



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

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Summary

Under the “Bali Action Plan,” countries around the globe are endeavoring to reach agreement by the end of 2009 on effective, feasible, and fair actions beyond 2012 to address risks of climate change driven by human-related emissions of greenhouse gases (GHG). This document provides a U.S.-centric chronology of the international policy negotiations to address climate change. It begins before agreement on the United Nations Framework Convention on Climate Change in 1992, and proceeds through the Kyoto Protocol in 1997, the Marrakesh Accords of 2001, and the Bali Action Plan of 2007 that mandates the current negotiations. This chronology identifies selected external events and major multilateral meetings that have influenced the current legal and institutional arrangements, as well as contentious issues for further cooperation. Today’s negotiations under the Bali Action Plan focus on four elements: mitigation of greenhouse gas emissions; adaptation to impacts of climate change; financial assistance to low income countries; and technology development and transfer. They also are intended to define a “shared vision” for reducing global GHG emissions by around 2050. For U.S. legislators, important 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 for potential Senate ratification and federal implementing legislation.

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Overview of the International Climate Change Negotiations

Formal international negotiations were launched in December 1990 to address human-driven climate change. These negotiations on a Framework Convention on Climate Change marked the progress of decades of scientific research towards 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 potentially catastrophic impacts on human societies and their environment. Predicting the precise timing, magnitude and implications of changes remains subject to a variety of uncertainties; many questions may not be resolvable in a timeframe consistent with making effective and cost-effective decisions to address the risks of climate change. Only concerted global action can stabilize GHG concentrations, since emissions come from all countries. China and the United States are now approximately tied as leading emitters of GHG, although the United States historically has contributed almost one-fifth of the rise of GHG concentrations in the atmosphere. The greatest growth in GHG emissions is expected from countries, such as China, India and Brazil, that historically have contributed less, now emit much less per person, and have lower economic and governance capabilities to address the problem.

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

- when and by how much to reduce greenhouse gas emissions globally in order to avoid “*dangerous anthropogenic interference with the climate system*”;²
- how to share “*common but differentiated responsibilities*” among countries taking into account “*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 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 least able to cope on their own; and

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 (CO₂) 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 (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF₆). 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 (NF₃)). Other radiatively important substances are significant but difficult to treat similarly, such as aerosols or tropospheric ozone.

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.

- how to adapt international arrangements over time as science, social conditions and capabilities evolve.

The United Nations Framework Convention on Climate Change

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 United States was the fourth nation to ratify the UNFCCC, and the first among industrialized countries. As of November 2008, 192 governments are 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.³ 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, though the Berlin Mandate deferred any new commitments for developing countries for future agreements. The resulting 1997 accord, the Kyoto Protocol, pledged to reduce the net GHG emissions⁴ of industrialized country Parties (Annex I Parties) to 5.2% 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 Kyoto Protocol

The United States signed the Kyoto Protocol in December 1997. However, opposition in the U.S. Congress was strong. In the “Byrd-Hagel” Resolution⁵ 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 1 November 2008, 183 governments had become Parties to the Kyoto Protocol, with the United States and Kazakhstan⁶ being the only industrialized countries to remain outside of the Kyoto Protocol. In KP Article 9, the Parties to The Kyoto

³ 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.

⁴ “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 vegetation).

⁵ S.Res. 98.

⁶ Kazakhstan is unusual in being considered an Annex I Party for the purposes of the Kyoto Protocol, but not for the purposes of the UNFCCC, once it ratifies the Kyoto Protocol. [COP report FCCC/CP/2006/5]

Protocol agreed to begin a process no later than 2005 to consider commitments beyond 2012, when the first commitment period ends.

The Bali Action Plan

In December 2007, the Conference of the Parties to the UNFCCC agreed to a “Bali Action Plan” to negotiate (parallel to a process under the Kyoto Protocol) new GHG mitigation actions and other commitments for the post-2012 period. The negotiators are due to reach agreement by the end of 2009 (at their 14th meeting, in Copenhagen, Denmark). The Bali Action Plan does not provide for binding GHG commitments by non-Annex I Parties. In April 2008, negotiators in Bangkok agreed that the 2009 decision should include long-term GHG goals (a “vision” to be shared among all countries) to stop growth of emissions in the next 10 to 15 years and to achieve large reductions by 2050. The key items for negotiation in an agreement to address climate change beyond 2012 are:

- mitigation of climate change (primarily to reduce GHG emissions or to enhance removals of carbon by forests and other vegetation “sinks”);
- adaptation to impacts of climate change;
- financial assistance to low income countries;
- technology development and transfer; and
- the shared vision for long-term goals and action.

Four meetings in 2008 and four in 2009 were scheduled for an ambitious attempt to reach an agreement of some kind by the end of 2009.

Legislative Issues

For U.S. legislators, 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 and any requirements for potential ratification and implementing legislation.

A U.S.-centric Chronology of International Climate Change Negotiations, 1979-2009

- 1979 First World Climate Change Conference estimates that a doubling of carbon dioxide (CO₂) concentrations over pre-industrial levels would eventually lead to a 1.4-4.5°C increase in global mean temperature (GMT).
- 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.
- 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.
- 1988 Experts to the Toronto Conference on the Changing Atmosphere call for a reduction of global CO₂ 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 CO₂ concentrations in the atmosphere are about 354 parts per million (ppm), compared to pre-industrial concentrations of about 280 ppm in 1750. Global CO₂ 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.
- June 1992 The United Nations Framework Convention on Climate Change (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.
- 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 1st meeting of the Conference of the Parties (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 agreed 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.

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| December 1997 | The <i>Kyoto Protocol</i> 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 <i>assigned amounts</i> 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 <i>Buenos Aires Plan of Action</i> , 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 6 th COP discussions collapse, suspended without agreement on rules to implement the <i>flexibility mechanisms</i> 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' opposition to the Kyoto Protocol, and becomes an Observer (not a Party) to deliberations concerning the 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 <i>Marrakesh Accords</i> , 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. The United States participates for the first time as an Observer in deliberations related to the Kyoto Protocol. |
| November 2002 | COP-8 issues a modest <i>Delhi Declaration on Climate Change and Sustainable Development</i> . |
| 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. |

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| 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-20 th 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 <i>Massachusetts v. EPA</i> 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 | U.S. President 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.” |

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| July 2007 | The G8 Leaders in Heiligendamm, Germany, declare they “will consider seriously the decisions made by the European Union, Canada and Japan which include at least a halving of global emissions by 2050,” identify alternative forms of actions by emerging economies, and agree that the MEM process should support the UNFCCC. |
| 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 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. |
| 24 September 2007 | At the meeting of the United Nations General Assembly, Secretary-General Ban Ki-moon holds informal high-level discussions on a post-2012 agreement. |
| 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 towards 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. |
| March-April 2008 | In Bangkok, Thailand, the AWG-LCA and AWG-KP planned their work programs for 2008. The AWG-KP4 concluded that the Kyoto Protocol flexibility mechanisms should continue beyond 2012 and “be supplemental to domestic actions in Annex I.” |
| 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. |
| March-June 2008 | In Bonn, AWG-LCA-2 held workshops on adaptation, finance and technology, and began to discuss the “shared vision.” and AWG-KP-5 considered the flexibility mechanisms; land use, land use change and forestry (LULUCF); greenhouse gases, sectors and source categories; and approaches to sectoral GHG targets. |
| 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 agreed 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., NF ₃) identified by the IPCC AR4. 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, COP-14 will deliberate on a “shared vision for long-term cooperative action,” and mechanisms for finance, technology and capacity building to help developing countries abate GHG emissions, spur sustainable development and to cope with impacts of climate change.
- CMP-4 will hold its second review of the Protocol under KP Art. 9, in which it will consider the CDM, the IPCC Fourth Assessment, adaptation, effectiveness, implementation and compliance issues. It will also discuss ranges of GHG emission reductions for industrialized countries.
- 29 March-8 April 2009 In Bonn, AWG-LCA-5 and AWG-KP-7.
- 1-12 June 2009 In Bonn, 30th sessions of the UNFCCC subsidiary bodies – SBSTA-30 and SBI-30; AWG-LCA-6 and AWG-KP-8.
- December 2009 Agreement anticipated, in accordance with the schedule set by the Bali Action Plan, for post-2012 commitments.

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