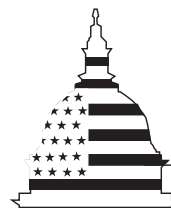


May 1999

INTERNATIONAL ENVIRONMENT

Literature on the Effectiveness of International Environmental Agreements



G A O

Accountability * Integrity * Reliability

Preface

In December 1997, the United States and 37 other nations adopted the Kyoto Protocol to the 1992 United Nations Framework Convention on Climate Change. In it, they agreed in principle to significantly reduce their future greenhouse gas emissions. To obligate the United States to the emissions reductions, the advice and consent of the Senate would be needed. Whether the Senate should take that step has been widely debated, mainly because the reductions could be costly to the U.S. economy and their effectiveness in addressing the problem of global climate change has been questioned. Further fueling the debate is the fact that many of the protocol's provisions, such as those for reporting data on compliance activities as well as those for monitoring and enforcing compliance, have not yet been fully specified. As a result, signatory parties do not know the full extent of what they will be required to do under the protocol, and it is unclear whether all the parties will meet their obligations for sharing the burden of the emissions reductions. During meetings in November 1998, the parties set a deadline of December 31, 2000, for adopting the rules and procedures for compliance and enforcement, and the parties continue to work on developing those provisions.

Ensuring compliance with environmental treaties is a widely recognized problem. Experts in the area acknowledge the need to better specify reporting, monitoring, and enforcement mechanisms, but little agreement exists on how best to do so and there is limited experience to point the way. There is consensus, however, that now—while those provisions for the Kyoto Protocol are being framed—is the time to explore these issues. To assist in that effort, we convened a panel of experts in December 1998 to discuss these issues, and we will issue a report on the results of the expert panel later this year. To assist the panel, we prepared a background paper on ensuring compliance with international environmental agreements. We are publishing that background paper as a staff study to provide a brief summary of the current thinking on compliance issues for the Congress and other policy makers who are considering the workability of the Kyoto Protocol.

Preface

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Abbreviations

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
GAO	General Accounting Office
OECD	The Organisation for Economic Co-Operation and Development
UNEP	United Nations Environment Programme

Summary

Data Reporting

Data on the results of nations' activities undertaken to meet their international environmental obligations are the basis of determining whether each nation is in compliance with the agreements to which it is a party. Historically, such data have had problems, such as being incomplete or inaccurate. As a result, it has often been difficult to determine whether nations are meeting their obligations. For example, in 1996, we reported that the data reported by nations to meet the requirements of the United Nations Framework Convention on Climate Change (Framework Convention) were often incomplete, unreliable, and inconsistent.¹ More recently, as a result of efforts to improve reporting, more complete data are being reported. For example, it appears that the financial assistance to developing countries provided through the Montreal Protocol on Substances That Deplete the Ozone Layer has resulted in those nations reporting better data under that protocol.² However, according to experts, data quality generally remains questionable.

Currently, the Kyoto Protocol to the Framework Convention (Kyoto Protocol) contains the same general requirements and supplementary guidelines for data reporting as the Framework Convention itself. The general requirements for the Framework Convention include the requirement to submit annually a national inventory of anthropogenic (manmade) emissions. The details of methodology and the formats to be used to present the data for those inventories—factors that would facilitate analysis, understanding, and comparability of the data reported—are contained in guidelines that provide considerable flexibility and do not require parties to follow a specific procedure.

Monitoring

Monitoring is the second element necessary to determine whether a nation individually, and all nations collectively, are complying with their international commitments. Generally, monitoring includes the review and analysis of data and other information that allow an assessment of the impact or the extent of progress being made in meeting an agreement's stated goal or objective. Monitoring can be done to determine both procedural compliance and effectiveness. Historically, monitoring activities focused on whether nations implemented processes to transform their international commitments into acceptable rules within their domestic legal systems. However, because enacting domestic laws or

¹Global Warming: Difficulties Assessing Countries' Progress Stabilizing Emissions of Greenhouse Gases (GAO/RCED-96-188, Sept. 4, 1996).

²The Montreal Protocol, adopted in 1987, augments the 1985 Vienna Convention for the Protection of the Ozone Layer.

implementing policies does not ensure that international commitments will be met, more emphasis is now being placed on mechanisms that monitor effectiveness—that is, whether intended outcomes are being achieved.

Self-reported information by the parties to an agreement is the basis for most monitoring that is done. Although international environmental agreements generally provide that the parties will submit periodic reports, these reports have rarely been used for carrying out an effective monitoring program. Recent studies attribute this to the limited nature of the monitoring provisions included in most of these agreements. The reason for the limited monitoring provisions most frequently cited in the current literature is a concern about compromising national sovereignty by allowing for monitoring by outside parties, considered by some to be external policing. Experts have identified several characteristics that should be included in a comprehensive monitoring system. One such characteristic is having specific authority and adequate resources for carrying out the monitoring function. The monitoring provisions contained in the Kyoto Protocol include some of these characteristics; for example, that expert teams will review the data reported by the parties. The United States proposed additional provisions that it believes would better ensure the effectiveness of the treaty in limiting greenhouse gases but that were not included in the protocol. For example, the United States proposed that comments be accepted from the public and other observers on the accuracy of the data provided by the parties.

Enforcement

Enforcement is the final element needed to ensure that nations comply with their international environmental obligations. Few agreements contain formal provisions for enforcement, however, and the enforcement provisions that do exist are used infrequently or inconsistently. For example, the Northwest Atlantic Fisheries Convention's secretariat can adopt proposals to enforce the convention's rules, but its power is limited to areas where coastal nations do not have jurisdiction. Secretariats and other international organizations—the groups typically charged with overseeing these agreements—are often ineffective at enforcement because they are inadequately funded and are limited in their international jurisdiction. This is the case with the United Nations Environmental Programme, established to promote international cooperation on environmental protection but constrained from doing so effectively, primarily by limited resources.

Summary

In recent years, several ways to build credible enforcement mechanisms into international environmental agreements have been suggested; however, there is no consensus on how best to do that. While enforcement mechanisms for the Kyoto Protocol have not been specified, according to the action plan adopted by the parties in November 1998, they will be developed by the end of 2000.

Introduction

Background

The increased understanding of our environment and the recognition that environmental problems do not stop at national boundaries have resulted in global concern about the future of our planet and an increasing number of international agreements to address those concerns. Since 1972, when over 130 nations took part in the United Nations Conference on the Human Environment, the number of multilateral international environmental agreements has grown from fewer than 50 to more than 170.

Developing an international environmental agreement involves achieving a commitment among many nations with various levels of industrial development, technical capabilities, resources, and concern about an environmental problem. It is expected that the parties to the agreement then implement it within their countries by establishing the necessary laws, regulations, and administrative systems. Adopting commitments and implementing laws, however, do not necessarily lead to the changes in behavior that help to solve the environmental problem the agreement is attempting to address. Resources must also be provided to enforce the laws enacted and to evaluate the progress made, making adjustments, over time, as necessary.

The United Nations Framework Convention on Climate Change (Framework Convention) was signed by 154 nations, including the United States, in 1992. The Framework Convention's objective was to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (manmade) interference with the climate system. Under the Framework Convention, both developed and developing countries agreed, for example, to develop and submit reports on their greenhouse gas emissions. In addition to the general provisions agreed to by all countries, developed countries agreed to report on their policies and measures with the aim of returning their greenhouse gas emissions to 1990 levels by the year 2000. However, this goal was not binding on the developed countries.

The Framework Convention entered into force in 1994, and the United States was one of the first nations to ratify it. However, by 1995, the parties to the convention realized that insufficient progress was being made toward its goals and thus decided to begin negotiations on a legally binding protocol. In December 1997, the parties reconvened in Kyoto, Japan, to finalize binding measures to reduce greenhouse gas emissions. The resultant Kyoto Protocol to the Framework Convention established binding emissions reductions for the period 2008 through 2012 for

developed countries and laid the groundwork for additional measures aimed at decreasing greenhouse gas emissions.³

A number of important issues were not addressed at Kyoto: the role of developing nations, the specifics of an emissions-trading program (agreed to in principle), and procedures for determining, and consequences for, noncompliance. Negotiations are continuing on these issues, including provisions that might specify data-reporting requirements, monitoring mechanisms, and enforcement procedures. The Kyoto Protocol, initially adopted by 38 nations, was open for signature by all nations until mid-March 1999. As of that deadline, 84 nations, including the United States, had signed, thereby affirming their commitment to work to meet the protocol's ambitious goals. U.S. ratification of the Kyoto Protocol, which requires the advice and consent of the Senate, is uncertain at this time.

The official representatives of all the countries that have ratified the Framework Convention constitute its Conference of the Parties. This body held its first session in 1995 and will continue to meet annually unless decided otherwise. The Conference of the Parties is served by a secretariat, which administers the agreement. Among other things, the secretariat arranges for conference meetings, drafts official documents, compiles and transmits reports submitted to it, assists the parties in compiling and communicating information, coordinates with the secretariats of other relevant international bodies, and reports on its activities to the Conference of the Parties. The secretariat is operationally independent of the United Nations, but it is linked to the United Nations and its head is appointed by the U.N. Secretary-General in consultation with the parties to the Framework Convention.

Objective, Scope, and Methodology

The objective of this study was to provide background information on provisions that help ensure compliance with international environmental agreements, namely data reporting, monitoring, and enforcement. For the purposes of this study, we will use the following definitions for those terms with respect to international environmental agreements:

- Reporting is providing measurable data on activities undertaken in response to international obligations.

³While the Kyoto Protocol specifies that the emissions reductions are binding, the parties have yet to specify the consequences of not reaching the reduction targets. Those provisions are scheduled to be complete by year-end 2000.

- Monitoring is the review and analysis of the data and other information that allows assessment of the impact or extent of progress being made in meeting the agreement's stated goal or objective.
- Enforcement is a strategy adopted by the parties to an agreement that establishes consequences for a party's noncompliance with its obligations under the agreement.

In examining how to improve nations' compliance with their international environmental obligations, we are taking a "results-oriented" approach. That is, we will explore those aspects of reporting, monitoring, and enforcement that are designed to ensure that signatory nations' actions result in achieving the Framework Convention's objectives.

We surveyed our past reports and other relevant literature on the subject and summarized the results of our analysis. (See the bibliography for a list of the works we included in this effort.) The information presented in this study draws on information provided by a number of authors. We tended to cite those authors who provided specific examples to illustrate the points made. We did not attempt to verify the accuracy of the information presented in the literature. Our expert panelists, including an official from the Department of State, reviewed a draft of this study, and we incorporated their comments where appropriate. Susan R. Fletcher, Senior International Environmental Policy Analyst, Congressional Research Service, also contributed to this study. We performed our work from July 1998 through May 1999.

National Data Often Do Not Provide a Basis for Assessing Nations' Compliance With Agreements

Data on the activities that nations are undertaking to meet their international environmental obligations are the basis of determining whether each nation is in compliance with the agreement to which it is a party. Historically, such data have had problems, such as being incomplete or inaccurate. As a result, it has often been difficult to determine whether nations are meeting their obligations. More recently, efforts to improve reporting rates have resulted in more complete data on nations' compliance activities. However, data quality remains questionable. Currently, the Kyoto Protocol's requirements for data reporting consist of general requirements and supplemental guidelines. These guidelines provide the parties with considerable flexibility.

Data Are Critical to Determining Compliance

Data on the activities that nations undertake to respond to their international environmental obligations are the basis of evaluating whether nations have fulfilled those obligations. The data form the first step in the evaluation process by providing measurable information on the results of nations' activities. Once the activities have been measured, the data can be verified for accuracy, compared with the performance criteria, and otherwise examined to conclude whether a nation has achieved the agreed-to results. To be useful, the data must meet a number of criteria, including completeness, accuracy, understandability, uniformity, and timeliness.

Problems With Self-Reported Data Exist

The data on nations' activities typically result from a requirement in most international environmental agreements that each nation report on its own behavior. Our studies and those by others have shown that national data reports have many problems. For example, in 1996 we examined the progress of the United States and other signatory nations in meeting the goal of the Framework Convention to reduce greenhouse gas emissions to 1990 levels by 2000. The Framework Convention requires signatory nations to adopt policies and measures to limit greenhouse gases and to submit detailed plans showing how each will help emissions return to 1990 levels. We reported, however, that the nations' self-reported emissions data were often incomplete, unreliable, and inconsistent.⁴ For example, as of February 1996, some data on 1990 emissions levels were available for only 29 of the 36 parties to the Framework Convention.⁵ The data were incomplete largely because the Framework Convention's reporting

⁴Global Warming: Difficulties Assessing Countries' Progress Stabilizing Emissions of Greenhouse Gases, p. 2.

⁵The United States and other countries signed the Framework Convention in 1992.

requirements were not specific and were developed only after some nations had submitted their reports. Consequently, the nations' progress in meeting the convention's goals could not be fully assessed. According to experts, ambiguity in the language of international environmental agreements frequently contributes to these types of data problems.

In its October 1998 report on monitoring and reporting under the Kyoto Protocol, the Organisation for Economic Co-Operation and Development reported further that, after two full rounds of national reporting under the Framework Convention, a number of important gaps in reporting were apparent: data were missing, parties submitted their reports late, and information about how the data were prepared was lacking.⁶

The Quantity of Reported Data Has Improved, but the Quality of Data Is Questionable

Problems with self-reported data have long been recognized, and in response, some international environmental agreements have begun including provisions to improve reporting rates. One way to improve data reporting is through financial assistance to developing nations that lack the administrative capacity to fulfill their reporting requirements. For example, the Montreal Protocol on Substances That Deplete the Ozone Layer (Montreal Protocol) has a multilateral fund designed to boost developing nations' activities to comply with the protocol's provisions.⁷ The fund pays for projects in developing nations that gather baseline data and build the administrative capacity to report the data. According to experts, this financial assistance to developing nations has resulted in better self-reporting of certain data under the Montreal Protocol. These improvements notwithstanding, the poor quality of self-reported data continues to be a problem under international environmental agreements. Experts familiar with numerous studies of the issue have noted that the data continue to be difficult to compare and their accuracy is often low or unknown.⁸

⁶Jan Corfee Morlot, *Monitoring, Reporting and Review of National Performance Under the Kyoto Protocol*, OECD Information Paper (Paris, France: Organisation for Economic Co-Operation and Development, 1998), pp. 5, 29.

⁷The Montreal Protocol, adopted in 1987, augments the 1985 Vienna Convention for the Protection of the Ozone Layer.

⁸International Institute for Applied Systems Analysis, *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice*, eds., David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff (Cambridge, Mass.: MIT Press, 1998), pp. 111, 678-80.

Data Reporting Requirements Under the Kyoto Protocol Are Minimal

The Kyoto Protocol incorporated the general reporting requirements and supplemental guidelines of the Framework Convention. Parties are required to submit to the secretariat a national inventory of anthropogenic emissions of greenhouse gases, a general description of steps taken or to be taken to implement the protocol, and any other information that the party considers relevant. In addition to these requirements, the parties adopted guidelines that recommend methodologies for the parties to use in gathering their inventory data, the level of detail to include in the reports, and presentation formats to follow. The guidelines were developed to help ensure that the national reports are consistent and comparable; however, they provide considerable flexibility and do not require parties to follow a specific procedure. In addition, the protocol currently does not specify any penalties for not meeting the general requirements or following the guidelines. According to the work plan adopted by the parties in November 1998, those are to be developed by the end of 2000.

Monitoring of International Environmental Agreements Has Been Limited

Monitoring is necessary to determine whether a nation individually, and all nations collectively, are complying with their international environmental obligations. Until recently, international environmental agreements had few established formal mechanisms for monitoring. Periodic reporting by the parties was the primary monitoring mechanism included in such agreements; however, effective use of the reports for carrying out the monitoring function has been limited. Experts have suggested several characteristics that should be included in a comprehensive monitoring system. The Kyoto Protocol has specified some basic provisions for monitoring. The United States proposed additional provisions that might better ensure the effectiveness of the agreement to limit greenhouse gases, but these provisions have not as yet been included in the protocol.

Monitoring Is Needed to Ensure Compliance

The monitoring done under international environmental agreements includes the review and analysis of reported data and other information that allow assessment of the impact or extent of progress being made in meeting a stated goal or objective, such as implementing an agreement's provisions. Monitoring can also include independent verification that involves determining whether the reported data or other information accurately reflects the existing situation or condition. Verification can be done through performing on-site inspections, obtaining information from another source, or doing an independent analysis and reaching the same conclusion as the original assessment.

Monitoring can determine both procedural compliance and effectiveness—that is, whether intended outcomes are being achieved. Historically, most monitoring activities have focused on whether nations have implemented processes to transform their international obligations into acceptable rules within their domestic legal systems. However, the implementation of domestic policy or laws that conform to an agreement, commonly referred to as compliance, does not ensure that the agreement's goals or objectives will be achieved. Meeting the goals of international environmental agreements generally requires influencing the behavior not only of governments but also of a large number of firms, individuals, agencies, and other entities that do not necessarily change their behavior simply because governments have signed an agreement. Thus, influencing the behavior of these entities often entails a complex process of forming and adjusting domestic policy to conform to the standards contained in an agreement.

According to experts, international law is filled with examples of agreements that have had high formal levels of compliance but have had only limited influence on the behavior of the regulated entities. For example, from the inception of the International Convention for the Regulation of Whaling in 1946 until the early 1960s, the level of compliance with its catch quotas was nearly perfect. This was because those quotas were set very high and did not require the parties to decrease their catches.⁹ Determining whether the goals and objectives are being met requires going beyond implementation to evaluate effectiveness. Thus, effectiveness is the extent to which international agreements lead to changes in behavior that help to solve environmental problems. Recently, more attention has been given to whether performance targets—such as emission targets like those specified in the Kyoto Protocol—have been met.

International environmental agreements such as the Kyoto Protocol can involve a substantial economic investment by countries that are serious about implementation. In addition, because of the large number of entities within each country that may have to change their behavior if the objectives of the agreement are to be achieved, extensive monitoring over large geographic areas may be required, making the monitoring function itself costly. Particularly where the costs of implementation are high, parties to international agreements may be reluctant to implement the measures needed to ensure that commitments are met unless they are confident that others will do the same. In these cases, having mechanisms included in the agreements to monitor when and how parties are implementing these measures can help to build confidence that agreements are, in fact, being put into practice.

**Most International
Environmental
Agreements Include
Only Limited
Monitoring Provisions**

Until recently, international environmental agreements have contained few substantive mechanisms for monitoring and evaluation. Although several agreements have provided for periodic reporting by the parties, these reports have rarely been used to carry out an effective monitoring program. Recent studies provide some possible reasons for the limited nature of monitoring. One possible reason is the concept of state sovereignty, which has resulted in nations not being willing to accept external scrutiny. One author pointed out, for example, that nations find it difficult to relinquish some of their sovereign authority to an international

⁹Implementation and Effectiveness of International Environmental Commitments, p. 7.

organization.¹⁰ For this reason, nations have been allowed to monitor or report on their own compliance and thus avoid any potential sovereignty questions that could result from external monitoring. However, at least partly because of the problems of low reporting rates and quality of reported data as discussed in the previous chapter, the effectiveness of such self-monitoring provisions is questionable.

Another possible reason is that international environmental agreements generally do not provide specific authority or adequate resources to carry out an effective monitoring function. As we pointed out in our 1992 report on the monitoring of international environmental agreements, generally the role of the treaty secretariats established by the parties is to help implement agreements by collecting and distributing information and providing some technical assistance.¹¹ We further stated, however, that although most of the secretariats had distributed lists of nonreporting parties at various times to generate peer pressure to stimulate compliance with reporting provisions, they had not been given the authority to monitor the agreements through verifying the information parties reported or independently assessing compliance.

In addition, of the eight major international environmental agreements reviewed in that report, only one—the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), ratified by 112 countries—granted its secretariat specific authority and established a formal mechanism for assessing compliance. Under this agreement, the secretariat analyzes the data it receives and publishes reports detailing violations. In the case of particularly egregious violations, the secretariat may also recommend that parties cease trading with the particular party found to be in noncompliance.

With respect to funding, we also stated in our 1992 report that secretariats generally had limited and unstable funding. We showed that the secretariats of the eight agreements we reviewed were small organizations, with staffs of 4 to 20 people and annual budgets of less than \$1 million to \$3 million in 1990. We pointed out that each secretariat was funded by voluntary contributions from parties and/or by resources apportioned by a related parent organization, which in many cases also operate largely on financial contributions from member nations. For

¹⁰Andrew Watson Samaan, "Enforcement of International Environmental Treaties: An Analysis," *Fordham Environmental Law Journal*, Vol. 5 (Fall 1993), p. 278.

¹¹*International Environment: International Agreements Are Not Well Monitored* (GAO/RCED-92-43, Jan. 27, 1992), pp. 28-33.

example, CITES had a staff of 18 and funding of about \$2.5 million in 1990. The secretariat's officials told us that parties had never approved a budget with sufficient funds to cover all of the activities needed to implement the agreement. In addition to its administration duties and assessing the compliance of its 112 member nations, this secretariat also conducted studies to help determine whether certain species should be protected under CITES and provided certain technical assistance.

Among other possible reasons for the lack of monitoring provisions is that the nature of the agreement or the environmental problem being addressed does not require the need for detailed monitoring provisions. In some cases, agreements may not require parties to change their behavior, and thus monitoring for compliance is not required. The high catch quotas established by the International Convention for the Regulation of Whaling between 1946 and the early 1960s, cited earlier in this chapter, are an example of such an agreement. Recent studies, however, indicate that more frequently now than in the past, international environmental agreements are requiring regular reporting by the parties and reviews of these reports and, in some cases, include mechanisms for verification.

Experts Have Identified the Characteristics Needed for Effective Monitoring

Experts have identified three factors that should be included in an agreement to establish effective monitoring and verification. First, they have suggested that authority and responsibility for carrying out the monitoring function need to be specified and that adequate resources need to be provided. According to one expert, successive rounds of subjecting data to a monitoring process generally provide an incentive for parties to improve the quality of reported data.¹²

Next, some experts have suggested that specific criteria and standard monitoring techniques need to be established to ensure their perceived legitimacy. Many experts believe that ambiguity or vagueness of treaty language, obligations, and requirements makes implementing international commitments and judging compliance difficult. Studies have shown that how an international agreement is constructed—the exact commitment, its scope, clarity, and application—can be critical to its success. Furthermore, as stated by one expert, implementation experiences of nations often vary because of differences in their interpretation of the commitments.¹³ As a result, some experts have suggested that agreements should include a review process with specific review and evaluation procedures. One study

¹²Implementation and Effectiveness of International Environmental Commitments, p. 680.

¹³Implementation and Effectiveness of International Environmental Commitments, p. 659.

also suggests that guidance on the nature of the reviews should be clear and the review function should be overseen by the secretariat to ensure its neutrality and consistency.¹⁴ Another study, prepared for EPA's Office of Policy, stated that monitoring procedures need to be carefully considered. The study stated that the procedures developed must be credible but not overly bureaucratic. In addition, according to the study, strict rules lead to complex procedures, increasing the cost of compliance and reducing an agreement's cost-effectiveness; conversely, if the rules are too loose, then the parties can manipulate the results.¹⁵

Finally, experts have suggested that the monitoring function should be transparent and provide for participation and comments by interested parties. Making both the information and the methodologies that were used to compile that information widely available and permitting participation in the policy process are basic tenets of modern governance. The right to have access to such information on the environment is a recent development in international law. Public dissemination of information about parties' progress can play a key role in the implementation of environmental agreements. Specifically, the information serves to assure each party that others are sharing the burden of implementation as agreed, which is particularly important in light of the high costs and the effects on international competitiveness that may result from implementing an agreement.

Our 1992 report suggested, for example, that when the costs of implementing an agreement are high, nations might be more willing to open up their actions for review to ensure that implementation is equitable and that all parties are honoring their commitments. In addition, the sharing of information allows not only a comparison of the experiences of the nations reviewed but also an assessment of what is working and what opportunities exist to adjust goals or procedures, as needed.

According to some experts, participants should include not only environmental and public interest nongovernmental organizations but also the target groups that must change their behavior if an agreement's goals are going to be met. Worker and employer representation is a feature, for example, of the International Labor Organization, a specialized agency of the United Nations that coordinates the development and implementation of more than 160 international labor conventions intended to safeguard

¹⁴Monitoring, Reporting, and Review of National Performance Under the Kyoto Protocol, pp. 27-28.

¹⁵Edward Vine and Jayant Sathaye, *The Monitoring, Evaluation, Reporting, and Verification of Climate Change Mitigation Projects: Discussion of Issues and Methodologies and Review of Existing Protocols and Guidelines* (Berkeley, Calif.: Lawrence Berkeley National Laboratory, Dec. 1997), p. ii.

workers' rights and ensure safe workplaces. This organization requires its member nations to regularly submit reports to the worker and employer representatives for comments, which are subsequently reviewed by an independent body appointed by the organization. According to one expert, target group participation would also provide better information on the range of possible policy options, technical feasibility, and costs and benefits.¹⁶

The Kyoto Protocol Contains Some Monitoring Provisions

The Kyoto Protocol contains various monitoring provisions. Among other things, expert teams are to review the information in national reports submitted by the parties. Other provisions—suggested by the United States to strengthen monitoring—were not incorporated into the protocol.

The monitoring provisions in the protocol state that information contained in the parties' national reports is to be reviewed by teams of experts nominated by the parties and by intergovernmental organizations. The teams are to conduct the reviews by following guidelines and relevant decisions provided by the Conference of the Parties. According to the protocol, the review process will provide a thorough and comprehensive technical assessment of all aspects of the protocol's implementation by a party. The protocol further states that the review teams will prepare a report to the Conference of the Parties that assesses the implementation of the commitments and identifies any potential problems in, and factors influencing, the fulfillment of commitments.

Under the protocol, the secretariat will coordinate the review teams, circulate the teams' reports to all parties to the Framework Convention, and identify questions about parties' implementation indicated by the reports for further consideration by the Conference of the Parties. In addition to establishing the guidelines for the reviews, the Conference of the Parties will consider the reports of the expert review teams along with the information submitted by the parties and those implementation questions identified by the secretariat.

Prior to the development of the Kyoto Protocol, the United States proposed provisions for the Framework Convention's monitoring process. Although the protocol included many of these features, among them the use of independent review teams and the establishment of guidelines for the review process by the Conference of the Parties, it omitted several others. First, the U.S. proposal explicitly provided that the review teams

¹⁶Implementation and Effectiveness of International Environmental Commitments, p. 666.

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Monitoring of International Environmental
Agreements Has Been Limited

would assess both the progress of implementation and the effectiveness of meeting the protocol's goals. The proposal provided for assessing the effectiveness of the compliance and enforcement programs established as well as the individual measures reported. Second, the U.S. proposal included specific mechanisms that would allow observers and the public to provide comments and supplemental data to facilitate and improve the reviews.

Adopting these specific suggestions would increase the transparency of the process and help to provide assurance that the actions being taken will achieve the Kyoto Protocol's objectives. Although these specific suggestions were not incorporated into the monitoring provisions of the protocol, it is possible that when the guidelines for the review process are established, they will include additional portions of the U.S. proposal.

International Environmental Agreements Are Rarely Enforced

Enforcement is the final element needed to help ensure that nations comply with their international environmental obligations. Few agreements contain formal provisions for enforcement, however, and the enforcement provisions that do exist are used infrequently or inconsistently. Limited funding and international jurisdiction are two of the reasons that the enforcement of international environmental agreements has not been effective. International organizations, such as the United Nations Environment Programme (UNEP), often lack the jurisdiction to enforce their decisions.

In recent years, ways to build credible enforcement mechanisms into international environmental agreements have been suggested, but no consensus exists on how best to do that. To date, enforcement provisions have not been specified for the Kyoto Protocol, even though the emissions targets are supposed to be binding on the parties. In designing those provisions to be effective, a number of issues, such as the funding of an enforcement authority, international jurisdiction problems, and penalties, should be taken into consideration. At the fourth Conference of the Parties in Buenos Aires in November 1998, a work plan to complete the enforcement provisions by year-end 2000 was agreed to.

Few International Environmental Agreements Have Enforcement Provisions, and Existing Provisions Are Not Used Effectively

Few international environmental agreements contain enforcement provisions; it is generally thought that if stringent provisions were included, fewer nations would participate and treaty obligations would be weaker. Instead, the enforcement of compliance with treaty obligations generally depends on peer or public pressure on nations. Even when agreements do include enforcement provisions, resource constraints and other factors may limit their effectiveness.

For example, according to one expert, the Commission on the Conservation of Antarctic Marine Living Resources was established to function as the primary conservation organization for the southern Atlantic Ocean. However, the secretariat for the commission is limited in its enforcement capacity in two key respects. First, the agreement has no specific enforcement procedures—the only enforcement mechanism at the secretariat's disposal is its ability to publicize nations' noncompliance. Second, according to the agreement, the secretariat's decisions must have the support of a consensus of the members, thus effectively giving any member the right to veto any proposed enforcement measures against it.

Although some international environmental agreements contain enforcement provisions, these provisions are used infrequently or ineffectively. For example, the Northwest Atlantic Fisheries Convention, which applies to all waters of the northwest Atlantic Ocean, has the authority to establish and allocate fishing quotas for all convention members. The convention's Fisheries Commission, which is the body responsible for managing the convention's resources, can adopt proposals for the enforcement of the convention's rules. However, the commission has jurisdiction only in the area that is beyond the coastal nations' 200-mile economic zone; thus, the commission has no jurisdiction over some of the most productive fishing areas. In addition, the convention allows any member of the agreement to exempt itself from any enforcement proposal by the commission by lodging an objection. The convention also allows members to choose not to be bound by the commission's rules already in force. Finally, although the convention allows members to board and inspect the vessels of other member nations, only the nation under whose flag a vessel is operating can prosecute and sanction a vessel's owner for violations. Nations are often reluctant to penalize their own vessels. As one study of the convention's 1993 records showed, of 49 vessels charged with offenses, only 6 were prosecuted.¹⁷

Finally, as several experts have pointed out, the ambiguity of the language and definitions in international environmental agreements makes enforcement of their provisions problematic because it is difficult to determine whether a nation has met its obligations. Consequently, secretariats spend their time and resources dealing with contested actions by member nations rather than enforcing compliance and bringing pressure on acknowledged violators.

Secretariats Are Insufficiently Funded and Lack International Jurisdiction to Enforce Agreements

According to one expert, the secretariats for international environmental agreements are in the logical position to enforce compliance with treaty obligations.¹⁸ However, most secretariats do not have enforcement authority. Those that do have the authority may be limited in their enforcement ability for two reasons. First, because their funding is limited or unstable, as discussed earlier, they often lack the institutional capacity to fulfill all of their responsibilities. Second, the secretariats lack the international jurisdiction that is needed to carry out enforcement. Therefore, secretariats have no means of forcing member nations to abide

¹⁷David S. Ardia, "Does the Emperor Have No Clothes? Enforcement of International Laws Protecting the Marine Environment," *Michigan Journal of International Law*, Vol. 19 (Winter 1998), pp. 531-3.

¹⁸"Does the Emperor Have No Clothes?," p. 512.

by the rules established by the agreements. As a result, secretariats rarely act as enforcers. Secretariat officials stress that they have neither the resources nor the authority to perform enforcement and that they, instead, view themselves as information clearinghouses and facilitators.

International Organizations Lack Jurisdiction to Enforce Agreements

No centralized regulatory body has jurisdiction or enforcement authority for international environmental agreements. As a result, the effectiveness of international agreements depends almost entirely on voluntary compliance.

According to experts, the United Nations General Assembly, in 1972, established UNEP with a governing council and secretariat to promote international cooperation on environmental protection and to coordinate environmental action within the United Nations. However, UNEP is relatively small, limited by personnel and financial constraints. It does not have the ability to create binding international law and must rely on member nations to implement and comply with its enforcement policies. In the assessment of many observers, UNEP has generally not been an effective oversight and enforcement institution because of its limited formal powers. In addition, UNEP's funding has been criticized as inadequate because its primary source is voluntary contributions to its Environment Fund. In 1993, the UNEP Governing Council acknowledged these limitations when it shifted its focus from environmental monitoring to helping developing countries use environmentally sound technologies.

Without an organization to enforce international environmental agreements, compliance depends on the willingness of nations to abide by the provisions and enforce compliance among their citizens. When complying with a particular provision or commitment becomes contrary to a nation's interests—for either sociopolitical or economic reasons—it is less likely that the nation will enforce compliance. In addition, many countries, particularly developing countries, lack the financial and technological capacity to meaningfully enforce environmental regulations.¹⁹

¹⁹“Enforcement of International Environmental Treaties,” p. 273; and “Does the Emperor Have No Clothes?,” pp. 505, 510, 512-3, 523-4.

International Officials and Legal Scholars Suggest the Need for Credible Enforcement Mechanisms

In recent years, ideas about how to enhance enforcement of international environmental agreements have emerged. Two multilateral documents and one country report have set forth enforcement proposals for protecting the international environment. Academic theories provide additional recommendations. However, there is little agreement on how to improve the enforcement of agreements, and, currently, the Kyoto Protocol does not include provisions for enforcement. The following are some recent proposals for enhancing enforcement.

The World Commission. In 1987, a group of legal experts of the World Commission on the Environment and Development proposed the creation of a centralized organizational structure, a Commission for the Environment, to oversee international environmental agreements and to hear nations' complaints about violations.²⁰ A United Nations High Commissioner would head the commission, hear complaints about violations, and issue reports on the violations. (This plan for a high commissioner and a commission empowered to hear complaints and issue reports mirrors the strategy used by the United Nations human rights and refugee organizations.) Although this proposal contained a draft convention, as well as General Principles on Environmental Protection and Sustainable Development, the international community has not adopted it. Most likely this is because the document had no binding force and was not issued by an official United Nations organization.

The Hague Declaration. The Declaration of the Hague on the environment, issued in 1989 by an international conference of government policy makers, scientists, and environmentalists focused on climate change, called for a "new institutional authority" to combat global warming. The authority would be created within the United Nations system and would have decision-making and enforcement powers. The declaration was not specific on the form that the authority should take, nor did it propose any type of design. Citing the Hague declaration as a step in the right direction, one legal expert has suggested that the 1974 Convention on the Protection of the Environment, which is a general treaty that addresses the environment as a whole, could be used as a model. This 1974 convention created a right of action against a nation for anyone who is affected by environmentally harmful activities in that nation and requires each party to the agreement to establish a special authority to safeguard general environmental interests. The expert believes that the convention could be used as a model for future conventions that address environmental issues because it would allow nations to protest any activity that has been proven

²⁰"Enforcement of International Environmental Treaties," p. 274.

harmful to the common environment. This would eliminate diplomatic, political, and economic pressures against the protesting nations.²¹

The Soviet Initiative. A third recommendation, made by the former Soviet Union,²² would create a cadre of what one author called “green troops”—modeled after the peacekeeping and peacemaking efforts of the United Nations. The proposal would also create and staff centers responsible for collecting and analyzing environmental data, deploying the troops to the scenes of environmental disasters, conducting inspections, verifying treaty compliance through on-site inspections, and assessing damage.

Academic Proposals. Academic thinking on how to best incorporate enforcement mechanisms into treaties falls into three schools of thought.

- One group stresses that there is a need for a central authority to coordinate efforts and maintain a steady flow of information on the global environment. The central authority would also set and enforce rules.²³
- A second group stresses a process of interaction and cooperation among the parties involved. They believe that most treaty violations are not premeditated or deliberate but are instead caused by the ambiguity and indeterminacy of the treaty language, the domestic limitations of the parties’ abilities to carry out their responsibilities, and the time constraints imposed by treaties on the participants. Therefore, the best way to ensure compliance is not the threat of punishment but a process of interaction and cooperation among the parties involved, including improved dispute resolution, technical and financial assistance, and oversight and public participation.²⁴
- A third group notes that inducing nations to participate in collective deliberation and exposing them to new information could produce a shift in their domestic environmental policies. This group expects that the nations will change their environmental activities as they are exposed to the potential benefits of international environmental cooperation. They believe the nature of the commitments should be as unthreatening as

²¹“Enforcement of International Environmental Treaties,” p. 279.

²²The Soviet proposal was cited in Thomas M. Franck, “Soviet Initiatives: U.S. Responses—New Opportunities for Reviving the United Nations Systems,” *American Journal of International Law*, Vol. 83 (1989), p. 531.

²³“Does the Emperor Have No Clothes?,” p. 544 and “Enforcement of International Environmental Treaties,” pp. 279-80.

²⁴George W. Downs, “Enforcement and the Evolution of Cooperation; A Symposium on Implementation, Compliance, and Effectiveness,” *Michigan Journal of International Law*, Vol. 19 (Winter 1998), pp. 328-35.

Chapter 4
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Are Rarely Enforced

possible and consist of few, if any, specific performance targets or timetables, emphasizing dispute resolution and negotiated compliance management techniques to the exclusion of more coercive enforcement mechanisms.²⁵

²⁵“Enforcement and the Evolution of Cooperation,” pp. 336-43.

Bibliography

Alvarez, Jose. "Foreword: Why Nations Behave; A Symposium on Implementation, Compliance, and Effectiveness." Michigan Journal of International Law, Vol. 19 (Winter 1998), pp. 303-17.

Anderson, J. W., Richard Morgenstern, and Michael Toman. "At Buenos Aires and Beyond." Resources (Winter 1999), pp. 6-10.

Ardia, David S. "Does the Emperor Have No Clothes? Enforcement of International Laws Protecting the Marine Environment; A Symposium on Implementation, Compliance and Effectiveness." Michigan Journal of International Law, Vol. 19 (Winter 1998), pp. 497-567.

Bakke, Lila F. "Wrap-Up Plenary: What's Next on Implementation, Compliance, and Effectiveness?" American Society of International Law Proceedings, Vol. 91 (Apr. 9-12, 1997), pp. 504-18.

Barrett, Scott. "Economic Incentives and Enforcement Are Crucial to a Climate Treaty." Perspectives on Policy: Do International Environmental Agreements Really Work? Washington, D.C.: Resources for the Future, Dec. 1997.

Bell, Ruth Greenspan. "Developing a Culture of Compliance in the International Environmental Regime." Environmental Law Reporter, Vol. 27 (Aug. 1997), pp. 10402-12.

—. "Signing a Climate Treaty Is the Easy Part; Implementing and Enforcing Agreed-Upon Actions Pose Many Challenges." Perspectives on Policy: Do International Environmental Agreements Really Work? Washington, D.C.: Resources for the Future, Dec. 1997.

Benedick, Richard. "The U.N. Approach to Climate Change: Where Has It Gone Wrong?" Perspectives on Policy: Do International Environmental Agreements Really Work? Washington, D.C.: Resources for the Future, Dec. 1997.

Danish, Kyle. "The New Sovereignty: Compliance With International Regulatory Agreements." Virginia Journal of International Law, Vol. 37 (1997), pp. 789-810.

Downs, George W. "Enforcement and the Evolution of Cooperation; A Symposium on Implementation, Compliance, and Effectiveness." Michigan Journal of International Law, Vol. 19 (Winter 1998), pp. 319-44.

Bibliography

Gavouneli, Maria. "Compliance With International Environmental Treaties: The Empirical Evidence." American Society of International Law Proceedings, Vol. 91 (1997), pp. 234-58.

Goldberg, Donald M., Glenn Wiser, Stephen J. Porter, and Nuno LaCasta. "Building a Compliance Regime Under the Kyoto Protocol." Washington, D.C.: Center for International Environmental Law, Dec. 1998.

Hahn, Robert W., and Robert N. Stavins. "Thoughts on Designing an International Greenhouse Gas Trading System." Conference presentation at Climate Change Policy: The Road to Buenos Aires, American Enterprise Institute for Public Policy Research, Sept. 14, 1998.

International Institute for Applied Systems Analysis. The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice. Eds., David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff. Cambridge, Mass.: MIT Press, 1998.

Jacobson, Harold K. "Afterword: Conceptual, Methodological, and Substantive Issues Entwined in Studying Compliance; A Symposium on Implementation, Compliance and Effectiveness." Michigan Journal of International Law, Vol. 19 (Winter 1998), pp. 569-79.

Jones, Timothy T. "Implementation of the Montreal Protocol: Barriers, Constraints and Opportunities." Environmental Lawyer, Vol. 3 (1997), pp. 813-58.

Kerr, Suzi. "Enforcing Compliance: The Allocation of Liability in International GHG Emissions Trading and the Clean Development Mechanism." Climate Issue Brief, No. 15. Washington, D.C.: Resources for the Future, Oct. 1998.

La Rovere, Emilio Lebro. "The Key Issue Left Unresolved in Kyoto: Penalties for Non-Compliance." Perspectives on Policy: How Workable Is the Kyoto Protocol for Developing Countries? Washington, D.C.: Resources for the Future, July 1998.

Moomaw, William R. "International Environmental Policy and the Softening of Sovereignty." Fletcher Forum of World Affairs, Vol. 21 (Fall 1997), pp. 7-15.

Bibliography

Morlot, Jan Corfee. Monitoring, Reporting and Review of National Performance Under the Kyoto Protocol. OECD Information Paper. Paris, France: Organisation for Economic Co-Operation and Development, 1998.

Narain, Sunita. "Rising Above the World of Post-Kyoto Politics." Perspectives on Policy: How Workable Is the Kyoto Protocol for Developing Countries? Washington, D.C.: Resources for the Future, July 1998.

O'Connell, Mary Ellen. "Enforcement and the Success of International Environmental Law." Global Legal Studies Journal, Vol. 3 (1995), pp. 47-64.

Romano, Cesare P. R. "A Proposal to Enhance the Effectiveness of International Environmental Law: The International Environmental Ombudsman." Earth Summit Watch Programs, New York University Law School, Clinic on International Environmental Law, Spring 1997.

Samaan, Andrew Watson. "Enforcement of International Environmental Treaties: An Analysis." Fordham University Environmental Law Journal, Vol. 5 (Fall 1993), pp. 261-83.

Scott, Gary L., Geoffrey M. Reynolds, and Anthony D. Lott. "Success and Failure Components of Global Environmental Cooperation: The Making of International Environmental Law." International Law Students Association Journal of International and Comparative Law, Vol. 2 (Fall 1995), pp. 23-59.

Shogren, Jason. "Benefits and Costs of Kyoto." Conference presentation at Climate Change Policy: The Road to Buenos Aires, American Enterprise Institute for Public Policy Research, Sept. 14, 1998.

United Nations. Declaration of the Hague. Concluded at the Hague, Mar. 11, 1989. U.N. Doc. A/44/340-E/1989/120 Annex (1989) 28 I.L.M. 1308 (1989).

—. Framework Convention on Climate Change. Concluded at Rio de Janeiro, May 29, 1992. Reprinted in 31 I.L.M. 849 (1992) (also at <http://www.unfccc.de/>).

—. Kyoto Protocol to the United Nations Framework Convention on Climate Change. Conference of the Parties, Third Session, Concluded at

Kyoto, Dec. 10, 1997. FCCC/CP/1997/L.7/Add.1 (also at <http://www.unfccc.de/>).

U.S. Department of State. The Buenos Aires Climate Change Conference (fact sheet). Bureau of Oceans and International Environmental and Scientific Affairs. Washington, D.C.: Dec. 1998.

— Fact Sheet on Supplemental United States' Climate Change Proposals. Bureau of Oceans and International Environmental and Scientific Affairs. Washington, D.C.: June 1997.

— The Kyoto Protocol on Climate Change (fact sheet). Bureau of Oceans and International Environmental and Scientific Affairs. Washington, D.C.: Jan. 15, 1998.

— 1997 Submission of the United States of America Under the United Nations Framework Convention on Climate Change. Bureau of Oceans and International Environmental and Scientific Affairs. Washington, D.C.: July 1997.

U.S. General Accounting Office, Climate Change: Information on the U.S. Initiative on Joint Implementation (GAO/RCED-98-154, June 29, 1998).

— Global Warming: Difficulties Assessing Countries' Progress Stabilizing Emissions of Greenhouse Gases (GAO/RCED-96-188, Sept. 4, 1996).

— International Environment: International Agreements Are Not Well Monitored (GAO/RCED-92-43, Jan. 27, 1992).

— International Environment: Operations of the Montreal Protocol Multilateral Fund (GAO/T-RCED-97-218, July 30, 1997).

— International Environment: Strengthening the Implementation of Environmental Agreements (GAO/RCED-92-188, Aug. 24, 1992).

Vine, Edward, and Jayant Sathaye. The Monitoring, Evaluation, Reporting, and Verification of Climate Change Mitigation Projects: Discussion of Issues and Methodologies and Review of Existing Protocols and Guidelines. Berkeley, Calif.: Lawrence Berkeley National Laboratory, Dec. 1997.

Bibliography

Visek, Richard C. "Implementation and Enforcement of EC Environmental Law." Georgetown International Environmental Law Review, Vol. 7 (Fall 1995), pp. 377-419.

Wiener, Jonathan Baert. "Designing Markets for International Greenhouse Gas Control." Climate Issue Brief, No. 6. Washington, D.C.: Resources for the Future, Oct. 1997.

Youel, Kathryn S. "Theme Plenary Session: Implementation, Compliance and Effectiveness." American Society of International Law Proceedings, Vol. 91 (Apr. 9-12, 1997), pp. 50-73.

Zhong, Ma, Yoshitaka Nitta, and Michael Toman. "International Cooperation for Reducing Greenhouse Gas Emissions: From Theory to Practice Through Technology Transfer." Summary of a China/Japan/U.S. Joint Project. Beijing Environment and Development Institute, Central Research Institute for the Electric Power Industry, and Resources for the Future, Dec. 1997.

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