Go from Here?*, presentation at the Center for Strategic & International Studies, Washington DC, January 5, 2011.

common and differentiated path forward. While most UNFCCC Parties seemed willing to adopt the Copenhagen Accord, it was blocked by Bolivia, Cuba, Sudan, and Venezuela, arguing that the closed-door deal-making violated the procedures of the United Nations Charter. Tuvalu and some other nations rejected the agreement for not assuring, in their views, sufficiently deep GHG reductions. Consequently, the COP only "took note" of the text, but did not adopt it. Hence, the Copenhagen Accord was a political outcome, not a legal agreement.

The Copenhagen Accord outlines a number of key points for action, all of which have been embodied in the Cancun Agreements of December 2010 (see next section).

A number of major proposals were notably *not* part of the final Copenhagen Accord:

- a target to avoid 1.5°C increase in global temperature (opposed by China);[10]
- that GHG emissions be cut by 2050 by 50% globally from 1990 levels, and by Annex I countries by 80% (opposed by China; supported by a couple of developing countries);
- that there be a year by which global emissions would peak and then decline (opposed by China and other major developing country emitters);
- that non-Annex I countries reduce their emissions by 15-30% below business-as-usual projections by 2020 (opposed by China and other developing country emitters);
- specification of a baseyear (e.g., pre-industrial levels or 1990) for the aspirational target of avoiding global mean temperature increases of more than 2°C (3.6°F), (opposed by China);
- compulsory licensing of intellectual property for key technologies (opposed by the United States);
- provisions that would make the Copenhagen Accord legally binding (opposed by China); and
- specification of specific amounts of funding to be pledged by individual Annex I Parties (opposed by the United States).

By the end of 2010, 114 Parties to the UNFCCC had agreed to the Copenhagen Accord, [11] and 42 Annex I Parties and EU Member States[12] had submitted quantified economy-wide emissions targets for 2020.[13] Thirty-five non-Annex I Parties have submitted nationally appropriate mitigation actions. Another 42 non-Annex I Parties have associated themselves formally with the

[10] Although many critics accuse the United States of a number of faults in the Copenhagen negotiations (for example, Lee, Bernice, Michael Grubb, Felix Preston, and Benjamin Zala, *The United States and Climate Change: From Process to Action*, Wiley-Blackwell, 2010, http://dx.doi.org/10.1002/9781444391565.ch13), a number have identified China as the sole obstacle to many points of potential agreement. One such account is Mark Lynas, "How Do I Know China Wrecked the Copenhagen Deal? I Was In the Room," *The Guardian*, London, December 22, 2009.

[11] As of December 2010, another 26 countries expressed the intention to be listed as part of the Copenhagen Accord as well.

[12] UNFCCC, http://unfccc.int/home/items/5262.php.

[13] Not all EU Member States are Annex I Parties, but all are covered by the EU's economy-wide target. Kazakhstan is not a Party included in Annex I for the purposes of the UNFCCC, but is included in Annex I for the purposes of the Kyoto Protocol.

Accord (and will be listed in the Accord as such). Some of those that have submitted actions or targets have not, to date, associated with the Accord. Cuba, the Cook Islands, Ecuador, Kuwait, and Nauru have formally notified the UNFCCC Secretariat that they will not associate or engage with the Accord.[14]

The Cancun Agreements (2010)

Meetings following Copenhagen and leading to the following Conference in Cancun suggested that some Parties might retreat from pledges made in the Copenhagen Accord. Notably, several developing countries reemphasized the two-track, pre-Copenhagen texts from the 2007 Bali meetings, rather than the single text of the Copenhagen Accord. Nevertheless, the government of Mexico, as host of the December 2010 meeting in Cancun, facilitated inclusive and transparent deliberations, praised by many observers, which yielded several decisions of the Parties collectively called the "Cancun Agreements" (CA).

To a large degree, the Cancun Agreements reiterate elements already included in the UNFCCC, the Bali Action Plan, and the Copenhagen Accord. They also mark certain limited, newly developed points of consensus, especially in terms of formalizing existing mitigation and financing pledges and improvements to transparency of reporting and multilateral reviews. The elements were woven together in a manner that gained agreement by all Parties except one (193, excepting Bolivia). Bolivia's protests provoked the COP Chair to gavel through the adoption of the CA while noting that "[t]he rule of consensus doesn't mean unanimity."[15]

While the details of the agreements are identified further below, principal outcomes of the texts include:

- confirmation of many points of agreement made in the Copenhagen Accord, including reference to the mitigation pledges submitted by developed and developing countries, and to the quantitative financing pledges made by developed countries;
- inclusion of certain key compromises, such as use of market-based mechanisms (including those of the Kyoto Protocol) and of measures to enhance sequestration in forests and other land uses to meet developed country mitigation targets;
- clear connection between provision of financial resources to developing (and other) countries, and "meaningful mitigation actions and transparency on implementation" by Non-Annex I Parties (para. 98);
- explicitly required frequencies of reporting for Non-Annex I Parties, as well as identification of some topics to be reported.

[14] The UNFCCC provides access to the communications of Parties related to the Copenhagen Accord at http://unfccc.int/home/items/5262.php.

[15] Bolivia is contesting the Chair's decision, raising an interesting procedural question. The UNFCCC Parties have never succeeded in adopting Rules of Procedure, particularly because several object to decisions by a qualified majority, so under United Nations rules, decisions continue to be made by consensus. As a result, many decisions have been blocked by disagreement of one or very few Parties. Quotation provided by numerous news sources, including at http://blogs.edf.org/markets/2010/12/17/consensus-and-unanimity/.

Mexico's facilitation of the negotiations and the emergence of the Cancun Agreements marks a tentatively renewed confidence of many in the United Nations process. Many, though, will watch the development of rules and guidelines, and degree of follow-through by countries on their pledges, as measures of success of the global process. Many, simultaneously, will look to other domestic, bilateral, and multilateral institutions and processes, such as the development banks, the Major Economies Meetings, and private fora, as possibly more effective supplements or alternatives to the UNFCCC processes. Additionally, the experiences of the Copenhagen and Cancun processes, and their outcomes, may mark an increase in attention to national and sub-national efforts to address climate change, relative to the tremendous attention and credence given in recent years to the processes of international negotiations.

The Cancun Agreements continue the two tracks of negotiations toward post-2012 commitments. However, they contain nearly identical language on key points in the separate decisions under the UNFCCC and the Kyoto Protocol. A few paragraphs establish explicit formal linkages between the two negotiating tracks, perhaps opening opportunities for cross-referencing or merging of the two negotiating documents over time.[16] Major elements of the Cancun Agreements include:

- **Long-term vision for GHG mitigation:** (Only in the decision directly under the UNFCCC.) Identifies a wide variety of elements that are components of the long-term package considered necessary to address the multiple faces of climate change. States that "deep cuts" in global emissions are required "with a view to ... hold the increase in global average temperature below 2°C." Also, establishes consideration beginning in 2013 of setting a lower goal to avoid a temperature increase exceeding 1.5°C.
- **A Cancun Adaptation Framework and an Adaptation Committee:** Both established to promote national adaptation plans; and to prioritize and strengthen institutional capacities and disaster risk reduction strategies, research and technology development, and other country-driven actions to build social and ecological resilience to climate change. The work program may consider options for risk management, including development of a climate risk insurance facility.
- **Parallel GHG mitigation by Annex I and non-Annex I Parties:** Notes GHG mitigation targets for 2020 reported by Annex I Parties, and nationally appropriate mitigation actions (NAMAs) to be implemented by Non-Annex I Parties[17] and communicated to the Secretariat by them, compiled in public documents to be issued by the Secretariat. Further reporting and analysis will clarify the assumptions and implications for the reported targets and actions.[18]
- **A registry on NAMAs:** To record and update information on actions for which countries are seeking support; support available for NAMAs; and support provided for NAMAs.

[16] However, the first paragraph of the text from the AWG-LCA (the negotiating track directly under the UNFCCC) states that "nothing in this decision shall prejudge the prospects for, or the content of, a legally binding outcome in the future."

[17] The Copenhagen Accord contained a provision, not present in the Cancun decisions, that Least Developed Countries and small island developing states become a new mitigation grouping that may identify actions voluntarily and with financial support.

[18] Several estimates suggest that GHG commitments have been made by countries contributing roughly 80% of current GHG emissions.

- **Enhanced reporting by Annex I Parties and international assessment:** Requires reporting of emissions and removals related to GHG commitments, and to financial, technology, and capacity-building support provided by them.
- **Transparent reporting and international review of Non-Annex I Parties' mitigation while respecting national sovereignty:** Non-Annex I Parties must submit National Communications every four years, with biennial updates to include national GHG inventories and mitigation actions, needs, and support received. Domestic actions will be subject to domestic *monitoring, reporting, and verification* (MRV) in accordance with future guidelines. A process for *international consultations and analysis* (ICA) of biennial reports will be non-intrusive, non-punitive, and respectful of national sovereignty. Mitigation actions (as well as technology, financing, and capacity-building) supported by international finance will be subject to international MRV.
- **Reducing Emissions from Deforestation:** Requests countries to reduce carbon losses from land uses, including REDD-plus,[19] and to enable mobilization of supportive international financing. Requests the AWG-LCA to explore financing mechanisms for implementing "results-based actions" to reduce emissions from deforestation and forest degradation, conserve and enhance forest carbon stocks, and to manage forests sustainably. With provision of adequate and predictable support, developing countries would develop forest and carbon reference levels and transparent national forest plans and safeguards monitoring systems. "Results-based actions" should be "fully measured, reported, and verified."
- **Consideration of market-based mechanisms:** Permits further consideration of emissions trading to assist developed country Parties to meet part of their GHG commitments, to supplement their domestic actions, to maintain and build on those under the Kyoto Protocol.
- **Notes the commitment by developed countries to mobilize finance for adaptation, mitigation, technology, and capacity-building:** Pledges approaching $30 billion[20] during 2010-2012, and a goal of $100 billion annually by 2020.[21] Funding will come from public and private, bilateral and multilateral, and alternative sources. The most vulnerable developing countries have priority for the 2010-2012 funds.
- **Launches a Green Climate Fund (GCF):** The GCF will be designed by a Transitional Committee with 15 of 40 members from developed countries. The GCF will be governed by a board of 24 representatives, equally from developed and developing countries to channel a significant share of new multilateral funding for adaptation and mitigation.[22] The GCF will be accountable to the COP,

[19] "REDD-plus" is Reducing Emissions from Deforestation and Forest Degradation plus enhancing carbon sequestration.

[20] Developed countries are invited to report by May 2011-2013 on resources provided and the ways in which developing countries access these resources.

[21] The language in the Copenhagen Accord, linking financing to "meaningful mitigation actions and transparency on implementation," was dropped in the CA, although the CA provides explicit requirements for monitoring, reporting, verification, review, and international assessment that cover the intended and monitored results of actions by developing countries (para. 52-66 and 77).

[22] The GCF will channel funds for mitigation, capacity-building, and other types of assistance and projects, though (continued...)

which will be assisted by a new standing finance committee. A Trustee (for at least three years the World Bank), accountable to the GCF Board, shall manage the financial assets, maintain records and prepare statements according to fiduciary standards.

- **A Technology Mechanism:** To support actions on mitigation and adaptation, accountable to the COP, composed of a standing, expert Technology Executive Committee and a Climate Technology Center (CTC) and Network.[23] The CTC will facilitate assistance by the Network at the request of a developing country Party. Intellectual property controversies are not addressed.
- **Review by the COP of the long-term global goal:** Starting by 2013 and ending by 2015, to lead to "appropriate action based on the review."

The Decision of the Parties to the Kyoto Protocol took note of the GHG reduction pledges of the Annex I Parties in accordance with the Copenhagen Accord, drawing a formal relationship to that agreement. The Decision under the Kyoto Protocol did not set a new deadline to conclude extension of the Protocol, only agreeing that it should be "as early as possible and in time to ensure that there is no gap between the first and second commitments periods."[24] This process may be complicated by the announcement at the outset of the Cancun meetings by Japan, Canada, and others that they will not participate in any extension of the Kyoto Protocol, only to one agreement that includes GHG mitigation requirements of all major emitters. It remains unclear how the pledges made by Non-Annex I Parties and noted in the CA may influence the positions of Japan and other countries seeking a single agreement.

The first sessional meetings of the subsidiary bodies of the UNFCCC will occur June 6-17, 2011, in Bonn, Germany. These weeks will include further meetings of the Ad Hoc Working Groups to continue negotiations on future possible agreements, in preparation for the next meeting of the COP and CMP in Durban, South Africa, in December 2011. Parties do not generally anticipate making changes to the structure or pledges described in the CA. Meetings in the year 2011 will likely aim at establishing committees and procedures; nominating representatives to the new entities; and developing guidelines. Some countries and interest groups seek a legally binding agreement as an outcome of the next Conference of the Parties in Durban in 2011, while others (including the U.S. Department of State) do not envision any such agreement.

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these are not identified explicitly in the main CA text. Annex III, containing the Terms of Reference for the GCF, identifies achieving a "balanced allocation between mitigation and adaptation."

[23] With establishment of this Technology Mechanism, the COP also decided to eliminate the existing Expert Group on Technology Transfer.

[24] CMP, Draft decision [-CMP.6], "Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its fifteenth session," available at http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_kp.pdf.

Congressional Interests in International Climate Issues

Members of Congress hold mixed views about the value of international cooperation to address climate change. While some members are convinced that human-induced climate change is a high priority risk that must be addressed through federal actions and international cooperation, others are not convinced of significant risk. Some are wary, as well, of international processes that could impose costs on the United States, undermine national sovereignty, or lead to trade advantages for other countries.

Regardless of current views, the United States is a Party to the UNFCCC and has certain obligations, however unenforceable, under that treaty. [25] The United States' behaviors in that context are likely to continue to draw great attention on the world stage.[26] The executive branch continues negotiations and implementation of the UNFCCC obligations, while committees of Congress engage in oversight (from home and at the international meetings), providing input to the executive branch formally and informally, and deciding program authorities and appropriations for these activities. Given the continuing public and legislative debate over whether and how to address climate change, the 112th Congress may continue its interests in the international aspects of that debate.

International cooperation would be required to achieve the ranges of long-term targets for GHG mitigation and successful adaptation to projected climate change impacts. For many U.S. legislators, assurance of actions by other major emitters is key to acceptability of U.S. mandates to abate emissions. Additional important issues include the compatibility of any international agreement with U.S. domestic policies and laws; the adequacy of appropriations and fiscal incentives to achieve any commitments under the agreement; and the desirable form of the agreement as well as any requirements for potential ratification and implementing legislation, should a formal treaty emerge from the negotiations.

Many members of Congress are also attentive to questions of comparability of GHG actions among major trading partners, and especially to the potential for adverse competitiveness effects if some countries do not mandate GHG reductions while others move ahead. Most other major countries (including China, Brazil, and others) have taken actions that are altering their GHG emission trajectories. The United States has taken some actions, but none that would achieve deep cuts in GHG emissions or substantially alter rates of carbon capture and sequestration (e.g., by forests and agricultural activities). Many observers have noted the rapid development and deployment of advanced energy technologies in other countries, justified by their domestic commitments to abating GHG emissions, enhancing energy security, reducing environmental impacts of industrial systems, and additional policy objectives.

[25] CRS Report R41175, *International Agreements on Climate Change: Selected Legal Questions*, by Emily C. Barbour.

[26] See, for example, a summary of related discussions at the annual Davos summit: http://www.physorg.com/news/2011-01-climate-focus-davos-forum.html.

U.S.-Centric Chronology of International Climate Change Negotiations, 1979-2011

1979	First World Climate Change Conference estimates that a doubling of carbon dioxide (CO_2) concentrations over pre-industrial levels would eventually lead to a 1.4-4.5°C increase in global mean temperature (GMT).
1985	Major scientific conference in Villach, Austria, reviews decades of observations and research, and calls for policy analysis and actions to slow the rate of GHG-induced climate change.
1987	In the Montreal Protocol, 57 governments agree to phase-out production of substances that deplete stratospheric ozone. Many of these substances, such as CFCs are also powerful and long-lasting greenhouse gases (GHG), implicated in climate change.
October 1988	Experts to the Toronto Conference on the Changing Atmosphere call for a reduction of global CO_2 emissions by 20% from 1988 levels by the year 2005.
November 1988	Governments establish the Intergovernmental Panel on Climate Change (IPCC) under the joint auspices of the UN World Meteorological Organization and the UN Environment Programme, to assess climate change research for governmental decision-making.
1990	Global CO_2 concentrations in the atmosphere are about 354 parts per million (ppm), compared to pre-industrial concentrations of about 280 ppm in 1750. Global CO_2 emissions are 21 billion tons annually, with 4/5 from industrialized countries (1/5 from the United States). Developing countries, home to 80% of the world's population, emit 1/5th of global GHG emissions, not projected to reach 50% until around 2025.
1990	First Assessment Report of the IPCC concludes that human activities emit greenhouse gases (GHG) that have increased atmospheric concentrations; these may be causing observed increases in global mean temperature (GMT), and could drive future global warming. The human contribution could not be confirmed, however, for up to a decade.
1990	The United Nations General Assembly establishes the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (UNFCCC).
June 1992	The UNFCCC opens for signature at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil. The treaty cites *common but differentiated responsibilities and respective capabilities* of all Parties, with an *objective* of *avoiding dangerous anthropogenic interference with the climate system*. It includes commitments of developed country "Annex I" Parties to establish national action plans with measures that aim (i.e., non-binding) to reduce GHG emissions to 1990 levels by the year 2000. Includes obligations for Parties listed in Annex II (including the United States) to provide technical and financial assistance, report GHG emissions, and additional obligations. The Global Environment Facility (GEF) is named the interim financial mechanism of the UNFCCC. Non-Annex I Parties have general obligations, including for GHG mitigation, adaptation planning, and reporting.
1 October 1992	The United States becomes the first industrialized nation to ratify the UNFCCC. (Treaty Doc. 102-38, S. Exec. Rept. 102-55.)
21 March 1994	Entry into Force of the UNFCCC, following ratification by 50 countries. (As of November 2008, 192 governments have ratified the UNFCCC.)
March-April 1995	In Berlin, Germany, the first meeting of the Conference of the Parties to the UNFCCC (COP-1) reviews the *adequacy of commitments* under UNFCCC Articles 4.2(a) and (b) and concludes they are inadequate. It therefore adopts the *Berlin Mandate*, initiating negotiations for the post-2000 period to strengthen the GHG commitments of Annex I Parties, but *no new commitments for non-Annex I Parties*. The COP also agrees to a Pilot Phase for Joint Implementation, and to establish two entities: the Subsidiary Body on Implementation (SBI) and the Subsidiary Body on Scientific and Technological Advice (SBSTA).
July 1997	The U.S. Senate passes (95-0) the *Byrd-Hagel Resolution* that the United States should not enter into any international agreement that does not include obligations for developing countries in the same period, or that would seriously harm the U.S. economy.

December 1997	The *Kyoto Protocol* to the UNFCCC is adopted, signed by more than 150 countries. It sets a goal of reducing industrialized countries' GHG emissions to 5% below 1990 levels during the first commitment period of 2008-2012, and lists *assigned amounts* of allowable GHG emissions by Parties in Annex B. It provides for flexibility mechanisms, including trading of assigned amounts, Joint Implementation, and the Clean Development Mechanism. It outlines a compliance mechanism, and requires reporting by Parties. Many implementing rules remain to be negotiated, covering operations of the flexibility mechanisms, how to account for land-based carbon sequestration, the nature of the compliance regime, etc. The Protocol would enter into force when 55 countries, including at least 55% of 1990 GHG emissions, have submitted papers of ratification.
1998	The COP agrees to the *Buenos Aires Plan of Action*, with a deadline of 2000 to finalize rules to implement the Kyoto Protocol. The United States continues to press developing countries to take on voluntary commitments to reduce GHG emissions.
November 2000	In the Hague, Netherlands, the sixth COP discussions collapse, suspended without agreement on rules to implement the *flexibility mechanisms* in the Kyoto Protocol. Parties agree to resume talks at "COP-6bis" in July 2001.
January-May 2001	The IPCC releases its Third Assessment Report, concluding that global temperature and precipitation continue to increase, and effects can be observed in decreasing snow and ice extent, melting glaciers, altered seasonality, and other indicators of climate. The observed CO_2 concentration has not been exceeded during the past 420,000 years and likely not during the past 20 million years. Most of the observed warming over the last 50 years is likely due to the increased GHG concentrations, most of which results from fossil fuel use. Without concerted actions to abate GHG emissions, atmospheric CO_2 concentrations could rise to 540 to 970 ppm by 2100—90 to 250% above the 280 ppm level in the year 1750. Associated global average temperature could rise over 1990 by 1.4° to 5.8°C (3.2°F to 14.4°F) by 2100; some regions would change more than others.
March 2001	President George W. Bush announces United States' intention not to ratify the Kyoto Protocol.
July 2001	At COP-6bis, the United States participates for the first time as an observer, not a party to the Kyoto Protocol discussions. Decisions are made on use of the flexibility mechanisms (emissions trading, joint implementation and the Clean Development Mechanism), carbon sinks, emission penalties for non-compliance, and to establish three new financial mechanisms: the Special Climate Change Fund, the Least Developed Country Fund, and the Adaptation Fund.
December 2001	COP-7 adopts the *Marrakesh Accords*, establishing most rules and guidelines for the Kyoto Protocol to operate, especially for the three flexibility mechanisms: the Clean Development Mechanism, Joint Implementation, and Allowance Trading. To support adaptation in developing countries, agreements include: (1) replenishment of GEF to address needs of developing countries due to adverse effects of climate change or of response measures; (2) establishment of Special Climate Change Fund (SCCF) to support adaptation and technology transfer; (3) establishment of a Least Developed Country Fund (LDC Fund), with guidance on its operation; and (4) establishment of an Adaptation Fund under the Kyoto Protocol. The Parties also establish an LDC work program and the LDC Expert Group (LEG), funding for National Adaptation Programs of Action and additional implementation support.
November 2002	COP-8 issues a *Delhi Declaration on Climate Change and Sustainable Development.*
Summer 2003	Exceptional heat and air pollution in Western Europe are associated with more than 70,000 excess deaths. Scientific research indicated that global warming had at least doubled the chance of occurrence of the extreme heatwave.
30 October 2003	The first U.S. Senate vote on legislation to control GHG through a cap-and-emissions trading system, the McCain-Lieberman Climate Stewardship Act, fails (43-55), but gains more support than had been expected.
December 2003	COP-9 reaches several breakthrough decisions on credits for carbon absorption by forest sinks, as well as the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDC Fund).

November 2004	The Arctic Climate Impact Assessment concludes "Climate change, together with other stressors ... presents a range of challenges for human health, culture and well-being of Arctic residents ... as well as risks to Arctic species and ecosystems." Indigenous peoples link climate change impacts to human rights.
December 2004	COP-10 increases focus on adaptation and approves the Buenos Aires Programme of Work on Adaptation and Response Measures. Brazil and China submit their first National Communications to the UNFCCC.
1 January 2005	The European Union's Emissions Trading System (ETS) begins, permitting GHG allowance trading among 12 thousand companies.
16 February 2005	The Kyoto Protocol enters into force after Russia's ratification meets the requirement for ratification by Parties representing at least a 55% super-majority of CO_2 emissions (the requirement for at least 55 Parties to the UNFCCC having already been met).
2005	China announces ambitious energy efficiency and renewable energy policies.
25 June 2005	The U.S. Senate passes a Sense of the Senate Resolution (Amendment to H.R. 6) calling on Congress to enact "comprehensive and effective ... mandatory, market-based limits" to slow, stop, and reverse the growth of GHG emissions, at a rate and in a manner that would not "significantly harm" the U.S. economy.
27 July 2005	The United States announces the Asia-Pacific Partnership on Clean Development and Climate (APP), to cooperate on reducing the GHG intensity of their economies through voluntary technology exchanges. The APP includes the United States, Australia, Canada, China, India, Japan, and South Korea, and includes participation by the private sector.
November-December 2005	In Montreal, Canada, the first "Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol" (CMP) meets. After the U.S. delegation walks out of the meeting, the COP agrees to two parallel tracks to consider actions in the post-2012 period, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP), and another dialogue to be established under the UNFCCC.
6 June 2006	After a week of debate, the U.S. Senate rejects (38-60) the McCain-Lieberman proposal to establish a system of tradable allowances to reduce GHG emissions in the United States.
November 2006	In Nairobi, Kenya, COP-12 and CMP-2 reach agreements concerning the Adaptation Fund, the Nairobi Work Programme on Adaptation, and the Nairobi Framework on Capacity Building for the CDM.
10 January 2007	Commission of the European Union states a new policy of limiting global warming to 2° Celsius to reduce its GHG emissions unilaterally by 20% below 1990 levels by 2020, and to 30% below if other countries join in.
February-May 2007	The IPCC releases its Fourth Assessment Report, concluding that "warming of the climate system is unequivocal" and that "[m]ost of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations." By 2005, the global atmospheric concentration of CO_2 is 379 ppm, up 25 ppm since 1990, and up more than 35% over the pre-industrial level; the primary source of that increase is fossil fuel use and the second is land use change. While the United States adds about 18% of global GHG emissions, the emissions from China may have become the highest of any country.
April 2007	U.S. Supreme Court decides in *Massachusetts v. EPA* that GHG are air pollutants and that EPA must exercise the authority granted to it by the Clean Air Act to consider regulating these emissions.
May 2007	President George W. Bush initiates the Major Economies Meetings (MEM) to negotiate a new post-2012 framework among a small group of countries, to develop a long-term global goal and "to complement ongoing UN activity."
31 August 2007	In Vienna, Parties to the Kyoto Protocol agree to consider a range of GHG reduction targets of 25% to 40% below 1990 levels for industrialized countries by 2020, though this range is resisted by Canada, Japan and Russia.

23 September 2007	At the first Major Economies Meeting (MEM), hosted by the United States, U.S. President George W. Bush pledges $2 billion over three years for a Clean Technology Fund (CTF) under the World Bank, expecting to raise $10 billion among donors to support concessional financing for energy projects in developing countries. Some environmental groups oppose inclusion of coal electricity in permitted project types.
December 2007	COP-13 agrees to the "Bali Action Plan"—establishes the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) with a mandate for Parties to the UNFCCC to negotiate toward new GHG mitigation actions and commitments in the post-2012 period and to reach agreement by the end of 2009 (at COP-14 meeting in Copenhagen, Denmark). The Bali Action Plan calls for "a shared vision for long-term cooperative action" and identifies 4 main elements: mitigation, adaptation, technology, and finance. Additional decisions place management of the Adaptation Fund under the World Bank, and initiate demonstrations and commitments to reduce deforestation.
15 May 2008	The U.S. Senate votes (55-40) that no new mandates on GHG should be enacted without effectively addressing imports from China, India and other nations without similar programs.
August 2008	In Accra, Ghana, exchange of views under the AWG-LCA continues on alternative approaches to "shared vision," mitigation, adaptation, technology and finance. Any question of differentiation among non-Annex I Parties continues to be contentious, with China and the G-77 maintaining solidarity. Some developing countries argue that the AWG-LCA and AWG-AP are not mandated to consider amendments to the UNFCCC or Kyoto Protocol, only implementation of them. Some delegations support worldwide sectoral approaches, which some developing countries argue would be inappropriate for them. Developing countries frequently call for new mechanisms for each issue, and oppose "conditionality" on financial and technology transfers (such as protection of intellectual property rights). The AWG-KP agree on a comprehensive "basket approach" to including multiple GHG in the second commitment period, and notes new groups of gases and new gases (e.g., nitrogen trifluoride) identified by the IPCC Fourth Assessment Report. It notes that the Montreal Protocol phases out production of CFC and HCFC, but not their emissions. Analysis will proceed on various "spillover" effects of mitigation actions.
September 2008	Government of Japan proposes that all Parties adopt a "shared vision" of achieving at least 50% reduction of global GHG emissions by 2050. Global GHG emissions should peak in the next 10 to 20 years. It proposes criteria for entering additional countries into Annex I (i.e., to become countries with commitments), to create comparability of efforts for GHG targets among Annex I Parties, according to sectoral emissions, efficiencies, and reduction costs, and for new GHG commitments among three groups of developing countries.
December 2008	In Poznan, Poland, a high-level segment of COP-14 witnesses political statements on a "shared vision for long-term cooperative action," and agrees to intensify negotiations. Parties agree that a full negotiating text should be available by June 2009. Parties also resolve issues regarding the Adaptation Fund, though developing countries did not achieve commitments for additional adaptation monies. The Government of Mexico, among the first non-Annex I Parties to offer a GHG reduction commitment, announces a goal to halve GHG emissions from 2002 levels by 2050. Brazil pledges to cut deforestation by at least 50% by 2017.
December 2009	COP-15 and CMP-5 deliberate on multiple proposed texts without agreement, and decide to extend the negotiating mandates of AWG-LCA and AWG-KP through 2010. Key disagreements include whether the product should be two agreements (one being amendment of the Kyoto Protocol) or one merged text; whether obligations should be legally binding; and whether developing countries' mitigation actions and results should be measurable. COP-15 also "takes note of" the "Copenhagen Accord" negotiated among United States and roughly 30 countries outlining process to pledge (by February 1, 2010) national targets or actions to mitigate GHG emissions; $30 billion of financing from 2010-2012; and to seek $100 billion annually of a variety of types of financing by 2020.
29 November– 10 December 2010	COP-16, CMP 6, and Subsidiary Bodies in Cancun, Mexico, resulted in Decisions to extend the two-track negotiating mandates and to adopt the Cancun Agreements. These embody the GHG mitigation pledges made by all major emitting countries in accordance with the Copenhagen Accord; enhancements to monitoring, reporting, and international review of Parties' policies and GHG emissions; pledges and mechanisms for enhanced financing of mitigation and adaptation; and new committees to increase emphasis on technological advance and on adaptation.

2010	Ends the decade of the 2000s, the warmest decade in the record of widespread, direct land and sea surface temperature measurements (since around 1850). 2010 ties with 2005 as the warmest year on record.
	Concentration of carbon dioxide in the atmosphere reaches 390 ppm, more than 40% above the pre-industrial concentration of about 270 ppm ± 10 ppm.
6-17 June 2011	UNFCCC Subsidiary Bodies meetings. Activities are likely to emphasize implementation of existing agreements rather than expanded commitments.
28 November– 9 December 2011	COP-17, CMP-7, and Subsidiary Bodies in Durban, South Africa.

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