

GAO

Report to the Ranking Minority Member, Committee on Environment and Public Works, and the Ranking Minority Member, Committee on Foreign Relations, U.S. Senate

---

January 2003

# INTERNATIONAL ENVIRONMENT

## U.S. Actions to Fulfill Commitments Under Five Key Agreements



Highlights of GAO-03-249, a report to the Ranking Minority Members of the Committee on Environment and Public Works and Committee on Foreign Relations, United States Senate

## Why GAO Did This Study

Environmental problems do not respect national boundaries. These problems include (1) climate change, (2) drought and the expansion of degraded land, (3) environmental cooperation among the countries of North America, (4) illegal trade in endangered species, and (5) substances that deplete the earth's protective ozone layer. To address such problems, the United States and other nations have entered into numerous international environmental agreements.

In implementing these agreements, the parties typically commit to establish domestic programs and report periodically on their progress. Developed nations like the United States may also pledge to provide funds to assist developing nations.

GAO was asked to examine (1) U.S. actions to fulfill its commitments under five international agreements identified by the requesters, (2) the means used to track these actions, and (3) the results of others' evaluations of these actions for the selected agreements.

[www.gao.gov/cgi-bin/getrpt?GAO-03-249](http://www.gao.gov/cgi-bin/getrpt?GAO-03-249)

To view the full report, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841.

January 2003

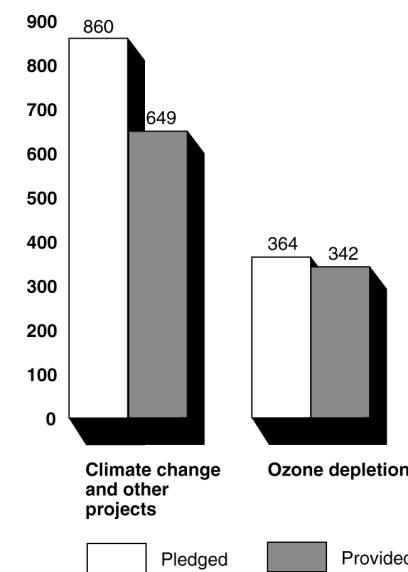
# INTERNATIONAL ENVIRONMENT

## U.S. Actions to Fulfill Its Commitments Under Five Key Agreements

### What GAO Found

The United States is generally taking actions to meet its commitments under the five specified agreements. Federal agencies established domestic programs, reported periodically on progress, and provided funding to other nations. For example, the United States committed to stop producing and importing certain substances that deplete the earth's ozone layer by 1996 and did so. Although the United States did not make a treaty commitment to reduce greenhouse gas emissions, the President set a goal in 1993 to reduce emissions to their 1990 level by 2000 and the United States spends over \$1 billion a year to do so. However, U.S. emissions in 2001 exceeded the 1990 target level by about 12 percent. GAO also found that, while the United States provided \$1.4 billion between fiscal years 1991 and 2002 to assist other countries in addressing their environmental problems related to three agreements, it provided less than it pledged relating to two agreements. Specifically, the shortfall was 25 percent for the fund that finances climate change and other environmental projects and 6 percent for ozone depletion.

**U.S. Funding to Other Nations Related to Two Agreements**  
1,000 Dollars in millions



Federal agencies generally use informal means, such as meetings and informal communications, to track their actions to fulfill commitments under the five agreements. Officials at the Department of State and other agencies said informal means are effective and cost less than establishing a formal tracking system. The few studies that evaluated the effectiveness of U.S. actions concluded that the actions had positive effects on the environment. The agencies involved generally agreed with the facts presented in this report.

---

# Contents

---

## Letter

Results in Brief	1
Background	2
The United States Is Taking Many Actions to Fulfill Its Commitments Under Five Agreements, but Has Not Provided All of Its Pledged Funds	4
Agencies Generally Use Informal Means to Track Actions	16
The Few Available Program Evaluations Deemed U.S. Actions Positive	18
Scope and Methodology	19
Agency Comments	19

---

## Tables

Table 1: Selected Information on the Five Agreements	3
Table 2: Federal Expenditures for Selected Climate Change Programs Related to Framework Convention, Fiscal Years 1999-2003	6
Table 3: U.S. Contributions to Secretariats for Five Agreements, Fiscal Years 1998-2002	7
Table 4: U.S. Funding for Global Environment Facility, Fiscal Years 1994-2002	9
Table 5: U.S. Contributions Under the Desertification Convention, by Region, Fiscal Year 2001	11
Table 6: Timeliness of U.S. Reports for Each Agreement	12

---

## Figures

Figure 1: U.S. Funding to Other Nations Related to Three Agreements	8
Figure 2: U.S. Consumption of Chlorofluorocarbons, Related to Montreal Protocol, 1986-99	14
Figure 3: U.S. Emissions of Greenhouse Gases, Related to Framework Convention, 1990-2001	15

---

## **Abbreviations**

AID	U.S. Agency for International Development
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EPA	Environmental Protection Agency



**United States General Accounting Office  
Washington, DC 20548**

January 29, 2003

The Honorable James M. Jeffords  
Ranking Minority Member, Committee on Environment  
and Public Works  
United States Senate

The Honorable Joseph R. Biden, Jr.  
Ranking Minority Member, Committee on Foreign Relations  
United States Senate

Because environmental problems do not respect national boundaries, the United States and other nations have entered into numerous international environmental agreements to address the causes and consequences of such problems as climate change, ozone depletion, and trade in endangered species. These agreements typically provide that the parties will undertake various actions to improve the environment. Some provisions are specific and measurable (such as having the parties establish domestic programs, for example, to reduce greenhouse gas emissions, or having them periodically report their progress). Others are more general and therefore difficult to measure (such as having the parties coordinate with each other).

As you requested, we examined the United States' actions to fulfill its commitments under five key international environmental agreements. These agreements, which were selected for review by your offices, relate to climate change (Framework Convention), desertification (Desertification Convention), the earth's ozone layer (Montreal Protocol), endangered species (CITES), and North American environmental cooperation (North American Agreement). We examined (1) U.S. actions to fulfill specific commitments, (2) the processes and methods that federal agencies use to track these actions, and (3) the results of independent evaluations of these actions for each of the selected agreements.

---

## Results in Brief

Generally, the United States is taking actions to meet its commitments under the five agreements. For example, under the Montreal Protocol, the United States committed to stop producing and importing certain substances that deplete the earth's ozone layer by 1996 and did so. However, the United States fell short of its pledge to provide financial assistance to other nations related to two agreements. Specifically,

---

although the United States has provided over \$1.4 billion in such assistance since 1991 related to three agreements, it provided 25 percent less than it pledged for a fund that finances climate change and other environmental projects, and 6 percent less than it pledged for the Montreal Protocol. No pledge was required for the Desertification Convention. Moreover, while the United States did not make a treaty commitment, the President set a goal in 1993 to reduce U.S. greenhouse gas emissions to their 1990 level by 2000 and the United States spent over \$1 billion a year to do so. Nevertheless, U.S. estimated emissions in 2001 were about 12 percent above the 1990 level.

Agencies generally use informal means, such as meetings and informal communications, to track their actions to fulfill commitments under the five agreements. According to officials at the Department of State and other responsible agencies, such informal means are sufficient and there is no need to establish formal tracking systems. We found no instance in which the United States lost track of a commitment because it lacked a formal tracking system.

Of the nine studies that we identified that evaluated the effectiveness of U.S. actions, all generally concluded that the actions examined had some positive effects. For example, four studies of Environmental Protection Agency (EPA) activities pursuant to the Framework Convention concluded that they helped to reduce greenhouse gas emissions.

---

## Background

Just as nations have established international agreements to address trade, weapons, and other issues, the United States and other nations have joined together to respond to transboundary environmental problems. Like other international agreements, environmental agreements are legal instruments that are negotiated, signed, and adopted by two or more countries. Developing such agreements involves achieving voluntary commitments among nations with various levels of industrial development, technical capability, resources, and concerns about particular environmental problems. Worldwide, hundreds of international legal instruments are aimed at environmental protection. The Department of State's Bureau of Oceans and International Environmental and Scientific Affairs, which is primarily responsible for environmental and related matters, is involved in more than 100 bilateral and multilateral agreements in which the United States is a party or has an interest.

International agreements are intended to accomplish broad goals, such as controlling the trade in certain endangered or at-risk species and

eliminating the production of certain ozone-depleting chemicals. However, they do not always provide that the parties must achieve specific objectives within certain time frames. Furthermore, agreements do not always include mechanisms for monitoring parties' fulfillment of commitments or for enforcing compliance.<sup>1</sup> To some extent, this lack of specifics reflects the belief that strict compliance and enforcement mechanisms would discourage nations from participating in a treaty. Therefore, the extent of a nation's compliance with international agreements generally depends on peer or public pressure.

The five agreements we reviewed are summarized below, in chronological order:

**Table 1: Selected Information on the Five Agreements**

<b>Agreement</b>	<b>Number of parties</b>	<b>Purpose</b>	<b>Date of entry into force</b>
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	160	Control the international trade in specified types of animals and plants	1975
Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)	181	Reduce the production and import of certain chemicals that deplete the earth's stratospheric ozone layer	1989
United Nations Framework Convention on Climate Change (Framework Convention)	185	Stabilize concentrations of carbon dioxide and certain other greenhouse gases in the atmosphere at a level that would prevent dangerous human interference with the climate system	1994
North American Agreement on Environmental Cooperation (North American Agreement)	3	Establish a framework for better protecting the continent's environment through cooperation and enforcement of national laws	1994
United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (Desertification Convention)	184	Mitigate desertification and drought through improved land use practices, increased local participation in land use planning, and mobilization and coordination of funding assistance	1996

Source: GAO.

<sup>1</sup> U.S. General Accounting Office, *International Environment: Literature on the Effectiveness of International Environmental Agreements*, GAO/RCED-99-148 (Washington, D.C.: May 1999).

---

Like many other multilateral treaties, each of these five agreements created an institution, called a secretariat, to administer the agreement. The secretariats are responsible for such tasks as compiling reports based on submissions from the parties, administering requests for technical assistance, and arranging the logistics for meetings of the parties.

Within the U.S. government, a variety of agencies have a role in negotiating and implementing international agreements. The Department of State normally takes the lead in international negotiations, and other agencies are involved in domestic implementation. For example, for CITES, the Department of the Interior is the lead implementing agency; for the Framework Convention, the Department of Energy and EPA; and for the Montreal Protocol, EPA. For the Desertification Convention, the Department of State takes the lead in coordinating U.S. policy approaches, and the Agency for International Development (AID) provides the majority of U.S. funding and other assistance to nations in support of the Convention. For the North American Agreement, according to an Executive Order, EPA represents the United States on the agreement's governing body; consequently the agency has a major role in developing policy, as well as the primary role in domestic implementation.

---

## The United States Is Taking Many Actions to Fulfill Its Commitments Under Five Agreements, but Has Not Provided All of Its Pledged Funds

The United States is generally acting to fulfill its commitments under the five agreements. However, while the United States provided substantial funding to other nations, in two cases it did not provide all that it pledged. Some commitments—such as establishing domestic programs, providing funds to secretariats and other nations, and reporting—are found in two or more of the agreements. Other commitments—such as reducing the production and import of ozone-depleting substances—are found in only one agreement. This section discusses U.S. actions according to the types of commitments in the five agreements.

---

### Establishing Domestic Programs

Three of the five agreements—CITES, the Framework Convention, and the Montreal Protocol—require the United States to establish domestic programs to help fulfill its commitments. The Desertification Convention and the North American Agreement required no new programs. Under CITES, for example, the Department of the Interior's Fish and Wildlife Service created a permit program to review the import, export, and re-export of parts and products of species listed as threatened with extinction. It issues about 4,500 such permits annually. Additionally, in

---

conjunction with the Department of Agriculture's Animal and Plant Health Inspection Service and Treasury's Customs Service, the Fish and Wildlife Service monitors U.S. ports for illegal shipments of listed species' parts and products.

Under the Framework Convention, the United States has developed a wide array of domestic programs directly related to reducing greenhouse gas emissions. As shown in table 2, according to a July 2002 report by the Office of Management and Budget, the United States anticipated spending an estimated \$1.2 billion for such programs in fiscal year 2002.<sup>2</sup> This amount primarily funds efforts by the Department of Energy and EPA to research, develop, and deploy renewable energy technologies and energy-efficient products that help reduce the use of fossil fuels, as well as U.S. greenhouse gas emissions.

---

<sup>2</sup> U.S. Office of Management and Budget, *Federal Climate Change Expenditures: Report to Congress* (Washington, D.C.: July 9, 2002).

**Table 2: Federal Expenditures for Selected Climate Change Programs Related to Framework Convention, Fiscal Years 1999-2003<sup>a</sup>**

Dollars in millions	1999 actual	2000 actual	2001 actual	2002 estimate	2003 proposed
<b>Department of Energy</b>					
Energy supply					
Solar and renewable energy research and development	\$332	\$310	\$370	\$386	\$408
Nuclear energy	0	5	5	7	0
Energy conservation research and development	518	577	619	640	588
Fossil energy research and development	24	52	18	32	54
Science	13	33	35	35	35
Energy Information Administration	3	3	3	3	3
<b>Environmental Protection Agency</b>					
Environmental programs and management	72	76	96	89	91
Science and technology	37	27	27	26	17
<b>Agriculture</b>	0	0	3	0	6
<b>Total<sup>b</sup></b>	<b>\$999</b>	<b>\$1,083</b>	<b>\$1,176</b>	<b>\$1,218</b>	<b>\$1,202</b>

Source: Office of Management and Budget.

<sup>a</sup>Includes spending on programs directly related to climate change through technology research, development, and deployment. Excludes tax credits, spending to improve scientific understanding, international assistance, and spending on programs indirectly related to climate change.

<sup>b</sup>Numbers may not add up due to rounding.

Under the Montreal Protocol, EPA promulgated regulations for the 16 companies that produced or imported certain ozone-depleting substances. It established a schedule for them to phase out their production and net import of these substances, granting them an initial allowance to produce or import such substances and reducing the allowance gradually. In addition, EPA established programs to ensure that certain substances used in refrigerators and halon fire extinguishers were properly recycled and to develop safe and effective alternatives to ozone-depleting substances.

Also, EPA and other federal agencies undertook efforts to enforce compliance with these regulations. As of March 2002, 114 individuals had been convicted of illegal schemes to import ozone-depleting substances and \$67 million in fines and restitution had been imposed.

---

## Providing Funds to Secretariats

The United States agreed to contribute funds to the secretariats of the five agreements. Voluntary contributions to the organizations are generally used for administrative purposes including day to day activities and arranging meetings of the parties to the agreements. In the case of the North American Agreement, some of the funds are also used to carry out cooperative environmental projects related to air pollution, chemical and hazardous waste management, and other areas in the three nations. From fiscal year 1998 through fiscal year 2002, the United States contributed about \$49.3 million to the international organizations for the five agreements. The largest amount was \$22.2 million for the Framework Convention, as shown in table 3.

---

**Table 3: U.S. Contributions to Secretariats for Five Agreements, Fiscal Years 1998-2002**

Fiscal year	Dollars in thousands						North American Agreement	Total
	CITES	Desertification <sup>a</sup>	Framework Convention	Montreal Protocol				
1998	\$1,000	\$50	\$3,900	\$600	\$3,000		\$8,550	
1999	1,500	100	3,800	1,100	3,000		9,500	
2000	1,250	125	4,900	450	3,000		9,725	
2001	1,000	1,100	4,900	450	3,000		10,450	
2002	1,250	1,700	4,700	450	3,000		11,100	
<b>Total</b>	<b>\$6,000</b>	<b>\$3,075</b>	<b>\$22,200</b>	<b>\$3,050</b>	<b>\$15,000</b>		<b>\$49,325</b>	

Source: Department of State.

<sup>a</sup>Even before the United States became a party to the Desertification Convention in 2001, it made voluntary contributions to the Secretariat.

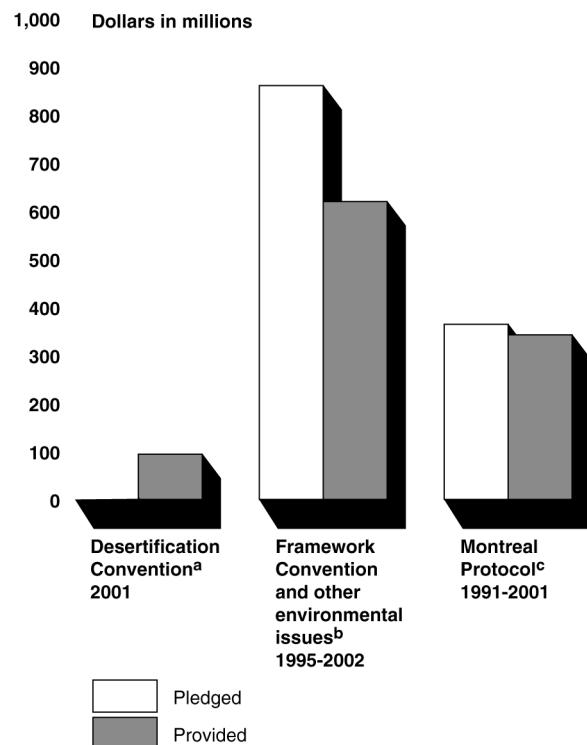
---

## Providing Financial Assistance to Other Nations

The United States pledged to provide financial assistance to other nations related to three of the five agreements. In two cases—the funding mechanism for the Framework Convention and other environmental problems and the Montreal Protocol—the United States pledged to provide specific amounts of funds, and in both cases it provided less than it pledged. In the third case—the Desertification Convention—it did not pledge to provide a specific amount, but it did provide funds. In total, the United States provided more than \$1.4 billion relating to these three areas. The amounts pledged and provided are shown in figure 1 below.

---

**Figure 1: U.S. Funding to Other Nations Related to Three Agreements**



Source: AID, EPA, and Treasury.

Note: GAO analysis of AID, EPA, and Treasury data.

<sup>a</sup>The United States did not pledge a specific amount under the Desertification Convention.

<sup>b</sup>Amounts related to support for the Global Environment Facility.

<sup>c</sup>Represents U.S. contributions to the Montreal Protocol Multilateral Fund.

Under the Framework Convention, the United States committed to provide an unspecified amount of funds. Separately, the United States

later pledged to provide specific amounts to the Global Environment Facility—a trust fund established to help developing countries address biodiversity, climate change, and other environmental problems.<sup>3</sup> The United States pledged to provide \$860 million to the facility for fiscal years 1995 through 2002. However, through 2002, the Congress had appropriated \$649 million (25 percent) less than the amount pledged.<sup>4</sup> This shortfall resulted from the Congress not appropriating sufficient funding to meet the pledge. (See table 4.)

**Table 4: U.S. Funding for Global Environment Facility, Fiscal Years 1994-2002**

Dollars in millions			
Fiscal year	Amount pledged	Amount requested	Amounted appropriated
1994	0	\$30.8	\$30.0
1995	\$107.5	100.0	90.0
1996	107.5	110.0	35.0
1997	107.5	100.0	35.0
1998	107.5	100.0	47.5
1999	107.5	300.0	167.5
2000	107.5	143.3	35.8
2001	107.5	175.6	107.8
2002	107.5	107.5	100.5

Source: Treasury.

In addition to providing funds to developing countries through the Global Environmental Facility, the United States supports developing and other countries' efforts to address climate change through AID. In fiscal year 2002, the agency provided an estimated \$167 million to promote development that minimizes emissions of greenhouse gases and reduces vulnerability to climate change.

<sup>3</sup> The facility was established on a pilot basis in 1991 and was restructured in 1994. It is funded by the United States and other countries, and its projects are implemented and overseen by the United Nations Development Program, United Nations Environmental Program, and World Bank. See *International Environment: Information on Global Environment Facility's Funding and Projects* ([GAO/RCED-99-149](#), June 15, 1999). According to the Treasury Department, most of the facility's projects related to biodiversity (42 percent) and climate change (38 percent). The other projects related to cleaning up international waters and protecting fisheries (15 percent) and phasing out ozone-depleting chemicals (5 percent). According to a Treasury official, U.S. contributions to the facility are not earmarked according to purpose.

<sup>4</sup> This amount includes \$30 million appropriated in fiscal year 1994 that was applied to fiscal year 1995.

---

Under the Montreal Protocol, the United States pledged to provide \$363.6 million between 1991 and 2001 for technical assistance and investment projects aimed at phasing out ozone-depleting chemicals in developing nations. However, it provided \$21.7 million (6 percent) less than its pledge during that period. According to EPA officials, the shortfall occurred primarily for two reasons. First, the United States withheld about half the shortfall amount (\$11.5 million) because of a prohibition on U.S. foreign assistance to Iraq, North Korea, and certain other nations.<sup>5</sup> Second, in some years the Congress appropriated less than the amount requested or imposed an across-the-board rescission to EPA's appropriation accounts.

Finally, under the Desertification Convention, the United States committed to provide an unspecified level of financial assistance to developing countries. When the United States became a party to the Convention in 2001, it was already providing financial assistance to countries experiencing desertification and drought.<sup>6</sup> In fiscal year 2001, the first year of U.S. participation, AID provided \$93.8 million in assistance to other nations. Most of this amount (\$85.1 million) was provided to particular regions of the world, with the largest amount going to the Convention's primary focus, the African nations. (See table 5.) These amounts include bilateral and multilateral assistance designed to mitigate desertification and drought by improving the capacity of communities and local institutions to use new technologies to better manage natural resources and agricultural lands. For example, AID's assistance to the Upper Niger River Valley Program in Mali helped 33,000 agricultural producers adopt practices that improved and diversified their livelihoods while decreasing degradation of the land. In addition, \$8.7 million was provided for agricultural management that is conducted on an international basis in various regions.

---

<sup>5</sup> Federal law prohibits the use of U.S. foreign assistance to international organizations for programs in Burma, Cuba, Iran, Iraq, Libya, North Korea, and Syria, as well as to the Palestine Liberation Organization under 22 U.S.C. §2227(a)(2000). The United States withheld the share of its funds that would have gone to those entities.

<sup>6</sup> Furthermore, the President's letter transmitting the agreement to the Senate for its advice and consent stated that the United States' obligations under the Convention would be met under existing law and ongoing assistance programs.

---

**Table 5: U.S. Contributions Under the Desertification Convention, by Region, Fiscal Year 2001**

Dollars in millions	
Region	
Africa	\$53.8
Asia and Near East	14.4
Europe and Eurasia	4.2
Latin America and Caribbean	12.7
<b>Total</b>	<b>\$85.1</b>

Source: AID.

---

## Reporting

From the beginning of 1997 through the end of calendar year 2002, the United States agreed to submit 23 reports on implementation and related issues for the 5 agreements: CITES, 8 (6 annual and 2 biennial); the Desertification Convention, 1; the Framework Convention, 2; the Montreal Protocol, 6; and the North American Agreement, 6. We reviewed recent reports submitted under the five agreements and found that they contained the information required. However, we also found that the United States did not promptly submit about 43 percent of the reports it had agreed to submit. Many other parties were also late in submitting their reports, and according to State Department and other agency officials the U.S. tardiness generally had no significant effect on the agreements' secretariats or on other parties.

We reviewed recent reports under each agreement for completeness and found that they contained the information required. For example, under CITES the United States met its commitment to provide an annual report on, among other things, the number and type of permits and certificates it granted related to trade in listed wildlife species, the nations with which such trade occurred, and the numbers or quantities and types of specimens. Similarly, under the Framework Convention, the United States met its commitment to publish reports that contained, among other things, detailed information on its policies and measures to mitigate climate change and its projected human-caused emissions for the period 1990 to 2000. The Convention also required each party to report on these two matters "with the aim of returning individually or jointly to their 1990 levels these anthropogenic [human-caused] emissions of carbon dioxide and other greenhouse gases."<sup>7</sup> The 1997 report addressed this issue, stating

---

<sup>7</sup> U.S. reporting on greenhouse gas emissions is discussed on page 14.

---

that “the measures listed in this report are not expected to reduce U.S. emissions below 1990 levels by the year 2000.” The 2002 report did not address this issue.<sup>8</sup> Under the Montreal Protocol the United States met its commitment to provide the Secretariat with statistical data on annual production, imports, and exports of each of the controlled substances.

Of these 23 reports that the United States was required to submit under the five agreements, 13 were submitted on time; 9 were submitted up to 8 months late; and 1 was never submitted at all, as shown in table 6. Under each of the five agreements, at least one report was submitted late or not at all.

---

**Table 6: Timeliness of U.S. Reports for Each Agreement**

<b>Agreement</b>	<b>Submitted on time<sup>a</sup></b>	<b>Submitted late or overdue</b>	<b>Never submitted</b>	<b>Total</b>
CITES	7	0	1	8
Desertification Convention	0	1	0	1
Framework Convention	0	2	0	2
Montreal Protocol	5	1	0	6
North American Agreement <sup>b</sup>	1	5	0	6
<b>Total</b>	<b>13</b>	<b>9</b>	<b>1</b>	<b>23</b>

Source: GAO.

<sup>a</sup>Submitted within 30 days of the original target date or the date of an extension granted by the secretariat.

<sup>b</sup>Although the agreement itself does not require parties to provide such reports, the parties decided to submit country reports in order to inform each other and the public.

For example, although the United States promptly submitted all six annual reports and one biennial report under CITES, it did not submit one biennial report on implementation. According to Fish and Wildlife Service officials, the annual statistical reports and other periodic reports submitted to the Secretariat provided much of the information called for in that biennial report. Under the Framework Convention, both reports were submitted late—the first by 3 months and the second by 6 months.

The late submission of reports under the various agreements has had no significant effect on the agreements’ secretariats or other parties,

---

<sup>8</sup> According to a Department of State official, the 2002 report did not address this issue because the “aim” set out in the Convention refers only to the year 2000 and does not address emissions levels in later years.

---

according to agency officials. However, the Secretary of the North American Agreement's governing council said that the late submission of reports by the United States and other parties delayed the publication of the council's reports and the reports were less useful when the information was outdated. According to EPA officials, the Secretariat and the parties are working to streamline the process of country reporting in an effort to make the reports more readable and timely.

---

#### Actions to Fulfill Unique Provisions

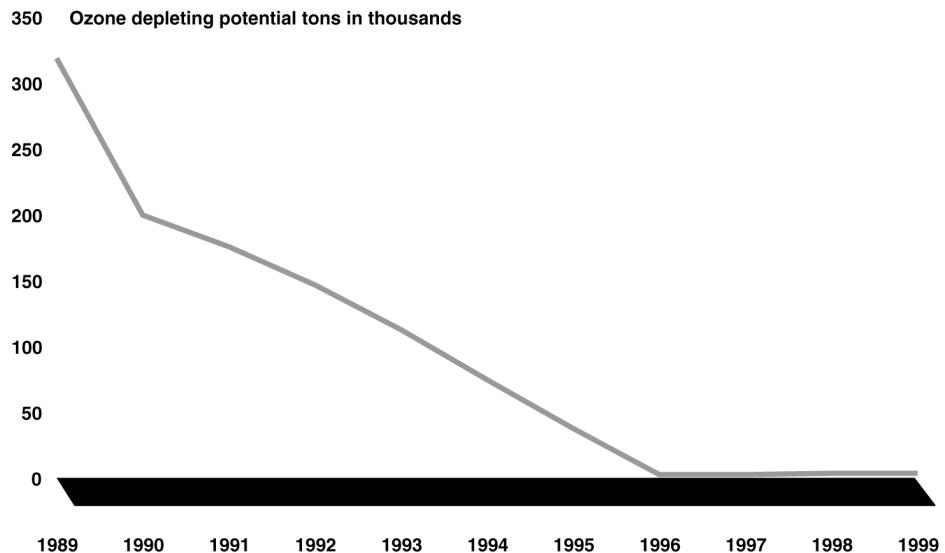
The United States committed to achieving specific goals and timetables under the Montreal Protocol. The Protocol established a series of deadlines—extending from 1989 through 2030—for phasing out the production and import of dozens of chemicals that deplete the ozone layer. According to EPA data, the United States virtually eliminated the production and import of nearly all of these chemical compounds by the end of 1995, including chlorofluorocarbons, scheduled for phaseout in the United States by 1996. Chlorofluorocarbons were the most extensive compound, used for aerosols, air conditioning, refrigeration, and solvents.<sup>9</sup> (See fig. 2.)

---

<sup>9</sup> The production and import of two other chemicals is to be eliminated in future years—methyl bromide by 2005 and hydrochlorofluorocarbons by 2030.

---

**Figure 2: U.S. Consumption of Chlorofluorocarbons, Related to Montreal Protocol, 1986-99**



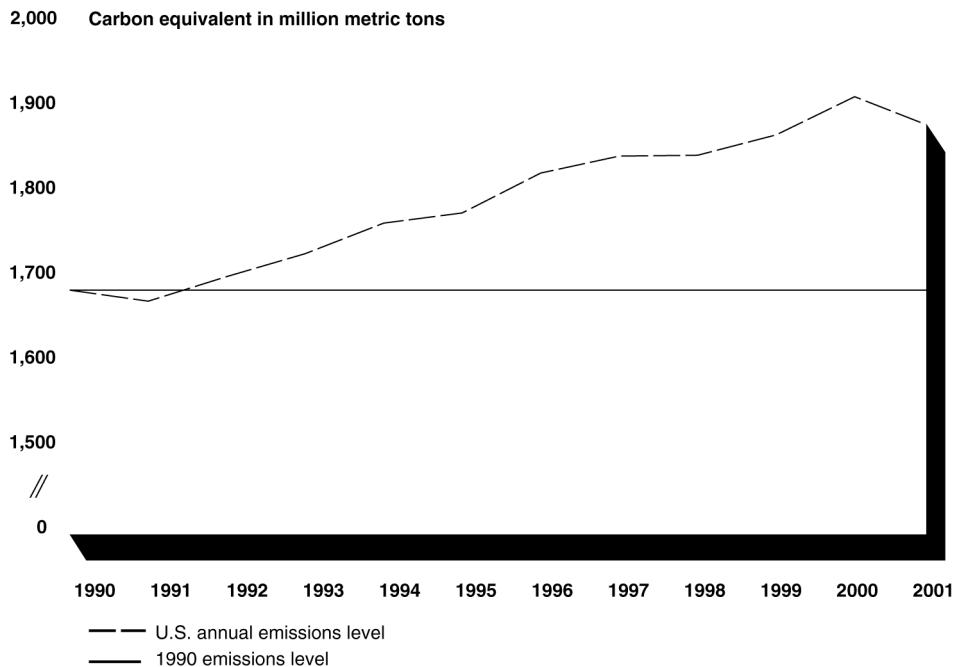
Source: U.N. Environment Program, Ozone Secretariat.

Note: Because different chemicals have different capacities to deplete the ozone layer, "ozone depleting potential" provides a consistent means of measurement among the various chemicals.

Under the Framework Convention, the United States did not commit to achieving a specific goal but did commit to reporting "with the aim" of reducing greenhouse gas emissions to the 1990 level by 2000. In addition, in 1993—the year before entry into force for the Framework Convention—the President established a domestic goal of reducing greenhouse emissions to their 1990 level by 2000. However, in 1997 the United States reported that it did not expect to reduce U.S. emissions below the 1990 level by the year 2000. According to data from the Energy Information Administration, the 2001 level was about 12 percent above the 1990 level. (See fig. 3.) The other three agreements did not specify measurable goals.

---

**Figure 3: U.S. Emissions of Greenhouse Gases, Related to Framework Convention, 1990-2001**



Source: Energy Information Administration.

Note: GAO analysis of Energy Information Administration data.

The five agreements contain other unique provisions. For example, under the Desertification Convention, parties are required to submit nominations to the Secretariat for inclusion on a roster of independent experts in disciplines relevant to combating desertification and mitigating the effects of drought. Maintained by the Secretariat, the roster is used as a central source of experts for technical assistance and other purposes. The United States established a Web site to receive applications for membership on the roster. Applications are received by the Department of State, subjected to an interagency review process, and then transmitted to the Secretariat. In addition, parties to the Framework Convention commit to collect data on emissions of certain greenhouse gases. EPA regularly collects and publishes these data.

---

## Agencies Generally Use Informal Means to Track Actions

Officials at the Department of State and other agencies told us that they generally use informal means to track U.S. actions to fulfill its many commitments. Officials said their interagency coordination begins while an agreement is being negotiated. Furthermore, the agencies frequently work together after ratification when preparing for periodic meetings of the parties. Actions taken under all five agreements are tracked mainly through periodic meetings of officials from the various implementing agencies and other communications among these officials. The officials noted that they may also consider the views of interest groups and other parties to these agreements to help determine how well U.S. actions are fulfilling commitments. Although the United States has made many commitments under the five agreements and taken numerous actions to fulfill them, we did not find any policy that would require formal tracking of all such commitments and actions. The issue of formally tracking international agreements was raised by the Senate Committee on Finance more than a decade ago.

Officials expressed three reasons why informally tracking U.S. actions is preferable to formally tracking them. First, the current system is effective in helping to ensure that the United States acts to meet its commitments. They added that they were unaware of any instance in which the United States had failed to meet a commitment because it lacked a formal tracking system and we did not find any such instance among the five agreements we reviewed. Second, developing and maintaining a formal tracking system—such as compiling a comprehensive database that captures information on all commitments and actions to fulfill those commitments or requiring periodic progress reports on these matters—would require substantial staff and other costs, which would likely exceed the potential benefits of having such a system. Finally, they noted that most provisions in these international agreements are fairly broad and—even where the provisions are specific—there are generally few mechanisms to penalize a nation for not fulfilling a commitment.

Although three of the five agreements have mechanisms to penalize a nation for not fulfilling certain commitments, they are rarely used and no penalties have been imposed against the United States. Under CITES, parties can disallow imports of CITES-listed species parts and products from countries that are not properly implementing CITES, thus restricting or preventing trade in such items. Under the Montreal Protocol, noncompliance with the treaty can lead to suspension of rights under the treaty, such as technology transfer. Under the North American Agreement, monetary penalties may be levied if a party is found to have a persistent pattern of failing to effectively enforce its environmental laws. However,

---

according to the Secretariat's director of programs, these sanctions have never been applied. Actions have never been taken against the United States, but they have been applied to other nations under CITES, according to State Department officials. Warnings have been given to some nations but not the United States under the Montreal Protocol. No penalties have been imposed against any nation under the North American Agreement, according to the Secretariat's director of programs.

However, the North American Agreement also includes a mechanism for any person or nongovernment organization in the United States, Mexico, or Canada to submit an assertion to the Secretariat that one of the parties is failing to enforce its environmental laws. Assertions have been made involving all three governments. According to EPA officials, the purpose of this provision is to create a public record.

In addition to the informal tracking means and as discussed above in the section on reporting, under the North American Agreement, the United States (like the other parties) submits an annual report on its actions to fulfill the agreement's provisions. According to an EPA official, the detailed reporting format (which lists actions provision by provision) makes the parties' actions transparent and accessible to each other and to the general public.

The issue of tracking international environmental agreements was raised more than a decade ago by the Senate Committee on Finance. The Committee Chairman said many agreements relied on trade restrictions to achieve their goals, but there was no comprehensive and systematic source of information to identify the agreements or their implementation mechanisms. He asked the U.S. International Trade Commission to consider, among other things, a methodology for conducting periodic evaluations of environmental treaties. In response, the Commission conducted a study and reported in 1991 that there was no single source of information on the subject of international environmental agreements and the extent of their effectiveness.<sup>10</sup> The Commission suggested that an "environmental practices report" could be compiled periodically and that such a report could serve to facilitate congressional oversight activities and to indicate the need for appropriate domestic or international

---

<sup>10</sup> U.S. International Trade Commission, *International Agreements to Protect the Environment and Wildlife*, U.S. International Trade Commission Publication 2351 (Washington, D.C.: Jan. 1991).

---

## The Few Available Program Evaluations Deemed U.S. Actions Positive

initiatives. However, the Commission did not address the costs of implementing such a reporting system. When we spoke with the study's project manager last year, he told us that he was unaware of any action taken as a result of the study. Similarly, we found no efforts to implement the concept.

---

Reviews of U.S. actions to fulfill international environmental agreements concur that these actions have had positive effects. We found two evaluations for CITES, four for the Framework Convention, three for the Montreal Protocol, and none for the other two agreements. Specifically:

- The two CITES studies, both conducted by academicians, concluded that the United States had generally fulfilled its obligations by establishing a sophisticated program for implementing CITES. Nevertheless, according to one study, the United States has not been able to prevent all illegal trade in endangered and at-risk species.<sup>11</sup>
- The four Framework Convention studies, performed primarily by EPA contractors, concluded that EPA's programs helped reduce greenhouse gas emissions by spurring the introduction of energy-efficient lighting technology and encouraging producers to include energy-efficiency features in computers and other office equipment.<sup>12</sup>
- The three Montreal Protocol studies presented varied results. Two studies—the one issued in 1998 by EPA's Office of Inspector General and the other published in the same year by two academicians—found that production bans under U.S. law had led to decreases in ozone-depleting chemicals.<sup>13</sup> The third study, issued in 2000 by the Ozone

---

<sup>11</sup> Michael J. Glennon and Alison L. Stewart, "The United States: Taking Environmental Treaties Seriously," and Harold K. Jacobson and Edith Brown Weiss, "Assessing the Record and Designing Strategies to Engage Countries," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, edited by Edith Brown Weiss and Harold K. Jacobson (Cambridge, Mass.: The MIT Press, 1998).

<sup>12</sup> Richard Duke and Daniel M. Kammen, "The Economics of Energy Market Transformation Programs," *The Energy Journal*, Vol. 20, No. 4 (1999); Marvin J. Horowitz, "Economic Indicators of Market Transformation: Energy Efficient Lighting and EPA's Green Lights," *The Energy Journal*, Vol. 22, No. 4 (2001); Gartner Consulting, *Energy Star Consumer Campaign and Product Labeling, Marketing, and Communications: Effectiveness Evaluation* (Dec. 12, 2001); and Carrie A. Webber *et al.*, *Savings Estimates for the Energy Star Voluntary Labeling Program—2001 Status Report*, Feb. 15, 2002.

<sup>13</sup> EPA, Office of Inspector General, *The Effectiveness and Efficiency of EPA's Air Program*, Feb. 27, 1998; and Jacobson and Weiss, *op. cit.*

---

Secretariat of the United Nations Environment Program, noted the growth of illegal trade in ozone-depleting substances in the United States.<sup>14</sup> The report also noted that U.S. authorities responded to such trade by arresting and sentencing many individuals on counts of smuggling the substances.

We identified the studies by conducting a search of online information retrieval systems, asking officials from the lead implementing agencies and State Department for references, and contacting selected secretariats. We did not independently verify the methods used in these studies.

---

## Scope and Methodology

To answer all three questions, we reviewed documents prepared by, and held discussions with officials of, the Department of State and other implementing agencies. These included AID, EPA, Interior, and Treasury. We performed our work from November 2001 through January 2003 in accordance with generally accepted government auditing standards.

---

## Agency Comments

We provided a copy of this draft to the Administrator, AID; Administrator, EPA; Secretary of the Interior; Secretary of State; and Secretary of the Treasury for review and comment. The agencies provided written or oral clarifying comments, which we incorporated where appropriate.

---

As arranged with your offices, we plan no further distribution of this report until 10 days after the date of this letter unless you publicly announce its contents earlier. At that time, we will send copies to appropriate congressional committees; the Administrator, AID; Administrator, EPA; Secretary of the Interior; Secretary of State; and Secretary of the Treasury. We will also make copies available to others upon request. In addition, copies are available at no cost from our Web site, [www.gao.gov](http://www.gao.gov). Should you or your staff need further information,

---

<sup>14</sup> United Nations Environment Program, Ozone Secretariat, *Actions on Ozone*, June 2000.

---

please contact me or David Marwick on (202) 512-3841. Key contributors to this report include Chase M. Huntley, Karen Keegan, Jonathan McMurray, and Daniel J. Semick.

A handwritten signature in black ink, appearing to read "John B. Stephenson".

John B. Stephenson  
Director, Natural Resources  
and Environment

---

## GAO's Mission

The General Accounting Office, the investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through the Internet. GAO's Web site ([www.gao.gov](http://www.gao.gov)) contains abstracts and full-text files of current reports and testimony and an expanding archive of older products. The Web site features a search engine to help you locate documents using key words and phrases. You can print these documents in their entirety, including charts and other graphics.

Each day, GAO issues a list of newly released reports, testimony, and correspondence. GAO posts this list, known as "Today's Reports," on its Web site daily. The list contains links to the full-text document files. To have GAO e-mail this list to you every afternoon, go to [www.gao.gov](http://www.gao.gov) and select "Subscribe to daily E-mail alert for newly released products" under the GAO Reports heading.

---

## Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. General Accounting Office  
441 G Street NW, Room LM  
Washington, D.C. 20548

To order by Phone:      Voice: (202) 512-6000  
                              TDD: (202) 512-2537  
                              Fax: (202) 512-6061

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: [www.gao.gov/fraudnet/fraudnet.htm](http://www.gao.gov/fraudnet/fraudnet.htm)  
E-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)

Automated answering system: (800) 424-5454 or (202) 512-7470

---

## Public Affairs

Jeff Nelligan, managing director, [NelliganJ@gao.gov](mailto:NelliganJ@gao.gov) (202) 512-4800  
U.S. General Accounting Office, 441 G Street NW, Room 7149  
Washington, D.C. 20548