

CRS Report for Congress

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Global Climate Change Treaty: The Kyoto Protocol

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Summary

Negotiations on the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) were completed December 11, 1997, committing the industrialized nations to specified, legally binding targets for emissions of six “greenhouse gases.” The treaty will open for signature on March 16, 1998. The United States played a prominent role in these negotiations, and agreed to a target of reducing greenhouse gases by 7% below 1990 levels during a “commitment period” between 2008-2012. Because of the way sinks, which remove these gases from the atmosphere, are counted and because of other provisions discussed in this report, the actual reduction of emissions required to meet the target within the United States is estimated to be lower than 7%. The Administration has indicated that until developing countries also make commitments to participate in greenhouse gas limitations, it will not submit the protocol to the Senate for advice and consent, thereby delaying any possibility of ratification until at least after a November 1998 meeting of the parties in Buenos Aires, Argentina. At mid-year June 1998 meetings of the UNFCCC subsidiary bodies, a number of the more difficult issues were discussed, but results of these meetings were generally inconclusive. In Congress, several committees have held hearings on the Kyoto Protocol and its implications, and a number of bills, resolutions and provisions in appropriations bills have been introduced or considered, mostly to limit activities of the U.S. government that are or could be seen as related to carrying out the goals of the Kyoto Protocol.

Background

Responding to concerns that human activities are increasing concentrations of “greenhouse gases” (such as carbon dioxide and methane) in the atmosphere, most nations of the world joined together in 1992 to sign the United Nations Framework Convention on Climate Change (UNFCCC). The United States was one of the first nations to ratify this treaty. It included a legally non-binding, voluntary pledge that the major industrialized/developed nations would reduce their greenhouse gas emissions to 1990

levels by the year 2000. However, as scientific consensus grew that human activities are having a discernible impact on global climate systems, possibly causing a warming of the Earth that could result in significant impacts such as sea level rise, changes in weather patterns and health effects—and as it became apparent that major nations such as the United States and Japan would not meet the voluntary stabilization target by 2000—Parties to the treaty decided in 1995 to enter into negotiations on a protocol to establish legally binding limitations or reductions in greenhouse gas emissions. It was decided by the Parties that this round of negotiations would establish limitations only for the developed countries (those listed in Annex I to the UNFCCC, including the former Communist countries, and referred to as “Annex I countries”; developing countries are referred to as “non-Annex I countries”).¹

During negotiations that preceded the December 1-11, 1997, meeting in Kyoto, Japan, little progress was made, and the most difficult issues were not resolved until the final days—and hours—of the Conference. There was wide disparity among key players especially on three items: (1) the amount of binding reductions in greenhouse gases to be required, and the gases to be included in these requirements; (2) whether developing countries should be part of the requirements for greenhouse gas limitations; and (3) whether to allow emissions trading and joint implementation, which allow credit to be given for emissions reductions to a country that brings about the actual reductions in other countries or locations where they may be cheaper to attain.

The United States proposal was for a reduction in all six major greenhouse gases to 1990 levels by the period 2008-2012, with joint implementation allowed. The European Union (EU) argued strongly for a 15% reduction from 1990 levels by 2010 for three greenhouse gases, using a “bubble,” or cumulative, approach for the nations within the EU, but no joint implementation beyond that. Japan proposed a 5% reduction from 1990 levels for three greenhouse gases. The group of developing countries (known as the G77) proposed that developed countries should stabilize their emissions of greenhouse gases at 1990 levels by 2000, then reduce them by 15% by 2010, with further reductions of 20%—for a total of 35% reduction by 2020 below 1990 levels.

Following completion of the Protocol in December of 1997, details of a number of the more difficult issues remained to be negotiated and resolved (see below). Some of these were taken up at June 2-12, 1998 meetings of the subsidiary bodies of the FCCC on implementation and scientific and technical affairs. These discussions were generally inconclusive, and consideration and work on the details of these unresolved concerns continues. Formal discussion and negotiation will resume at the COP-4 meeting in November in Buenos Aires, Argentina.

Summary of the Kyoto Protocol to the UNFCCC

The Kyoto Protocol was completed in haste during an extension of the Kyoto meeting beyond its December 10 deadline, into the morning of December 11. It contains a number of areas for which details will have to be worked out over the next year. The

¹For additional information on the negotiations in Kyoto and related background, see CRS Report 97-1000, *Global Climate Change Treaty: Negotiations and Related Issues*; and CRS Issue Brief 89005, *Global Climate Change*.

Protocol opened for signature March 16, 1998, and will enter into force when 55 nations have ratified it, provided that these ratifications include Annex I Parties that account for at least 55% of total carbon dioxide emissions in 1990. At the end of July, 38 countries had signed the treaty, including the European Union and most of its members, Canada, Japan, China, and a range of developing countries.

The major commitments in the treaty on the most controversial issues are as follows:

Emissions Reductions. The United States would be obligated under the Protocol to a reduction of 7% below 1990 levels for three greenhouse gases (including carbon dioxide), and below 1995 levels for the three man-made gases, averaged over the commitment period 2008 to 2012. The Protocol states that Annex I Parties are committed—individually or jointly—to ensuring that their aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases do not exceed amounts assigned to each country in Annex B to the Protocol, “with a view to reducing their overall emissions of such gases by at least 5% below 1990 levels in the commitment period 2008 to 2012.” Annex A lists the 6 major greenhouse gases covered by the treaty².

Annex B lists 39 nations, including the United States, the European Union plus the individual EU nations, Japan, and many of the former Communist nations. The amounts for each country are listed as percentages of the base year, 1990 (except for some former Communist countries), and range from 92% (a reduction of 8%) for most European countries—to 110% (an increase of 10%) for Iceland. The United States is committed on this list to 93%, or a reduction of 7%, to be achieved as an average over the five years 2008-2012.

Based on projections of the growth of emissions using current technologies and processes, the reduction in greenhouse gas emissions required of the United States would likely be between 20% and 30% below where it would be otherwise by the 2008-2012 budget period.³ However, according to Administration officials, based on the accounting method adopted in the Protocol, which includes (as the United States had urged) greenhouse gas sinks, it appears that the actions that must be taken in to reduce emissions within the United States, after sinks are counted, would be substantially less than 7%—probably in the range of 2 to 3%. The Administration also is assuming that a significant portion of its 7% target could be met through some combination of emissions trading and joint implementation.

Developing Country Responsibilities. The United States had taken a firm position that “meaningful participation” of developing countries in commitments made in the Protocol is critical to approval of the treaty by the U.S. Senate, and it argued that success in dealing with the issue of climate change and global warming would require such participation. The developing country bloc argued that the Berlin Mandate—the terms of reference of the Kyoto negotiations—clearly excluded them from new commitments

²The six gases covered by the Protocol are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆). The most prominent of these, and the most pervasive in human economic activity is carbon dioxide, produced when wood or fossil fuels such as oil, coal, and gas are burned.

³See CRS Report 98-235 ENR, *Reducing Greenhouse Gases: How Much from What Baseline?*

in this Protocol, and continued to oppose emissions limitation commitments by non-Annex I countries. The negotiations concluded without such commitments, and the United States indicated that it will not submit the Protocol for Senate consideration—and therefore will not ratify it—until subsequent negotiations are held and meaningful commitments are made by developing countries. The next meeting of the Parties will be in November 1998 in Buenos Aires, Argentina, and may provide the first formal opportunity for this issue to be revisited, although it is not clear yet whether or how it would be put on the agenda for that meeting.

The Protocol does call on all Parties—developed and developing—to take a number of steps to formulate national and regional programs to improve “local emission factors,” activity data, models, and national inventories of greenhouse gas emissions and sinks that remove these gases from the atmosphere. All Parties are also committed to formulate, publish, and update climate change mitigation and adaptation measures, and to cooperate in promotion and transfer of environmentally sound technologies and in scientific and technical research on the climate system.

Emissions Trading and Joint Implementation. Emissions trading, in which a Party included in Annex I “may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases” for the purpose of meeting its commitments under the treaty, is allowed and outlined in Article 6, with several provisos. Among the provisos is the requirement that such trading “shall be supplemental to domestic actions.” The purpose of this proviso is to make it clear that a nation cannot entirely fulfill its responsibility to reduce domestic emissions by relying primarily on emissions trading or joint implementation to meet its targets. A number of specific issues related to the rules on how joint implementation and emissions trading will work are to be negotiated and resolved in subsequent meetings, as these issues are clarified and identified. In the months since the Protocol was completed, it has become increasingly clear that this is an extremely complex issue, and an emissions trading system is not likely to be designed and implemented quickly.

A major development is the establishment of a “clean development mechanism” (CDM), through which joint implementation between developed and developing countries would occur. The United States had pushed hard for joint implementation, and early proposals were formulated with the expectation that “JI” projects would be primarily bilateral. Instead, negotiations resulted in agreement to establish the clean development mechanism to which developed Annex I countries can contribute financially, and developing non-Annex I countries can benefit from financing for approved project activities; Annex I countries can then use certified emission reductions from such projects to contribute to their compliance with part of their emission limitation commitment. Emissions reductions achieved through this mechanism can begin in the year 2000 to count toward compliance in the first commitment period (2008-2012). Again, proposals on how this mechanism will operate will be developed and, presumably, discussed at the November 1998 Conference of the Parties. Like emissions trading, making the CDM operational appears likely to be a protracted and difficult process, given the increasing number of complexities emerging from the on-going work and discussions on how the CDM might work.

Issues for Congress

Ratification. For the United States to ratify the Protocol, the treaty must be submitted to the U.S. Senate for advice and consent. Ratification requires a two-thirds majority vote in the Senate for approval. Unless the United States ratifies the treaty, it will not be subject to its terms and obligations. President Clinton has voiced strong support for the Kyoto Protocol, and the United States is expected to sign it, although it is not clear when. However, in recognition of the opposition expressed in the Senate by S.Res.98, which passed 95-0, to a Protocol that does not include requirements for emissions limitations by developing countries, the President has indicated that he will not submit the treaty to the Senate for advice and consent until additional negotiations have provided for meaningful developing country participation. The next Conference of the Parties that would offer an opportunity to make such provisions will be in November 1998 in Buenos Aires. Thus it seems unlikely that the treaty will be submitted to the Senate until after that time.

Oversight. Both the House and Senate sent delegations of Members to serve as observers on the U.S. delegation to the Kyoto meeting. Supporters and opponents of the Protocol were included in these delegations. A number of committees have held hearings on the implications of the Protocol for the United States, its economy, energy prices, impacts on climate change, and other related issues.⁴ While the Administration has stated that it believes the treaty can be implemented without harm to the U.S. economy, and without imposing additional taxes, a number of questions related to how its goals can be achieved are likely to arise in hearings during the year ahead.

Legislation. When a treaty is sent to the Senate for consideration, legislation that might be required for its implementation is also typically sent to the Congress. Such legislation is not likely in the near future, certainly not until the end of 1998, or until the treaty is sent to the Senate. However, the President's proposal on climate change, announced in October, included, among other things, a \$5 billion package of tax credits and spending on research and development over 5 years to encourage energy efficiency and development of new lower emission technologies. In the President's budget proposals, he offered an initiative over multiple years of \$6.3 billion dollars for research and development and some possible tax incentives. A number of legislative proposals—including bills, resolutions, and provisions in several appropriations bills—express concerns related to the Kyoto Protocol. Many of these would limit activities of the U.S. government that might be seen to advance the goals of the Kyoto Protocol prior to its consideration by the Senate.⁵

⁴Congressional hearings are discussed in the CRS electronic briefing book on Global Climate Change at <http://thomas.loc.gov/brbk/html/ebgcccon.html>

⁵See CRS Issue Brief 89005: Global Climate Change. Another source for a listing of legislation and its status, and other information about the Kyoto Protocol and other climate change concerns and reports, is the CRS electronic briefing book on Global Climate Change on the CRS Home Page at: <http://thomas.loc.gov/brbk/html/ebgcctop.html>