

Chapter 4

THE INTERNATIONAL RESPONSE TO CLIMATE CHANGE: THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

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I. AN INTRODUCTION TO INTERNATIONAL LAW

Climate change is inherently a global issue. Not only are the impacts of climate change felt by all countries, but greenhouse gas emissions mix in the atmosphere evenly and contribute to global climate change the same no matter where on the planet they are emitted. Even if one country (or several countries) stopped emitting all of its greenhouse gases, this would neither solve the problem of climate change nor shield the country from the impacts of climate change

caused by the rest of the world's emissions. Solving climate change thus requires international cooperation and, at least to some extent, the application of international law.

International law has its own unique processes for lawmaking. As compared to national lawmaking, with its strong legislatures to pass laws, robust executive agencies to implement the laws, and independent courts to enforce the laws, the international lawmaking system is far less developed. Under the principles of international law, each State is independent and sovereign. No supra-national legislature exists with the power to create laws applicable to the entire world, nor is there a supra-national administrative structure to implement international laws, nor a supra-national court with mandatory jurisdiction to interpret and enforce international law. (Although there is a "World Court," the International Court of Justice (ICJ) lacks both mandatory jurisdiction and the power to enforce its judgments). Moreover, the subjects of international law (States) are also the lawmakers, who can easily defeat the application of the law by refusing or withdrawing consent.

Given how jealously each country protects its own sovereignty and self-interest, it is perhaps not surprising that international law is tightly circumscribed. In traditional public international law, all sources of law emanate either explicitly or implicitly from a State's consent to the rule. An international lawyer's general task is thus to look for evidence of consent to prove that international law on a particular subject exists with respect to a particular State. The most widely recognized definition of the sources of international law comes from the agreement creating the ICJ, which is the primary judicial organ of the United Nations and plays a leading role in identifying and developing international law. Article 38(1) of the ICJ Statute identifies the four traditional sources of international law that the Court applies. According to Article 38(1):

The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

- (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
- (b) international custom, as evidence of a general practice accepted as law;
- (c) the general principles of law recognized by civilized nations; and
- (d) . . . judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

Most of the international law focus in the climate context has involved the negotiation of binding treaties — the UN Framework Convention on Climate Change (UNFCCC or Framework Convention), which established an institutional framework for addressing climate change, and the Kyoto Protocol, which imposed binding emission limitations on some developed countries. These are discussed in this Chapter and Chapter 5, respectively. Other international treaties that relate to climate change are discussed in Chapter 9.

Beyond treaties, other less formal forms of cooperation have also become important in the

international response to climate change. Most notably, the Copenhagen Accord, a non-binding approach adopted in 2009, has significantly shaped subsequent international climate negotiations. Similarly, pronouncements of sustainable energy goals by the G8, regional agreements to adopt sustainable energy policies, or initiatives to cooperate in climate-friendly research or transfer renewable energy technology are all examples of the many international initiatives aimed at addressing climate change. These approaches may not be legally binding, but may nonetheless catalyze cooperative action beyond what countries would do unilaterally and allow for action in the absence of the slow process of negotiating binding targets or timetables. Many of these non-binding, international approaches will be discussed further in Chapter 9.

A. An Introduction to Treaties

The following excerpt provides a general introduction to treaties as a source of international law.

DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELEKE,
INTERNATIONAL ENVIRONMENTAL LAW AND POLICY
286–302 (4th ed. 2011)*

1. Definition of a Treaty

Article 2.1(a) of the Vienna Convention [on the Law of Treaties] defines a “treaty” as “an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation.” This definition, of course, is somewhat circular: a treaty is an instrument governed by international law. A more useful definition might be that a treaty is any instrument between two or more States that fulfills the requirements for valid treaties set out in the Vienna Convention itself. Note that the instrument need not be called a treaty; it can be called an agreement, convention, pact, covenant or virtually any other name. A treaty is a contract between States and, just as with commercial contracts, what is important is the manifest intent of the parties — in this case States — to be bound by their agreement. It is the obligatory character of the terms of a treaty, not its nominal designation, that determines whether a binding rule of international law has been created.

The only formal requirement is that there be a writing. While States may undertake binding international agreements without concluding a written instrument, the Vienna Convention does not govern such agreements, although they may be governed by general principles of international law. Nor does it govern agreements between State and non-State actors, or agreements entirely among non-State actors. This limitation is made explicit in Article 1 of the Convention, which states that “The present Convention applies to treaties between States.” This provision reflects the traditional view that non-State actors can be neither subjects nor authors of international law. Because the ICJ has now recognized the international personality of certain international organizations, a second Vienna Convention was negotiated to govern agreements

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among these organizations or between an international organization and a State. Vienna Convention on the Law of Treaties Between States and International Organizations or Between International Organizations, 25 I.L.M. 543 (March 21, 1986). Agreements between States and private individuals, organizations or corporations are not governed by international law, but by the law of contracts — either as applied in the territory of the contracting State or as otherwise specified in the contract itself. Aside from these requirements, however, the only limitation on the scope, form or subject matter of a treaty is that the terms of the treaty must not violate a peremptory norm of international law. This restriction is roughly analogous to domestic laws that prohibit contracts made for illegal purposes.

The Vienna Convention does not distinguish between the various forms that a treaty may take, such as multilateral or bilateral, nor the diverse legal functions that they perform. . . . Most treaties, particularly bilateral treaties, are much like contracts, creating legal obligations that are relatively narrow in scope and strictly limited to the parties involved in the negotiations. Some multilateral treaties, however, are considered to be “law-making” treaties in that they create general norms for future conduct. Almost like international legislation, these “law-making” treaties are more broadly applicable and are open even to States that did not participate in the negotiations. Although in principle binding only on the parties, in some cases these treaties may codify and develop customary law or general principles. The . . . UN Convention on the Law of the Sea, for example, both codified existing customary international law and catalyzed the further development and “crystallization” of customary international law. * * *

2. The Treaty-Making Process

Just as there is no prescribed form for treaties, neither is there a prescribed process for initiating the treaty-making process or for negotiating a treaty. . . . [Nonetheless,] four basic steps are inherent in the conclusion of any international agreement: 1) identification of needs and goals; 2) negotiation; 3) adoption and signature; and 4) ratification. Even after these steps are completed, treaties must be implemented, monitored for compliance, enforced, and, if necessary, modified or amended. For now, however, we will focus on treaty creation. . . .

a. Identification of Needs and Goals

Before an international agreement can be concluded, certain preliminary steps must be taken. The first step, of course, is that the need for action must be discovered — someone must conduct the research and synthesize the data that demonstrate, for example, that a particular substance harms the environment or a particular species is in danger of extinction. This seems an obvious point, yet it bears mention for two reasons. First, many important environmental problems have gone unaddressed for years or even decades before someone accumulated sufficient data to convince the international community to address them. Second, because there is neither a prescribed process for identifying treaty needs, nor any group of actors vested with primary responsibility for doing so, need identification has proven an important strategy for non-State actors to influence the international environmental law-making process. * * *

b. Negotiation

[I]n recent decades, a somewhat standardized negotiating process has emerged. Negotiations may be initiated by individual States; more often, however, a State will recommend that an international organization, particularly the United Nations General Assembly (UNGA) or the UN Economic and Social Council (ECOSOC), establish a committee or convene an international conference to consider a particular issue. The host organization will then organize preparatory committees, working groups of technical and legal experts, scientific symposia and preliminary conferences. Increasingly, the organizing body will invite, or at least accept, comments from NGOs, scientific unions and other private groups. During these informal discussions, information is disseminated, the preliminary positions of interested States are established, the parameters of a possible agreement are narrowed, and the slow process of building international consensus begins.

This process of informal exchange may continue for years before a conference of plenipotentiaries (representatives with the authority to approve an international agreement on behalf of their respective governments) is convened. In the interim, the host government or organization, or some other qualified international body, will develop a draft convention to serve as the basis for discussions at the plenipotentiary conference. Generally, draft conventions are prepared with significant participation by the interested parties, and many disagreements among States are likely to be ironed out before the final conference convenes. At the plenipotentiary conference, delegates will seek to resolve their remaining disputes, and produce a final, authoritative version of the treaty, an “authentic text”. [For a description of the negotiating process for the UNFCCC, see Section II.] * * *

c. Adoption and Authentication

Before the negotiation phase of the treaty-making process can be concluded, and the treaty “opened” for signature and ratification, the text must be adopted. Unless a State has specified otherwise, adoption of a treaty text does not make the treaty binding on that State. Adoption simply signifies the participants’ agreement that the text of the treaty is acceptable in principle. * * * Because it does not create binding obligations for any State, a treaty can be adopted at an international conference with less than full consensus. [Article 9 of the Vienna Convention, for example, requires only a two-thirds majority vote for adoption of treaty text negotiated at an international conference. This lack of the need for full consensus partly explains why oil-rich countries could not block final negotiation of the UNFCCC.] Nonetheless, many international conferences will still seek widespread agreement among participating States to ensure that States will sign and ratify the treaty once it is adopted.

When the final draft of the treaty has been adopted, it must be “authenticated” by a representative of each State, generally by signing the treaty. Authentication identifies the treaty text as the actual text the negotiating States agreed to and establishes that each signing State agrees in principle to its terms. Although there are exceptions, a State’s signature on a treaty generally does not signify its consent to be bound by the treaty. By signing a treaty, however, a State does agree to refrain from acts “which would defeat the object and purpose of the treaty,” until it has made clear its intention not to become a treaty party. [See Vienna Convention, Article 18.]

d. Ratification and Accession

As should already be clear, a State will be bound by the terms of a treaty only if it takes affirmative steps to demonstrate its consent to be bound. . . . The means of expressing consent to a treaty include: “signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession, or by any other means if so agreed.” Vienna Convention, Article 11. With respect to multilateral agreements, the most common method of demonstrating consent is by ratification. Ratification is any authoritative act whereby a State declares to the international community that it considers itself bound by a treaty. Multilateral environmental treaties are typically ratified by depositing an “instrument of ratification” with the United Nations or another designated depositary organization. Only States that participated in the negotiation of, and subsequently signed, the treaty may bind themselves through ratification. Other States often may join by accession. Accession simply means that a State declares its intent to be bound by the treaty. The procedures for acceding often are specified in the treaty. Vienna Convention, Article 15.

In many States, a treaty must be approved through domestic political processes before the treaty can be ratified. In the United States, for example, [all treaties must be approved by] the Senate. . . . The Senate may make its consent contingent on certain changes or exceptions. If these cannot be accommodated through reservations to the treaty, the United States must renegotiate the treaty to incorporate the changes or the treaty cannot be ratified.

Because of the Senate ratification process in the United States, and similar processes in other States — which are a matter of domestic law, and not international law — months or even years may pass between the time a State signs a treaty and the time it ratifies. . . . And until the treaty is ratified and has entered into force, the State’s obligations with respect to the treaty are limited.

* * *

f. Entry into Force

The parties to a treaty are not bound by its terms until the treaty enters into force. No treaty enters into force for a specific State until that State ratifies the treaty according to its national law, deposits its instrument of ratification with the appropriate depositary, and any conditions for the treaty’s entry into force have been satisfied. If the treaty makes no special provision for entry into force, it enters into force as soon as all the negotiating States have ratified. More often, however, the treaty will provide for its entry into force after a certain minimum number of States have ratified, even if other States have not. Vienna Convention, Article 24. The treaty then becomes effective as between the ratifying States.

QUESTIONS AND DISCUSSION

1. The Vienna Convention on the Law of Treaties, cited throughout the above discussion of treaties, governs the major aspects of treaties, including negotiation, conclusion, interpretation, amendment, and termination. Even for non-Parties to the Vienna Convention, the Convention is widely accepted as a codification of customary international law. For example, although the

United States has never ratified the Vienna Convention, the U.S. Department of State has declared that the principles expressed in the Convention are binding upon the United States. Thus, questions of how to interpret the climate treaties or other treaties that may affect climate change — for example, trade treaties or other environmental treaties — will be illuminated by reference to the Vienna Convention.

2. Custom. In addition to treaty-making, international law is also created through the customary practice of States, where such practice is done under the belief that it is required by law. Custom requires that you both articulate a rule of law, and then prove that States behave in such a way that demonstrates they accept the rule as law. Thus, a customary rule of law is binding on all nations, “not because it was prescribed by any superior power, but because it has been generally accepted as a rule of conduct.” *The Scotia*, 14 Wall. 170, 187 (1876), *quoted in The Paquete Habana*, 175 U.S. 677 (1900). To prove that a customary norm exists, a court must establish two things: (1) State practice — that States generally follow the rule in practice; and (2) *opinio juris* — that States act in accordance with the rule from a sense of legal obligation to do so. Once a custom is established, it becomes binding on all States, regardless of whether those States follow the practice or express a belief that the practice is law. However, a State may exclude itself from the obligations of a particular customary rule by persistent conduct exhibiting an unwillingness to be bound by the rule or a refusal to recognize it as law. RESTATEMENT OF FOREIGN RELATIONS LAW OF THE UNITED STATES, section 102, comment b. Customary law in the context of climate change, particularly the obligation of one State not to cause environmental harm to another State, is discussed further in Chapter 11.

3. General Principles, Judicial Opinions and the Writing of Publicists. In addition to treaties and customary norms, general principles of civilized nations, judicial decisions and the writings of publicists are also listed under Article 38 of the ICJ Statute as sources of international law. These sources of law are more controversial and are generally viewed as supplementary sources to the primary sources of treaties or custom. Thus, courts may look to divine “general principles” of law accepted by the majority of the world’s great legal systems in order to fill in gaps in custom or treaty law. Courts may also look to earlier decisions of the ICJ or other international tribunals for guidance, but the concept of *stare decisis* generally does not prevail in international law. Nonetheless, ICJ cases are regularly cited in subsequent cases and are clearly considered to be authoritative statements of international law, even if they do not strictly bind the future behavior of States. Finally, courts may also look to the writings of publicists — such as the International Law Association or the International Law Commission — to discern what the law is or should be, but these writings similarly have no independent binding force.

4. Under the principle of State responsibility, States are generally responsible for breaches of their obligations under international law. Thus, States can be held responsible for violations of international legal obligations — either treaties like the climate treaties or customary obligations such as the obligation to cooperate or the obligation not to “harm” the environment of other States. State responsibility is the set of rules that define the consequences of a State’s breach of international law. According to the International Law Commission, States responsible for an internationally wrongful act must:

- (1) make restitution (i.e., re-establish the situation that existed before the wrongful act was committed),
- (2) compensate for any damage caused, and
- (3) give satisfaction (for example, acknowledge the breach, express regret, or formally apologize).

See ILC Draft Articles, *supra*, at paras 34–37; see International Law Commission, Draft Articles on the Responsibility of States for Internationally Wrongful Acts, Arts. 1–2, in Report of the International Law Commission on the Work of its Fifty-third Session, UN GAOR, 56th Sess., Supp. No. 10, at 43, UN Doc. A/56/10 (2001). State responsibility in the climate context is discussed further in Chapter 11.

5. In recent years, many commentators have noted the rise of so-called “soft law” as an important innovation in international lawmaking, particularly in new fields like international environmental law. Soft law reflects a more flexible process for developing and testing new non-binding norms before States accept them as binding upon the international community. The soft law process is more dynamic and democratic than traditional lawmaking, embracing a broader range of societal actors (including scientific organizations, academic specialists, NGOs, and industry). It has become a critical part of the consensus-building that is ultimately needed to negotiate environmental treaties. The distinction between “soft” and “hard” law is not precise; it is possible to have “soft” obligations in “hard” law form, for example in a framework treaty, such as the “Principles” found in Article 3 of the UNFCCC. See generally Pierre-Marie Dupuy, *Soft Law and the International Law of the Environment*, 12 MICH. J. INT’L L. 420, 420–35 (1991).

The most important soft law document in international environmental law is the 1992 *Rio Declaration on Environment and Development*, UN DOC A/CONF.151/5/Rev. 1, Principle 2, June 13, 1992, reprinted in 31 I.L.M. 874 (1992). Although not binding law, the *Rio Declaration* is recognized as an important reflection of the political consensus around international environmental principles as of 1992. The *Rio Declaration* is probably most noteworthy for its integration of development concerns with environmental protection and its resulting affirmation of the concept of sustainable development. Because of the careful North-South compromises found within so many of the *Rio Declaration*’s principles, it is often viewed as the starting point for discussions concerning specific global environmental issues, including climate change.

6. An increasing number of observers believe that the formalistic, consensus-based nature of the international law system, particularly evidenced by the treaty-making process, hinders efforts to formulate an effective international response to the global climate change crisis. The inherent limitations of a State-centered architecture for addressing global environmental challenges have left room for innovation and more flexible models of ‘new governance.’ These new approaches are inclusive, frequently relying on multi-stakeholder processes that may include governments, international organizations, private sector companies, civil society organizations, and community groups, all sitting down at the same table. Broadly speaking, these initiatives may be both policy-

oriented focused on creating norms or action-oriented aimed at addressing a specific problem with concrete action.

Thus, global environmental standards now come in many forms, targeting specific projects, corporations, industry sectors or general behaviors. Some of these international standards may be wholly voluntary, require public reporting, or be part of elaborate certification systems that include third-party monitoring. Others may be issued as standards or rules by international organizations and implemented and enforced through their operations. Many of these global standards now address climate change concerns in one way or another. Examples include the greenhouse gas-related provisions in the International Finance Corporation's Performance Standards, the OECD Guidelines for Multinational Enterprises, the Equator Principles requiring environmental and social assessments in project finance activities of large commercial banks, or the Forest Stewardship Council standards for forest supply chains.

In addition to efforts to develop norms or standards, many of the new governance initiatives are aimed at establishing partnerships or initiatives that seek to catalyze actions on a particular issue. These initiatives run the range from single companies announcing that they will agree, for example, to go carbon neutral or report publicly their annual greenhouse gas emissions to complex, public-private partnerships that span multiple countries, intergovernmental organizations, civil society organizations, and private businesses and entail commitments of millions of dollars. The common denominator in these initiatives and partnerships are that they are action-oriented, and the best ones have specific targets and timetables. One example of such an approach is the Climate and Clean Air Coalition to Reduce Short-lived Climate Pollutants, which now involves twenty-six countries, including the United States and European Union, and twenty-three non-State actors to reduce "fast-acting climate forcers" such as methane. See www.unep.org/ccac.

B. International Law Principles Shaping the Global Climate Change Regime

Putting aside for the moment the precise legal status of any given principle — for example, whether it is customary law or a general principle, or whether it is not yet recognized as binding law — several international law principles are particularly important for understanding the international response to climate change. Several of the following principles, for example the principle of State sovereignty or State responsibility, are general international law principles that provide an important background for any field of international law, including international environmental law. Others, for example the principle of common but differentiated responsibilities and the precautionary principle, have emerged primarily in the international environmental context. The following section describes some of these principles that form an important legal or policy background for understanding the negotiation of the climate regime. Indeed, as described subsequently in part III, some of the principles have been explicitly acknowledged in the UNFCCC.

1. *State Sovereignty*

Lurking behind the scenes in any treaty negotiation is the pre-eminence of State sovereignty in international law. In fact, any discussion of international law must begin with the concept of State sovereignty. States have the sovereign right to govern the affairs that occur within their territorial areas. State sovereignty in the legal sense thus signifies independence — that is, the right to exercise, within a portion of the globe and to the exclusion of other States, the functions of a State such as the exercise of jurisdiction and enforcement of laws over persons and resources therein. Among a State's sovereign authority is the authority to consent (or not) to the creation of international law that binds them.

The entire international legal system is thus premised on each State having control over the activities that occur within its jurisdiction. This necessarily includes the authority to choose whether to control the emission of greenhouse gases, to slow the rate of deforestation, or to take any other action implicated by climate change. On the other hand, just the act of negotiating a treaty necessarily means that countries are willing to cede some of their sovereignty to the international community — presumably in the furtherance of some greater mutual benefit. For this reason, the UNFCCC's preamble reaffirms “the principle of sovereignty of States in international cooperation to address climate change” and recalls the basic relationship of State sovereignty to environmental harm:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

UNFCCC, Preamble; *see also* Stockholm Declaration on the Human Environment, Principle 21 (1972); Rio Declaration on Environment and Development, Principle 2 (1992). In some ways, the entire UNFCCC and the subsequent Kyoto Protocol can be seen as the articulation of how States balance their sovereign rights to follow their own development path (i.e., to burn fossil fuels) with their responsibility under international law not to harm areas beyond the limits of their jurisdiction (i.e., the global atmosphere's role in regulating climate). The question facing the negotiators of the UNFCCC was how to characterize conceptually the international nature of climate change in a way that could explain why States should relinquish some of their sovereignty.

But neither State sovereignty generally, nor the State's right to development, is absolute. State sovereignty is limited first and foremost by the territorial extent of the State. Thus, while States may enjoy the right to follow their own development and environment policies inside their territorial jurisdictions, their sovereign powers do not typically reach beyond those State territories — either to the territory of one State or to areas beyond the jurisdiction of any State. Thus, as described by international scholar Ian Brownlie:

In spatial terms the law knows four types of regime: territorial sovereignty, territory not subject to the sovereignty of any state or states and which possesses a status of its own (trust territories, for example), the *res nullius*, and the *res*

communis. Territorial sovereignty extends principally over land territory, the territorial sea appurtenant to the land, and the seabed and subsoil of the territorial sea. The concept of territory includes islands, islets, rocks, and reefs. A *res nullius* consists of the same subject-matter legally susceptible to acquisition by states but not as yet placed under territorial sovereignty. The *res communis*, consisting of the high seas which for present purposes include exclusive economic zones and also outer space, is not capable of being placed under state sovereignty. In accordance with customary international law and the dictates of convenience, the airspace above and subsoil beneath state territory, the *res nullius*, and the *res communis* are included in each category.

IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 105 (6th ed. 2003). Thus, territorial sovereignty extends to the geographic borders of the country and to the airspace overhead (generally defined as the height that can be reached by ordinary manned flight), while outer space is considered *res communis* and is beyond the reach of any State's sovereignty. Changes to the Earth's atmosphere, including increases in greenhouse gas emissions, fall somewhere in between. As Professors Patricia Birnie and Alan Boyle put it:

The atmosphere is not a distinct category in international law. Because it consists of a fluctuating and dynamic airmass, it cannot be equated with airspace, which, above land, is simply a spatial dimension subject to the sovereignty of the subjacent states. But this overlap with territorial sovereignty also means that the atmosphere cannot be treated as an area of common property beyond the jurisdiction of any state, comparable in this sense to the high seas. The alternative possibility of regarding it as a shared resource is relevant in situations of bilateral or regional transboundary air pollution, affecting other states. . . . [the United Nations Environment Programme (UNEP)] has referred to 'air-sheds' as examples of shared natural resources, and this status is consistent with regional approaches to the control and regulation of transboundary air pollution. . . .

The shared resources concept is of less use, however, in relation to global atmospheric issues such as ozone depletion or climate change. What is needed here is a legal concept which recognizes the unity of the global atmosphere and the common interest of all states in its protection. The traditional category of common property, is, as we have seen, an inadequate one for this purpose. The same objection applies to the use of 'common heritage' in this context, with the additional difficulty that this concept has so far been applied only to mineral resources of the deep seabed and outer space and that its legal status remains controversial. The atmosphere is clearly not outer space, despite the difficulty of defining the boundaries of that area. * * *

Significantly, common heritage was not employed in the 1985 Vienna Convention for the Protection of the Ozone Layer, or in the 1992 Convention on Climate Change (UNFCCC). The 1985 Convention defines the 'ozone layer' as 'the layer of atmospheric ozone above the planetary boundary layer'. This does not mean that the ozone layer is either legally or physically part of outer space. It

remains part of the atmosphere, and falls partly into areas of common property, and partly into areas of national sovereignty. One purpose of the Convention's definition is to indicate that it is concerned with stratospheric ozone, and not with low-level ozone, which . . . is an air pollutant. More importantly, however, the definition treats the whole stratospheric ozone layer as a global unity, without reference to legal concepts of sovereignty, shared resources, or common property. It points to the emergence of a new status for the global atmosphere, which makes it appropriate to view the ozone layer as part of a common resource or common interest, regardless of who enjoys sovereignty over the airspace which it occupies.

The same conclusion can also be drawn from UN General Assembly resolution 43/53 which declares that global climate change is 'the common concern of mankind'. This phraseology was the outcome of a political compromise over Malta's initial proposal to treat the global climate as the common heritage of mankind. . . . What it suggests is that the global climate should have a status comparable to the ozone layer, and that the totality of the global atmosphere can now properly be regarded as the 'common concern of mankind'. By approaching the issues from this global perspective, the UN has recognized both the artificiality of territorial boundaries in this context, and the inadequacy of treating global climate change in the same way as transboundary air pollution, for which regional or bilateral solutions remain more appropriate.

[T]he status of 'common concern' is primarily significant in indicating the common legal interest of all states in protecting the global atmosphere, whether directly injured or not, and in enforcing rules concerning its protection. While it is not clear that a General Assembly resolution alone is sufficient to confer this status, the 1985 Ozone Convention and the 1992 UNFCCC unquestionably do so.

PATRICIA BIRNIE & ALAN BOYLE, INTERNATIONAL LAW & ENVIRONMENTAL PROTECTION 502–503 (2d ed. 2004). Thus, the answer to why climate change requires international cooperation came in the form of the principle of "common concern," described further below.

QUESTIONS AND DISCUSSION

1. Although States enjoy sovereign rights to follow their own environment and development policies *within* their jurisdiction, such sovereign rights are limited by reciprocal obligations vis-à-vis other equally sovereign States. Foremost among these "good neighborly" international obligations is the obligation for States to cooperate generally with their neighbors in addressing international issues:

States have the duty to co-operate with one another, irrespective of the differences in their political, economic and social systems, in the various spheres of international relations, in order to maintain international peace and security and to promote international economic stability and progress, the general welfare of nations and international co-operation free from discrimination based on such

differences.

Declaration of Principles on International Law Concerning Friendly Relations and Cooperation Among States in Accordance with the Charter of the United Nations, U.N.G.A. Res. 2625 (Oct. 24, 1970), *reprinted in* 9 I.L.M. 1292 (1972). The UNFCCC's preamble recognizes that the duty to cooperate extends to the climate context, with Parties "*Acknowledging* that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response."

The duty to cooperate is widely viewed as a binding principle of customary international law. The precise contours of the principle are not completely certain, however. Although the duty to cooperate probably includes a duty to provide notice and to consult in good faith with neighboring countries or other countries affected by a State's activities, the principle does not require the countries to reach an agreement.

2. As suggested by the UNFCCC's preamble, State sovereignty is also limited by the principle that each State has an obligation not to harm the sovereign interests of other States, including their environment. The obligation not to cause environmental harm has its roots in the common law principle of *sic utere tuo ut alienum non laedus* (i.e., do not use your property to harm another). In the international law context, States are under a general obligation not to use their territory, or to allow others to use their territory, in a way that can harm the interests of another State. The obligation not to cause harm to other States was extended to environmental damage as early as 1941 in the well-known *Trail Smelter* arbitration (involving a U.S. action brought against Canada for damages caused by air pollution from a Canadian smelter). The principle was subsequently restated in both Principle 21 of the 1972 *Stockholm Declaration on the Human Environment* and Article 2 of the 1992 *Rio Declaration*.

The obligation not to harm another State is clearly meant to limit the extent of each State's sovereign right to develop in any way it wants. The principle is now generally considered a binding principle of international law. The contours of this principle, probably more than any other, will determine the legal rights and responsibilities in any international dispute brought by States harmed from climate change. To apply the principle, however, requires detailed answers to several significant issues. How should the balance between sovereignty and transboundary harm be struck in the climate context? Should all damage be prohibited? What level of harm should trigger the obligation? To what standard of care should the State be held? What activities should be considered under the "jurisdiction and control" of a State? What remedies should be available to States who suffer such damage? These questions are discussed in Chapter 11.

2. Common Concern of Humankind

The principle of common concern is in tension with the principle of State sovereignty. Underlying the principle is the understanding that because the planet is ecologically interdependent, humanity has a collective interest in many activities that take place, or resources that are located, wholly within State boundaries. All global environmental treaties at least implicitly reflect that protecting the environment and achieving sustainable development

generally are “common concerns of humanity.”

The very first paragraphs of the UNFCCC preamble highlight the concept of common concern by “[a]cknowledging that change in the Earth’s climate and its adverse effects are a common concern of humankind. . .” The prominence of the principle reveals its importance to the conceptual foundation of the Convention; the concept of common concern is the explanation that justifies why States are required to cooperate in an international agreement to address climate change. Prior to the negotiations of the Climate Change Convention, for example, States were assumed to have complete control and discretion with respect to air pollution emissions that did not directly cause transboundary environmental impacts on a neighboring country. After the emergence of the concept of common concern, States are expected to cede some of their sovereignty to the pursuit of collective action to address recognized “common concerns,” including climate change. The UNFCCC invokes the concept of common concern as the theoretical basis for why States must constrain their sovereign right to continue changing the composition of the atmosphere.

Although the role that the principle plays — legitimizing international cooperation in the climate context — is clear, the substantive meaning of the principle is not. In general, the principle of common concern does not yet independently imply any specific legal obligation beyond cooperation. But this too was important for the negotiations of the climate regime. The Parties did not want to accept any status for the atmosphere that connoted any legal meaning, or put another way, that prejudged or preordained the outcome of the negotiations. An area (the atmosphere) or an activity (emitting greenhouse gases) that could be considered “of common concern” necessitated international cooperation without necessitating any specific international legal rights or responsibilities. The negotiators could write on a clean slate.

QUESTIONS AND DISCUSSION

1. The concept of common concern should not be confused with common heritage of humankind. The common heritage principle applies to the high seas, outer space, the moon, and possibly Antarctica. Areas that are considered part of humanity’s common heritage are governed by four principles: (1) non-appropriation — no State could colonize or appropriate the resources in the global commons; (2) joint management — common heritage resources should be managed jointly by the international community; (3) shared benefits — benefits from these commons areas should be shared among all humanity; and (4) non-militarization — the global commons should be reserved for peaceful purposes. *See, e.g., Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, done January 27, 1967, 610 U.N.T.S. 205 (1967), reprinted in 6 I.L.M. 386 (1967) [referred to as the 1967 Outer Space Treaty]; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, done Dec. 5, 1979 [referred to as the 1979 Moon Treaty].*

In the first proposal addressing climate change at the UN General Assembly, Malta (who had championed the concept of common heritage in the law of the sea) also proposed a “Declaration proclaiming climate as part of the common heritage of mankind.” The General Assembly subsequently adopted a resolution recognizing the urgency of the climate change issues, but

refused to characterize the principle of the common heritage of mankind — opting instead for a more ambiguous reference to climate as a “common concern of mankind.”

Common heritage was thus specifically considered and rejected by the negotiators of the UNFCCC (as well as the Convention on Biological Diversity negotiated at the same time). Developing countries rejected application of the common heritage principle in these conventions because they thought it would subject their natural resources to too much international control. Developed countries rejected common heritage because of the implication that benefits would have to be shared from these resources. Common concern became an acceptable compromise, in part because it did not carry with it any preconceived notions of benefit sharing or of joint management. As noted above, the constructive ambiguity of the concept of common concern provided the framework for international climate negotiations (and thus for the abdication of some aspects of State sovereignty), while still allowing full flexibility in negotiating the specific contours of the climate regime.

2. What is meant in the Birnie and Boyle excerpt above by reference to the “global unity” of the atmosphere? How is this related to the international legal status of an issue like climate change? Can you see why neither State sovereignty nor *res communis* neatly fits the issue of climate change?

3. How are the duty to cooperate and the principle of common concern related? Is the principle of common concern just a label placed on an issue where global cooperation is necessary? Does it suggest more than a procedural obligation to negotiate?

4. The principle has been explicitly endorsed in several specific treaty regimes, including those related to climate change and biodiversity conservation. More controversial is whether the concept extends more generally to the concept of sustainable development. Article 3 of the 1995 *IUCN Draft Covenant on Environment and Development* states that the “global environment is a common concern of humanity.” The commentary to the *Draft Covenant* offers the following explanation:

Article 3 states the basis upon which the international community at all levels can and must take joint and separate action to protect the environment. It is based on the scientific reality that harm to the environment resulting from human activities (e.g., depletion of the stratospheric ozone layer, climate modification, and the erosion of biological diversity) adversely affect all humanity. World-wide cooperation to take concerted action is necessary to avoid environmental disaster. This implies acceptance of both the right and the duty of the international community as a whole to have concern for the global environment. * * *

The conclusion that the global environment is a matter of “common concern” implies that it can no longer be considered as solely within the domestic jurisdiction of states due to its global importance and consequences for all. It also expresses a shift from classical treaty-making notions of reciprocity and material advantage, to action in the long-term interests of humanity.

The concept of “common concern” is not new and has been applied in other fields. It forms the basis for international laws relating to human rights, humanitarian relief and international labour relations. Those obligations are now recognized as obligations *erga omnes*, owed by all States to the entire international community.

The inter-dependence of the world’s ecosystems and the severity of current environmental problems call for global solutions to most, if not all, environmental problems, thereby justifying designation of the global environment as a matter of “common concern”.

IUCN, *Draft Covenant on Environment and Development*, 32 (1995). The IUCN Draft Covenant has never been adopted by governments, but reflects a progressive perspective on the future development of environmental principles such as common concern. *See also* the New Delhi Declaration of Principles of International Law Relating to Sustainable Development (2002) (declaration at the 70th Conference of the International Law Association). Do you think the global environment or sustainable development generally has become a matter of common concern? Would such a finding require that all States achieve sustainable development? Consider this question again after the following discussion of sustainable development as a principle in the UNFCCC.

3. *The Right to Sustainable Development*

Although State sovereignty has many aspects, perhaps the most important for understanding the international law of climate change is a State’s sovereign right to follow its own development path. A State’s sovereign right to control its own development has been a high priority of developing countries ever since the post-colonial period, and they see it as a fundamental principle for achieving their aspirations of greater economic independence and a more equitable international economic order. To ensure the right to development, developing countries jealously protect the right of all countries to choose their own development path — even if that means emitting greenhouse gases and contributing to global climate change. In this way, the continued ability of developing countries to emit greenhouse gases is tied not only to economic growth but also to the right to development and its associated goals of economic justice and poverty alleviation. *See generally* Declaration on the Right to Development, UNGA Res. No. 41/128, Annex (Dec. 4, 1986).

A State’s rights and responsibilities with respect to development are outlined in the 1986 UN Declaration on the Right to Development, UNGA Res. 41/128, Annex (Dec. 4, 1986):

Article 1

1. The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized.

2. The human right to development also implies the full realization of the right of peoples to self-determination, which includes, subject to the relevant provisions of both International Covenants on Human Rights, the exercise of their inalienable right to full sovereignty over all their natural wealth and resources.

Article 2

* * * 3. States have the right and the duty to formulate appropriate national development policies that aim at the constant improvement of the well-being of the entire population and of all individuals, on the basis of their active, free and meaningful participation in development and in the fair distribution of the benefits resulting therefrom. * * *

Article 4

1. States have the duty to take steps, individually and collectively, to formulate international development policies with a view to facilitating the full realization of the right to development.

2. Sustained action is required to promote more rapid development of developing countries. As a complement to the efforts of developing countries, effective international co-operation is essential in providing these countries with appropriate means and facilities to foster their comprehensive development.

Virtually every year, the United Nations reaffirms the right to development and a State's responsibility to fulfill that right. *See, e.g.*, The Right to Development, UNGA Res. No. 62/161, Mar. 13, 2008; The Right to Development, UNGA Res No. 56/150, 8 Feb. 2002; Report of the World Summit on Sustainable Development, A/Conf. 199/20, paras. 62a, 138, 169 (2002); Principle 3 of the 1992 *Rio Declaration* ("The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.").

Given the scope and tremendous potential impact of the climate regime on the economy, it should come as no surprise that the climate negotiations were permeated with concerns and dialogue about development impact. One cannot separate an effort to regulate emissions from fossil fuels (the primary energy source for industrialization) or to improve the management of forests or land-use practices from questions of development. Moreover, the UNFCCC was also to be signed at the Earth Summit (the United Nations Conference on Environment and Development, held in Rio de Janeiro) where the discussion about development was taking a marked shift from one of a "right to development" to a right to "sustainable development." The UNFCCC reflects this shift:

The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that

economic development is essential for adopting measures to address climate change.

UNFCCC, Article 3.4.

QUESTIONS AND DISCUSSION

1. In an economic sense, the principle of sustainable development recognizes each generation's responsibility to be fair to the next generation, by leaving an inheritance of wealth no less than they themselves had inherited. It may thus influence the choice of economic discount rates that we use in evaluating the costs and benefits of climate change. In this regard, recall Chapter 2's discussion of discount rates.

2. Although relatively non-objectionable in its ultimate wording, the negotiation of Article 3.4 of the UNFCCC provision reflected the conflict at the time between developing and developed countries over the right to development:

Initially, developing countries pressed for inclusion of a principle recognizing that "the right to development is an inalienable human right" and that "[a]ll peoples have an equal right in matters relating to reasonable living standards." Meanwhile, some developed countries wished to include a principle that states have a duty to aim at sustainable development. Both proposals raised serious problems for some delegations. On the one hand, the United States has long refused to accept the "right to development" as advanced in the human rights field, on the grounds that it is vague and could be used by developing countries to demand financial assistance from developed countries. In contrast, developing countries, fearing that "sustainability" might become a new conditionality on financial assistance and ultimately inhibit their development plans, have traditionally expressed doubts about the concept of "sustainable development."

The Convention finesses both issues by stating that "the Parties have a right to, and should, promote sustainable development," thereby addressing the concerns of both developing and developed countries. The Convention speaks of a "right," thereby satisfying developing countries, but the right relates to the "promotion of sustainable development," which is arguably different from the traditional "right to development" [...] . . . With respect to sustainable development, paragraph 4 states that parties "should promote sustainable development," an important recognition by developing states but less than the "duty" sought by developed countries.

Daniel Bodansky, *The United Nations Framework Convention on Climate Change: A Commentary*, 8 YALE J. INT'L L. 451, 504-05 (1993).

3. Recognition that climate change would be part of an international system that had sustainable development as an overall goal continues to be important for the development of the

climate regime. The Kyoto Protocol, for example, acknowledged the importance of sustainable development in several provisions and makes it an explicit goal of the Protocol's Clean Development Mechanism (CDM): "The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention . . ." Kyoto Protocol, Article 12; *see also* Kyoto Protocol, Articles 2, 10 (referencing sustainable development). The CDM is discussed further in Chapters 5 and 7.

4. Common but Differentiated Responsibilities

One of the most important and controversial principles shaping the climate regime is the principle of common but differentiated responsibility. According to this principle, all States have common responsibilities to protect the environment, including the climate, but because of different social, economic, and ecological situations, countries must shoulder different responsibilities. The principle reflects core elements of equity, placing more responsibility on wealthier countries and those that are more responsible for causing specific global environmental problems. Differentiated responsibility also allows for ecological differences in countries — for example, the particular vulnerability of small island States to the flooding that may result from global warming.

The principle emerged from the general North-South dialogue at the Rio Earth Summit, and its articulation in the controversial Principle 7 of the Rio Declaration reveals its general parameters:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

Thus, the principle was tied closely to the grand global partnership that was the centerpiece of the Earth Summit. The partnership in general terms was that the South agreed to participate in making the resolution of global environmental problems a priority, but it would do so only with the recognition that the primary responsibility — and thus the primary actions — must be taken by the North, who after all were mostly responsible. This general compromise was also an integral part of the UNFCCC, forming the basis on which developing countries would agree to join in the regime. The principle permeates the preamble and is central to the first two principles in Article 3, discussed further below.

QUESTIONS AND DISCUSSION

1. On one level, "common but differentiated responsibilities" simply presents a conceptual

framework for the rich to meet higher demands than the poor because it allows countries that are in different positions with respect to specific environmental issues to be treated differently. Consider the following discussion of “differentiated responsibilities,” offered by Professor Ileana Porras:

There are two distinct ways in which Principle 7 of the *Rio Declaration* begins to define “differentiated responsibility.” First, it imputes differentiated responsibility to States in accordance with their different levels of responsibility for causing the harm. Second, it ties differentiated responsibility to the different capacities of States, by referring to the differentiated responsibility for sustainable development, acknowledged by developed countries in view of the “technologies and financial resources they command.” Together, these two elements of differentiated responsibility provide the beginnings of a philosophical basis for international cooperation in the fields of environment and development. It is a basis that allows the characterization of the transfer of resources from developed to developing countries as “obligation” rather than as “aid” or assistance and provides a theoretical basis to justify different environmental standards, in view of the different capacities of States and their different contributions to environmental degradation.

Ileana Porras, *The Rio Declaration: A New Basis for International Cooperation*, in PHILIPPE SANDS, *GREENING INTERNATIONAL LAW* 25, 29 (1994). What difference does it make to developing countries whether foreign assistance is based on a sense of obligation as opposed to aid? To developed countries?

2. In signing the Rio Declaration, the United States attached an interpretive statement to Article 7 clarifying that it assumed no legal responsibility for global environmental problems.

The United States understands and accepts that principle 7 highlights the special leadership role of the developed countries, based on our industrial development, our experience with environmental protection policies and actions, and our wealth, technical expertise and capabilities. The United States does not accept any interpretation of principle 7 that would imply a recognition or acceptance by the United States of any international obligations or liabilities, or any diminution in the responsibilities of developing countries.

What exactly do you think concerned the United States?

3. Some economists argue that developing countries should be allowed to continue polluting as they develop their economies, and that this is a legitimate “comparative advantage” they should be able to exploit to compete in the global economy. Should this be considered as part of common but differentiated responsibilities?

4. Consider the principle in light of the following from Chris Stone:

On first acquaintance, the wide appeal of CDR seems unsurprising. Is it not

right that the law should subject profitable polluters to lower standards than their wealthy competitors.

Why should our posture be different — that is, why should we differentiate more liberally — in the international arena?

To begin with the principles of “customary international law,” I can think of none that does differentiate on the basis of wealth. Surely, the customary rules against piracy and abusing diplomats carve out no exceptions for the needy. * * *

Nonetheless, despite the inducements to differentiate, uniform terms remain the rule. Under the conventions governing the conduct of war, a belligerent’s use of poison gas is not excused because it cannot afford cannonry. The Stockholm Declaration’s principle 21 speaks in universal terms that “States have . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” There is no qualification that a lack of resources to mitigate damage constitutes a defense. No one proposes adjusting the international standards for radioactive emissions to account for a nation’s difficulties in meeting them.

Christopher D. Stone, *Common But Differentiated Responsibilities in International Law*, 98 AM. J. INT’L L. 276, 281–82 (2004). Do you agree with Professor Stone’s assessment? For further discussion of common but differentiated responsibilities, see ANITA HALVORSSSEN, *EQUALITY AMONG UNEQUALS IN INTERNATIONAL ENVIRONMENTAL LAW: DIFFERENTIAL TREATMENT FOR DEVELOPING COUNTRIES* (1999).

5. *Equity*

Closely related to the principle of common but differentiated responsibilities is the concept of “equity.” Article 3.1 of the UNFCCC states that Parties should protect the climate system “on the *basis of equity* and in accordance with their common but differentiated responsibilities” (emphasis added). Although the principle of equity may refer generally to concepts of fairness and environmental justice, it also has a relatively specific connotation in the context of the UNFCCC.

To many developing countries, the only fair way of allocating the right to emit greenhouse gases is on a per capita basis. Thus, when the UNFCCC speaks of addressing the climate system on the basis of equity, this has come to suggest, at least implicitly, that each country’s commitments should in some ways be tied to its per capita emissions.

In this respect, the Kyoto Protocol would be a disappointment to developing countries. Even though the Protocol seemed to reflect the concept of common but differentiated responsibilities by imposing emissions limitations only on industrialized countries, those emissions limitations were allocated among the industrialized countries through a process of negotiation that reflected

political expediency and the economic conditions of each country. The allocation of emissions limitations was not based on per capita emissions or any other equitable factor. Indeed, the term “equity” is found nowhere in the Kyoto Protocol, but the concept continues to influence post-Kyoto discussions relating to developing country commitments. Because of this debate around the proper way to allocate emissions limitations, the term “equity” remains a hot-button issue in the climate negotiations.

One uniquely environmental perspective on equity relates to fairness between present and future generations or *intergenerational equity*. Because of the long lag-time between when greenhouse gas emissions occur and when they are naturally removed from the atmosphere (measured in decades to centuries, depending on the gas), decisions we make today to reduce our emissions will have profound impacts on the quality of life 100 years hence. Similarly, investments made today in researching and developing environmentally sustainable energy sources (as opposed to, for example, investing further in coal-fired power plants) also shape and constrain the energy choices available to future generations. For this reason, international climate negotiations often invoke the concept of intergenerational equity. Article 3.1 of the Framework Convention asks Parties to protect the climate system for “the benefit of present and future generations of humankind.”

In essence, the principle is one of fairness, that present generations not leave future generations worse off by the choices they make today regarding development. By explicitly recognizing that future generations are among the beneficiaries of our actions in the climate regime, the Parties are reminded to take a long-term view.

Intergenerational equity thus requires that we take into consideration the impact of our activities on future generations, giving them a “seat at the table” in making current decisions. At a minimum, implementing this principle requires using natural resources sustainably and avoiding irreversible environmental damage. It may also require modifications to our procedures for conducting environmental impact assessments and expansion of our concepts of judicial standing to future generations.

QUESTIONS AND DISCUSSION

1. Beginning with the 1972 *Stockholm Declaration*, international environmental instruments have emphasized the interests of future generations. The *Stockholm Declaration*’s preamble notes that “To defend and improve the human environment for present *and* future generations has become an imperative goal of humankind. . . .” Principle 1 states that “Man . . . bears a solemn responsibility to protect and improve the environment for present and future generations,” and Principle 2 requires the safeguarding of natural resources and ecosystems “for the benefit of present and future generations.” Similarly, Principle 3 of the *Rio Declaration* states: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.” *See also, e.g., United Nations General Assembly Resolution on the Historical Responsibility of States for the Protection of Nature for the Benefit of Present and Future Generations*, G.A. Res. 35/8 (Oct. 30, 1980); *Declaration of the Hague*, Mar. 11, 1989, 28 I.L.M. 1308 (1989). For a thorough treatment of the principle, see

EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY, AND INTERGENERATIONAL EQUITY 37–39 (1996).

2. What concrete steps would be required in our national laws if we took seriously the rights of future generations? How do the principles of inter- and intra-generational equity relate to the environmental justice movement in the United States? Given that many of the impacts of climate change will be visited primarily on future generations, some of which are as yet unborn, should future generations have standing to bring suit? *Cf. Minors Oposa v. Secretary of the Department of Environment and Natural Resources*, 33 I.L.M. 168, 185 n. 18 (1994) (decision by the Philippines Supreme Court citing the principle of intergenerational equity in granting standing to future generations to bring an action to protect the Philippines' forests).

6. *The Precautionary Principle*

Experience in the past decades with environmental problems such as ozone depletion and the accumulation of persistent chemicals in even the most remote parts of the earth, as well as climate change, have jolted some observers to re-evaluate how we address potential environmental harm. At the center of that re-evaluation is the precautionary principle, which reflects the recognition that scientific certainty about environmental harm often comes too late to design effective legal and policy responses for preventing potential environmental threats. Particularly with respect to environmental issues like climate change that involve complex analyses of scientific, technical, and economic factors, policymakers rarely have anything approaching perfect knowledge when asked to make decisions whether to respond or not.

The precautionary principle addresses how environmental decisions are made in the face of scientific uncertainty. The principle is concerned with taking anticipatory actions to avoid environmental harm *before* it occurs. Principle 15 of the 1992 *Rio Declaration* is the most widely accepted elaboration of the precautionary principle:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 15 thus forbids using scientific uncertainty as a reason for postponing cost-effective measures to prevent environmental harm. This focus on avoiding delay and on acting before environmental harm occurs illustrates the principle's emphasis on anticipating and avoiding harm. In this respect, the principle speaks more to *when* policy measures can be taken and on what basis, than to *what* type of measures should be taken. Although not clearly supported by the *Rio Declaration*, many commentators also argue that the precautionary principle acts to switch the burden of proof necessary for triggering policy responses from those who support prohibiting or reducing a potentially offending activity to those who want to continue the activity. Such a shift in the burden of proof can shorten the time period between when a potential threat to the environment is identified and when a legal response can be developed.

The precautionary principle as set forth in the *Rio Declaration* does not prescribe what type of policies and measures should be used — except that such policies and measures should be “cost-effective.” This proved to be the most difficult issue with respect to the principle in the climate negotiations. The United States wanted the treaty to include language regarding cost-effectiveness to condition the principle’s application, but some European countries opposed this. In the end, the Parties compromised by adding a separate statement about cost-effectiveness to the same paragraph as the precautionary principle. UNFCCC, Article 3.3.

QUESTIONS AND DISCUSSION

1. The precautionary principle is not meant to supplant science; it provides a framework for governments to set preventative policies where existing science is incomplete or where no consensus exists regarding a particular threat. The principle is not intended to downgrade the role of science, and the fact that there is scientific uncertainty does not alleviate the need to take into account whatever science does exist. Existing science may, for example, identify the potential scale and seriousness of potential harm as well as the adequacy or effectiveness of policy measures, even where uncertainty remains regarding cause and effect. Indeed, this was arguably the situation in 1992 when the UNFCCC was being negotiated. In that context, can you see the role the precautionary principle could play in the climate regime?

The state of climate science has progressed considerably since 1992, and for the most part much of the cause-and-effect of climate change no longer presents significant uncertainties. What is uncertain is the rate and ultimate impact from climate change. Consider the various forecasts of possible climate impacts identified in Chapter 1. Is the precautionary principle still relevant? In what ways could a precautionary approach shape current climate negotiations?

2. In recent years, the precautionary principle has emerged as perhaps the most controversial of all international environmental principles. The strongest controversies have erupted as a result of different approaches that the European Union and the United States take to the precautionary principle in the context of international trade and environment issues. In fact, precaution has probably always been an element of both EU and U.S. environmental and health policy, but a strong World Trade Organization (WTO) now provides an opportunity to challenge precaution-based policies as being trade-restrictive. The WTO’s apparent preference for scientifically based environmental policies has provided opponents of environmental regulations an opportunity to depict precaution as unscientific and protectionist.

The controversy over the precautionary principle is not just about law, however; it is about the pace, methodology, and extent of environmental regulation. Experience with environmental problems such as ozone depletion and now climate change has taught us that current activities may have serious and irreversible environmental impacts in the distant future or in distant places. We also recognize that the increasing pace of the global economy provides shorter lead time for making key regulatory decisions over products that may have substantial, but not proven, environmental impacts. This has led to the growing interest inside and outside governments for anticipating environmental damage and taking precautionary actions. On the other hand, industry

supporters argue that the costs of such an approach in foregone economic opportunities would ultimately be too high for society, particularly if no science exists to justify the expense.

3. The precautionary principle in slightly different formulations has been included in many international environmental instruments. Indeed, despite the controversy over the precautionary principle in the trade field, it continues to play a key role in most recent international instruments, albeit often over U.S. opposition. *See, e.g., World Charter for Nature*, Principle 11, G.A. Res. 37/7 (Oct. 28, 1982); *London Adjustments and Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer*; and *Non-Compliance Procedure*, at Annex II, Article I.A.1 (amendment to 6th preambular paragraph), Decision IV/18, Nov. 25, 1992, UNEP/Oz.L.Pro.4/15; *Treaty Establishing the European Economic Community*, Mar. 25, 1957, 294 U.N.T.S. 17, U.K.T.S. 15 (1979) *as amended by Treaty on European Union*, Title XVI, Article 130r, Feb. 7, 1992; *Biodiversity Convention*, Preamble; *Agenda 21*, para. 18.40(b)(iv) (1992); *Cartagena Protocol on Biosafety*, Article 10 (Jan. 28, 2000); *Stockholm Convention on Persistent Organic Pollutants*, Articles 1, 8 (2001); Report of the World Summit on Sustainable Development, A/Conf. 199/20, paras. 23, 109(f) (2002); Conference of the Parties to the Convention on Biological Diversity, Decision VI/23: Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species, Annex I (2004); *see also* DAVID FREESTONE, *THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL ENVIRONMENTAL LAW* (1996); C. RAFFENSPERGER & J. TICKNER, *PROTECTING PUBLIC HEALTH & THE ENVIRONMENT: IMPLEMENTING THE PRECAUTIONARY PRINCIPLE* (1999).

II. THE GLOBAL POLITICS OF CLIMATE CHANGE

Now that we have discussed the general way in which international treaties are negotiated and the general principles that shape international environmental negotiations, we turn to the negotiations of the UNFCCC, which was negotiated in 1992 and remains the most important international framework for negotiating a global response to climate change. The Kyoto Protocol and ongoing negotiations for a new climate treaty have been negotiated under the framework created by the UNFCCC. This section provides the geopolitical context for those negotiations. Section III describes the negotiations themselves, and Section IV summarizes those aspects of the Framework Convention that remain most relevant to current global climate negotiations.

A. National and Regional Contributions to Climate Change

From the perspective of international cooperation, it is important to understand which countries are the primary contributors to climate change and how current trends will change this overtime. Not surprisingly, the United States and other industrialized countries are the primary contributors to the historical increase in atmospheric concentrations of greenhouse gases. Until 2007, the United States was the leading annual emitter of greenhouse gases but in recent years China has passed the United States in total annual emissions. The European Union collectively is third. Complicating the comparisons is that recent data for all greenhouse gas emissions, particularly from developing countries, is not readily available. The last compilation for emissions of all greenhouse gases, which is from 2005, is shown in Table 4-1.

Table 4-1: Top GHG Emitting Countries Carbon Equivalent Emissions for Six GHGs: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ (2005 Data)				
Country (ranked by total emissions)	MtCO₂ Equivalent	% of World GHGs	Tons eCO₂/capita	Rank for Emissions per Capita
1. United States	6928	20.6	24.5	6
2. China	4938	14.7	3.9	99
3. Russia	1915	5.7	13.2	22
4. India	1884	5.6	1.9	140
5. Japan	1317	3.9	10.4	39
6. Germany	1009	3	12.3	27
7. Brazil	851	2.5	5	83
8. Canada	680	2	22.1	7
9. UK	654	1.9	11.1	32
10. Italy	531	1.6	9.2	48

More recent data are available for carbon dioxide emissions (because these can be easily estimated from known data about energy use). Table 4-2 reflects data from the U.S. Energy Information Administration for estimated 2010 CO₂ emissions and better reflects recent trends in emissions levels.

Table 4-2: Top CO₂ Emitting Countries (2010 Data)				
Country (ranked by total emissions)	MtCO₂	% of World CO₂	Tons CO₂/capita	Rank for Emissions per/capita
1. China	8320	26.2%	6.3	69
2. United States	5610	17.6%	18.1	18
3. India	1695	5.3%	1.4	142
4. Russia	1633	5.1%	11.7	35
5. Japan	1164	3.6%	9.2	45
6. Germany	793	2.5%	9.6	40
7. South Korea	578	1.8%	11.9	33
8. Iran	560	1.8%	7.3	61
9. Canada	548	1.7%	16.3	20
10. United Kingdom	532	1.7%	8.5	52
World	31,780		4.6	

As seen from the above tables, aggregate totals represent only part of the picture. Per capita emissions may provide a more equitable comparison of a country's contribution to climate change. Among major emitters as of 2010, the United States has the highest per capita emissions of annual carbon dioxide — 18.1 metric tons of CO₂ emissions per person per year (trailing most of the oil-rich middle eastern countries and Australia). By contrast, per capita emissions in China and India are significantly lower — 6.3 and 1.4 tons per year, respectively—but are rising at a

much higher pace. Even Germany's and Japan's per capita emissions are nearly $\frac{1}{2}$ of that of the United States.

There are other illuminating ways to look at emissions as well. The United States dominates cumulative historical emissions of CO₂, having emitted an estimated 28 percent of all CO₂ in the industrial era. China is a distant second with 9 percent and Russia third with 8 percent. Historical emissions are relevant because CO₂ remains in the atmosphere for centuries. Thus, even though China is currently contributing to global warming at a faster rate than the United States, the United States is responsible for more than a quarter of current CO₂ concentrations. Another interesting way to look at emissions is to look at "consumption emissions" — i.e., the amount of emissions associated with the goods and services we consume as opposed to those we produce. Because so many products consumed in the United States come from China and India, it is perhaps not surprising that U.S. aggregate level of emissions are many times higher than in those countries.

B. Global Divides in Climate Politics

Divisions between blocs of countries over the negotiations of the climate change regime have been as persistent and intense as virtually any issues outside the realm of war and national security. The most consistent divisions have included a split between the North and South; between various countries within the G77, for example differences between low-lying States (the victims of climate change) and the oil-producing States (primary beneficiaries of fossil fuel dependence); and between the European Union and the United States. Although these divisions have ebbed and flowed, most of these tensions have persisted throughout the negotiation of the climate regime beginning before the 1992 Earth Summit and continuing through to today's negotiations over a post-Kyoto agreement.

1. The North-South Split

As in many global environmental issues, differences exist between the industrialized and developing countries, particularly because consumption of fossil fuels (and thus the release of greenhouse gases) is viewed as inextricably linked to economic development. Developing countries have refused any requirement through the climate change negotiations that could threaten their economic growth. The international concern with climate change arguably distracts attention from the more pressing national environmental concerns of urban air pollution and lack of safe drinking water. Moreover, by most measures, industrialized countries are primarily responsible for the current composition of the atmosphere. Although China now ranks as the highest annual emitter of greenhouse gases, its *per capita* emissions are less than $\frac{1}{2}$ that of the United States. India's per capita emissions are less than $\frac{1}{10}$ th of the United States. Furthermore, given that most greenhouse gases remain in the atmosphere for decades or more, the industrialized countries have "banked" an even greater percentage of the total responsibility for global warming. The United States, for example, has contributed an estimated 30% of all CO₂ emissions from fossil fuel use over the past century (although its percentage contribution decreases as other GHGs are included). China's aggregate contribution to current concentrations of greenhouse gases, and thus to current climate change problems, are a fraction of the historical

contribution of the United States. To developing countries, this historical, aggregate contribution is compelling justification for requiring industrialized countries to make significant reductions in greenhouse gas emissions first. On the other hand, emissions are growing fastest in the global South, and no effort to curb climate change solely by reducing emissions in industrialized countries will succeed.

The North-South debate permeates current climate change negotiations. Most developing countries are already Parties to the UNFCCC and the Kyoto Protocol, but neither of those agreements assigned developing country Parties clear targets and timetables or other clear obligations for reducing their contribution to climate change. The extent and nature of developing country obligations are a central component of the current climate negotiations, but the terms for setting developing country obligations are not clear and are fiercely debated — even assuming developed countries offer a robust package of financial support, technology transfer, and flexibility in setting and achieving those obligations.

Complicating the negotiations has been the failure of the United States and a few other developed countries to accept binding targets first. Developing countries see the issue in terms of global fairness and justice. Even the largest and fastest growing countries — countries like China, Brazil, and India — have much lower per capita emissions than the United States and even China's cumulative contribution to the problem is less than that of the United States. Moreover, developing countries see the issue as broader than climate change to one of economic development and inequity in the global system. Any obligations to curb greenhouse gas emissions must not impede their efforts to raise standards of living in their countries to be roughly equivalent with developed countries. Thus, to the extent developing countries may submit to binding obligations to address climate change, they will likely not accept absolute caps on emissions. Instead, developing countries may agree to energy conservation or energy mix goals — which may improve the efficiency of their economies (i.e., emissions per dollar of economic output) — but adamantly resist fixed limits on overall energy use. For politicians in the United States and some other developed countries, such different obligations are political and economic non-starters.

2. Divisions within the G77

Developing countries, which often negotiate as the Group of 77 and China (the G77 and China), cannot be viewed uniformly, however, as they are far from unified in their positions on climate change. Not surprisingly, the countries taking the strongest position on climate change are those countries that have the most to lose — small island States and those States like Bangladesh that are most vulnerable. About thirty small island States have joined the Alliance of Small Island States (AOSIS), which promotes the interests of island nations in the climate change negotiations. According to the current best estimates of sea level rise, some island States like the Maldives will be totally inundated by the middle part of this century. AOSIS originally supported a 20 percent cut in GHG emissions from 1990 levels for all industrialized countries by the year 2005. AOSIS has also pushed for adaptation funding and other funding mechanisms for countries most vulnerable to climate change. Countries would have access to these funds as compensation for damages incurred due to sea-level rise and increased storm activity, as well as

to finance climate change adaptation strategies, such as the construction of sea walls.

At the opposite extreme are the oil-producing nations, which have not supported any specific measures to curb global warming. Some delegates believe the Organization of the Petroleum Exporting Countries (OPEC) joined the UNFCCC simply to block any international agreement that would reduce global oil demand. The OPEC countries also promote a compensation fund, but their version of the fund would be used to reimburse oil-producing States for any financial losses incurred due to reduced oil demand (and prices) resulting from the climate change regime.

Brazil and the countries of the Amazon Basin as well as other heavily forested countries bring an additional perspective to climate negotiations. They see the focus of the industrialized countries on forest conservation and climate sinks as an effort to shift the responsibility and costs for responding to climate change to developing countries. Brazil objects to the “internationalization” of the Amazon as a sink under the UNFCCC. Heavily forested countries particularly object to the United States and other industrialized countries using their countries as something to absorb the wastes developed countries put out. At the same time, many forest-rich countries recognize that the climate regime could provide significant financial support for forest conservation and management. They have recently proposed an ambitious program for the North to compensate forest-rich countries that slow their rates of deforestation

3. The Persistent EU-U.S. Division

Serious differences also exist within the industrialized world. The publicly articulated position of the United States has always been significantly weaker than that of the European Union. In addition, differences between the industrial sectors of Europe and the United States led to conflicts over which gases should be included and to what extent production of these gases should be restricted. The United States has always sought unlimited carbon trading and unrestricted credits for its substantial and growing forests. Europe has always sought the flexibility and cost-savings that would come with regional trading between countries within the European Union, but it has sought limits to trading outside such regional blocs.

These differences were exacerbated in 2001, when the United States under newly elected President George W. Bush announced its unilateral renunciation of the Kyoto Protocol and the treaty’s requirement for developed countries to meet specific emissions targets during the first commitment period (2008–2012). Since then the policies of the two regions have diverged considerably, with the European Union supporting a multilateral response with clear targets and timetables as under the Kyoto Protocol and the United States pursuing a foreign policy that engaged a relatively few countries on joint research, technology transfer, and investment.

The United States was not always alone in its opposition to European climate policies. Most of the Kyoto Protocol Parties, the non-EU heavy emitting countries — namely Japan, the United States, Canada, Australia, and New Zealand (JUSCANZ) — often negotiated as a bloc. What kept them together was the need for more flexible targets and strong trading mechanisms. Since the Kyoto negotiations this coalition has been less cohesive. Only Australia joined the United States in initially refusing to ratify Kyoto, although it subsequently joined Kyoto in 2007.

Canada formally joined the Kyoto Protocol but essentially renounced any intention of complying with it.

The differences between developed countries, even between the United States and Europe, may be less important in current and future negotiations than they have been in the Kyoto era. Only a few countries outside the European Union agreed to binding obligations as part of a second commitment period under the Kyoto Protocol (Kyoto II), negotiated in 2012. The Kyoto Protocol regime is now anticipated to be largely replaced in 2020 by a universal agreement — which the Parties are in the process of negotiating — that includes developing country obligations. Indeed, the rise in importance of China, India, Brazil, and the middle-income developing countries to the success of the climate negotiations has superseded the importance of divides among developed countries

4. Special Situation of Countries in Economic Transition

The industrialized countries of the former Soviet bloc have brought slightly different concerns to the table in the UNFCCC negotiations than most other industrialized countries. Their economies, which had been among the most inefficient in the world, have undergone significant restructuring and transition since the collapse of the Soviet system. Production at many of the largest polluting factories came to a standstill due to severe economic conditions during the early 1990s. Their rates of GHG emissions were expected to remain well below their 1990 baseline year through the first commitment period (2008–2012). These countries were also facing a severe economic crisis and were hoping to receive funding from the climate regime, making them in this respect more like developing countries. During the Kyoto negotiations, these countries insisted on receiving sellable allowances for the difference between their actual emissions and the amount they are allowed to emit under the Protocol. Their position was ultimately accepted in the Protocol because countries like the United States saw this as a convenient mechanism for helping meet their own commitments through trading carbon allowances (discussed below).

QUESTIONS AND DISCUSSION

1. At first glance, the demand by OPEC nations to be compensated for declines in demand of their oil products seems to turn the concept of compensation for damages on its head. We do not typically think about the need to compensate States for stopping production of something that international society has decided causes widespread harm. But is their position any different than the forest-rich countries asking for financial support to avoid deforestation? *See* Chapter 8. Is that not compensation for lost opportunities from developing the forests?

2. The climate change negotiations place developing countries in an unusually powerful position. Unlike most other fields of international law, the cooperation of key developing countries is required for a successful climate change regime. For example, the World Trade Organization managed to operate successfully for many years without China's participation; the climate regime will clearly not be a success without China. Moreover, developing country GHG

emissions now exceed those of developed countries. Without the cooperation of the developing countries, greenhouse gas reductions made in the North will not make a significant difference in the overall warming trend if the South does not eventually agree to some limitations as well. How should the South use this leverage? Should they use it with respect to broader issues of economic development?

III. THE NEGOTIATIONS OF THE UN FRAMEWORK CONVENTION

Although climate change now grabs the headlines almost daily, it is not a new issue. Environmentalists and climatologists have known for some time that the build-up of atmospheric greenhouse gas concentrations was likely to lead to significant changes in global climate. International negotiations over climate change now date back more than twenty years, and during that time the science regarding climate change has only become clearer and the problem more urgent.

Given the high stakes involved in global climate negotiations and the widely divergent interests of various countries, it is no wonder that the climate regime is taking years to develop. Although at times the pace is maddeningly slow with significant backward steps (for example, the U.S. withdrawal of support for the Kyoto Protocol), international cooperation with respect to climate change has continued to march forward and promises to be even more significant in years to come. The chronology provided in Table 4-3 should help you to understand the development of the climate regime.

Table 4-3: Development of the Climate Change Regime

1979	World Meteorological Organization (WMO) convenes First World Climate Conference
1985	Scientific meeting in Villach, Austria, concludes it is “highly probable” that increasing concentrations of greenhouse gases will produce significant climate change.
1988	WMO and UNEP establish the IPCC
1988	Toronto Conference on the Changing Atmosphere issues a call for 20% reduction of carbon dioxide by 2005
1990	Second World Climate Conference recommends a framework climate change convention
1990	IPCC issues First Assessment Report predicting that business as usual would result in “unprecedented” warming.
1990	UN General Assembly establishes the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (FCCC)
1992	UNFCCC Signed at the Rio Earth Summit

- 1994 UNFCCC enters into force
- 1995 Berlin Mandate Agreed by the First Conference of Parties to the UNFCCC
- 1995 IPCC's Second Assessment concludes that human activities are changing the climate
- 1997 Kyoto Protocol is concluded
- 2000 IPCC's Third Assessment identifies discernible man-made effect on the environment
- 2001 President George W. Bush takes office and unilaterally withdraws from the Kyoto Protocol
- 2001 Europe, Japan, and the rest of the world agree to the Marrakesh Accords implementing the Kyoto Protocol
- 2005 Kyoto Protocol enters into force
- 2005 EU launches European Trading System, a continent-wide carbon trading system
- 2007 Fourth IPCC Assessment concludes that observed climate change is "very likely" caused by GHG emissions
- 2007 All countries agree to the Bali Plan of Action to agree to post 2012 commitments by 2009
- 2008 First four-year reporting period begins under the Kyoto Protocol
- 2009 President Obama takes office and announces that the U.S. will aim toward reducing GHG emissions 80 percent by 2050
- 2009 The Copenhagen Climate Summit fails to reach a general agreement, as a subset of countries release the Copenhagen Accord
- 2011 The Durbin Platform sets out a schedule for reaching a comprehensive new agreement by 2015 to address the reduction of greenhouse gas emissions starting in 2020
- 2012 The Kyoto Protocol is amended to allow a second commitment period (Kyoto II), with the European Union and a few other countries agreeing to further emissions reduction between 2013 and 2020.
- 2015 The next milestone?

A. The Early Years: Building Support for an International Convention on Climate Change

The following excerpt describes some of the early years of negotiations leading up the Earth Summit's adoption of the UN Framework Convention on Climate Change:

**DANIEL BODANSKY, THE UNITED NATIONS FRAMEWORK
CONVENTION ON CLIMATE CHANGE: A COMMENTARY**
at 458–63*

Although scientists have understood the general theory of greenhouse warming for more than a century, widespread concern emerged only in the last two decades. This resulted from several scientific developments. First, in the 1960s and 1970s atmospheric chemists conclusively established that concentrations of carbon dioxide were in fact increasing.

Since 1958, when direct measurements first began, atmospheric carbon dioxide concentrations have risen from 315 ppm to more than 350 ppm [in 1993]. Second, in the 1980s scientists began to focus on trace gases other than carbon dioxide that trap heat and contribute to the greenhouse effect, chief among them methane, nitrous oxide, and chlorofluorocarbons (CFCs). In 1985, the global warming effect of these gases was estimated to be roughly equal to the effect of carbon dioxide, indicating that the problem was twice as serious as previously believed.

Third, as computing power grew, climatic models became much more sophisticated and complex, increasing the credibility of global warming predictions. Models of the atmosphere must take into account many factors, including the heat-trapping characteristics of greenhouse gases, ocean and wind currents, soil moisture, the reflectivity of the Earth's atmosphere and surface to sunlight, and an array of feedback mechanisms. Early simulations of the atmosphere were very crude, and did not come close to approximating the complexity of atmospheric dynamics. The advent of supercomputers permitted the development of more realistic general circulation models, which represent the atmosphere in three dimensions and in greater spatial detail, and take better account of feedback mechanisms and ocean-atmosphere interactions. Although a high degree of uncertainty still exists, most climate scientists believe that general circulation models are now sufficiently reliable to provide a basis for policy decisions.

Finally, new studies in the 1980s indicated that the temperature record is broadly consistent with global warming forecasts. In the mid-twentieth century, such forecasts had had limited impact, given what appeared to be a cooling trend. As recently as the mid-1970s, when a series of climatological disasters drew attention to the climate change issue, scientists were still split between “coolers” and “warmers,” and some feared the onset of another ice age. Today, in contrast, a careful re-examination of the historical data has produced a general consensus that the Earth is warming. * * *

By 1985, these scientific developments had combined to make the theory of greenhouse warming more convincing and urgent. In October of that year, a scientific conference held in Villach, Austria concluded that “[a]lthough quantitative uncertainty in model results persists, it is

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highly probable that increasing concentration of the greenhouse gases will produce significant climatic change.” The conference statement recommended that since “the understanding of the greenhouse question is sufficiently developed, scientists and policy-makers should begin an active collaboration to explore the effectiveness of alternative policies and adjustments.”

However, whether scientific evidence alone would have been sufficient to spur the international community to action is questionable. Three additional factors catalyzed governmental and public interest in global warming and helped transform it from a scientific to a political issue. First, a number of scientists acted as promoters, publicizing the threat of greenhouse warming through conferences, reports, and personal contacts. The 1985 and 1987 Villach Conferences and the 1987 Bellagio Conference helped to consolidate the scientific consensus regarding global warming and to communicate that consensus to policymakers. Second, the discovery of the ozone hole in 1987, which dramatically demonstrated that human activities can indeed affect the global atmosphere, raised the prominence of atmospheric issues generally. Finally, the heat wave and drought of the summer of 1988 gave an enormous popular boost to greenhouse warming proponents. In June, the testimony of James Hansen, a NASA climate modeler, to the Senate Energy Committee on the greenhouse effect made front-page news. Although most scientists believed it was unproven whether the hot weather was due more to the greenhouse effect or to normal climate variability, the climate change issue had emerged politically, even prompting [the first] President Bush to address it during his election campaign.

* * *

Just as concern about global warming was mounting, Canada sponsored an international conference in Toronto. The Conference on the Changing Atmosphere sought to bridge the gap between scientists and policymakers. More than 340 individuals from forty-six countries, including two heads of government, more than one hundred other government officials, and numerous scientists, industry representatives, and environmentalists, attended the conference.

* * *

In many respects, the Toronto Conference Statement was the high water mark of policy declarations on global warming. On the one hand, although the conference was not officially governmental in nature (the government participants attended in their personal capacities), it had far more status and influence than other non-governmental meetings held before or since. In part, this was due to Canada’s sponsorship and the substantial participation by high government officials, including the Prime Ministers of Canada and Norway. In part, the Toronto Conference came at the right time: it was an “event waiting to happen.” On the other hand, because of its non-governmental character, the Toronto Conference Statement was not a negotiated document. It was drafted by a committee composed mostly of environmentalists and discussed in less than a day. Flush with the success of the Montreal Protocol, many participants did not fully appreciate the political difficulties of addressing the climate change issue. Moreover, as with many new environmental issues, environmental activists — who discovered and pushed the issue — had a head start, while opponents in industry and government took longer to mobilize. Following the Toronto Conference, the climate change issue continued to attract substantial attention. Increasingly, however, the discussions moved onto an inter-governmental track, where agreement proved more difficult to reach and conference statements became more carefully qualified. Indeed, as States became increasingly aware of the stakes and uncertainties involved in

the climate question, even States that had initially supported a strong policy response became more cautious.

QUESTIONS AND DISCUSSION

1. The Toronto Conference Statement referenced above called on countries as an initial goal “to reduce CO₂ emissions by approximately 20 percent of 1988 levels by the year 2005”, with half of that goal to come from improved energy conservation. *See* Conference Statement, *The Changing Atmosphere: Implications for Global Security* (June 27–30, 1988), para. 22, *reprinted in* 5 AM. U. INT’L L. & POL’Y 515 (1990). It also envisioned a global convention to protect the atmosphere, analogous to the Law of the Sea Convention. Separate protocols would then be adopted to address different atmospheric issues, including climate change, acid rain and the dispersal of persistent organic pollutants. The ozone depletion regime would also have been brought into this institutional arrangement. Instead, today we have the Montreal Protocol regime, the climate regime and the Stockholm Convention on Persistent Organic Pollutants (POPs), all with separate institutional and policy structures. What advantages, if any, do you think the Toronto Statement’s approach would have had? What disadvantages?

2. What specific goals for addressing climate change were identified in the 1988 Toronto Statement? How many of these climate-related goals have been achieved? Note, for example, that where the Conference participants called for a 20 percent reduction of CO₂ emissions by 2005, we have actually seen an increase of global CO₂ emissions of more than 20 percent. How much harder does this make today’s challenge for addressing climate change?

3. As it became increasingly clear that there would be an international negotiation to address climate change, both UNEP and the WMO were vying to be the lead agency to host the negotiations. In December 1990, however, the U.N. General Assembly opted for an International Negotiating Committee (INC) under its own auspices with both UNEP and WMO playing supportive roles. The General Assembly set a firm schedule for the negotiations with the goal of having a proposed convention ready to sign in eighteen months at the 1992 UN Conference on Environment and Development (the Earth Summit). *Protection of Global Climate for Present and Future Generations of Mankind*, U.N.G.A. RES. 45/212 (Dec. 21, 1990). As you read the following section consider how this timetable affects the outcome of the negotiations.

B. Negotiations of the UNFCCC

After the end of the Cold War, the United Nations and many world leaders were looking to the Earth Summit to launch a major global partnership for sustainable development. The UN organizers of the Summit hoped that one of the centerpieces of that partnership for the conference would be a convention to address climate change. The 1990 UN General Assembly Resolution committed negotiators to this time frame, even if the ultimate substance of the convention remained uncertain. The following is a summary of the negotiations immediately leading up to the 1992 Framework Convention on Climate Change, written by Donald Goldberg, the first NGO observer on the U.S. delegation to the climate negotiations.

DONALD GOLDBERG, AS THE WORLD BURNS: NEGOTIATING THE FRAMEWORK CONVENTION ON CLIMATE CHANGE

5 GEO. INT'L ENVTL. L. REV. 239, 247–52 (1993)*

By the time of the opening session of the Climate Convention negotiations [in February 1991], a number of countries had already committed to reducing GHG emissions. The European Community (EC) had committed to returning its joint CO₂ emissions to 1990 levels by the year 2000. The EC . . . also promised to provide financial assistance to help developing countries respond to climate change. Its position was based on individual country commitments by Germany, Denmark, Switzerland, Sweden, Australia, Austria, Norway, and Canada. Many of these commitments went beyond stabilization at 1990 levels or promised deeper CO₂ cuts in later years.

Japan had previously stated that its “emissions of CO₂ should be stabilized on a per capita basis in the year 2000 and beyond at about the same level as in 1990,” and “the emission of methane should not exceed the present [1990] level.” In the opening round, Japan called for negotiation first of a basic framework, but suggested the convention might also contain concrete measures to be taken by the parties.

The Group of 77 developing countries (actually composed of 127 developing countries) made a point of the fact that 75% of energy-related CO₂ emissions are attributable to industrialized countries, but acknowledged, nevertheless, that developing countries have a responsibility not to follow the same path. They called for industrialized countries to transfer environmentally sound technologies to developing countries on preferential and non-commercial terms to help developing countries avoid the environmentally destructive aspects of development. They also called for the creation of a differentiated regime under the climate convention for developing countries, along the lines of the Montreal Protocol.

The United States, as expected, rejected targets and timetables, instead advocating a “no regrets” policy of actions that would be taken only insofar as they produced benefits having nothing to do with global warming. For example, the U.S. might promote the use of a new energy technology that would have global warming benefits if it could be shown to be more cost-effective, or to reduce urban pollution, but not merely for the purpose of reducing GHG emissions. The U.S. also supported further research to resolve uncertainties and a “comprehensive approach” to reducing emissions, which would take into account not just CO₂, but all greenhouse gases.

The United States attempted to deflect some of the criticism aimed at it during the first negotiating round by releasing a White House “Action Agenda,” intended to demonstrate that the U.S. was acting responsibly with regard to its GHG emissions. The Action Agenda purported to show that U.S. policies would result in GHG emissions in the year 2000 at or below 1987 levels.

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Unlike the European plan, however, the U.S. approach contemplated significant increases in domestic CO₂ emissions. To achieve its year 2000 target, the U.S. plan relied heavily on the phase-out of CFCs, thought to account for approximately 11% of radiative forcing. Both the Europeans and environmentalists objected that the U.S. plan was disingenuous, since CFCs were already scheduled to be phased out under the Montreal Protocol on Substances That Deplete the Ozone Layer, and were not included in other countries' emissions reduction plans. * * *

The first round ended with the U.S. and the EC deadlocked on the question of whether the agreement should include firm commitments to reduce greenhouse gases. To break the deadlock, the U.K. Environment Secretary, Michael Heseltine, traveled to the United States shortly before the start of the second round with an offer of compromise. The EC would accept the U.S.'s comprehensive approach — excluding gases already controlled by the Montreal Protocol — if the U.S. would accept targets and timetables. The U.S. declined, and little additional progress was made in the second round. In hopes of moving the process incrementally forward, Japan, with the support of the U.K. and France, floated an informal paper proposing a “pledge and review” approach, under which parties would pledge to undertake actions to reduce emissions, and an international body would review the implementation of those pledges. Environmentalists were quick to lampoon this approach as “hedge and retreat.”

Supporters of pledge and review — stung by environmentalists' criticism — backed away from the proposal at the next negotiating round, in Nairobi in September 1991, and reaffirmed their support for stabilization of CO₂ emissions at 1990 levels by 2000. The EC also called for a treaty objective to stabilize greenhouse gases at levels that would “prevent dangerous anthropogenic interference with climate” within a timeframe that would “allow ecosystems to adapt naturally.” The U.S. continued to resist any binding commitments on targets and timetables.

But cracks in the U.S. position were beginning to appear. In December 1991, when White House Chief-of-Staff John Sununu — the Administration's strongest opponent of greenhouse gas controls — resigned, the White House began to review its position. EPA Director William Reilly argued that stabilization tied to population growth was achievable, based on EPA's innovative “Green” Programs. By the start of the last negotiating round, in February 1992, Administration officials were reporting that a change in U.S. policy was in the making. The first complete draft text was introduced at the fourth negotiation, held in Geneva in December 1991. The draft was over 110 pages long, and most of the text was bracketed, indicating that the text was controversial and had not yet been approved by the full Committee. Nevertheless, its introduction signaled that the Committee might yet complete its work in time for the Rio Earth Summit in June. * * *

Meanwhile, it was becoming clear that negotiators would never resolve all the issues under discussion in time for Rio, and a wholesale jettisoning of bracketed provisions began. As time grew short, negotiators agreed to return to the UN at the end of April, to try to finish their work. During the interim the INC Chairman, in consultation with a number of countries, substantially revised the text, paring it down to a third of its previous size.

The Chairman's text was in many respects a *fait accompli* — there was simply not enough

time to make large-scale revisions. Ground-breaking approaches to dispute settlement, a financial mechanism, technology transfer, amendments, annexes, protocols, and entry into force provisions contained in earlier drafts were dropped in favor of formulations that in some respects actually marked a retreat from previous international environmental agreements.

The commitment section of the Chairman's text acknowledged the fact that a legally binding commitment to reduce greenhouse gases was beyond reach, if the U.S. was to be a signatory. It reflected a consensus of the other industrial countries that an agreement would not be meaningful without the participation of the U.S. The EC and Japan mildly protested the weak commitment section, but made clear they would not hold out for stronger language. The Chairman blamed the weak and ambiguous GHG commitment language squarely on the U.S.

Had the U.S. not taken such a hard line on commitments, the Convention would no doubt have been stronger. But the difference a more constructive U.S. approach might have made should not be overstated. Not every industrialized country other than the U.S. was prepared to make commitments to deep cuts in CO₂ or other GHG emissions. Indeed, the best the EC could offer was to stabilize its emissions at 1990 levels by the year 2000. Japan's commitment was even weaker, though it probably would have accepted the EC target. Nevertheless, a firm commitment to any targets and timetables would have been a significant improvement . . .

QUESTIONS AND DISCUSSION

1. It is easy to forget that actual people negotiate international environmental agreements and that the final outcomes may in fact reflect specific choices or ideas of individuals. In the case of the UNFCCC, many observers attribute the ability of the countries to reach consensus to Chairman Ripert's deft handling of the final negotiations. Consider the following account by one of India's lead negotiators:

It was remarkable that it proved possible to bridge this chasm in ten days of negotiations during the resumed fifth session in New York. How did it prove possible to achieve this in a few days when efforts over the past fifteen months had yielded such limited and disappointing results?

Two new factors enabled the finalization of the Convention apart from the high political priority which delegations placed on completing a Convention before the UNCED meeting in Rio that was scheduled for June. First, at long last, the North arrived at a common formulation of its commitment concerning emissions. Second, connected with this breakthrough and at the initiative of the chairman, a new negotiating procedure was adopted to hasten an agreement.

On the very first day of the final round, Chairman Ripert announced his intention to seek a speedy conclusion of the negotiations on the basis of a Working Paper that he would present to the plenary. The first installment of the draft was distributed immediately following his announcement and the second installment — covering the crucial areas of "commitments" and "mechanisms for

transfer of finance and technology” — was made available on the following day, after finalization of a common U.S.-EC formulation on their commitments regarding emissions. The chairman explained that the Working Papers were based on the Revised Text prepared at the conclusion of the previous round and that he had used his best judgment to produce a clean text without brackets. In another major procedural change, it was accepted, at the chairman’s suggestion, that negotiations on the basis of this text should initially be confined to an “Enlarged” Bureau. This included about two dozen countries

The chairman explained in the Enlarged Bureau that plenary meetings were unnecessary at this stage since the formulations in his text were not new and had been debated in earlier sessions of the plenary. * * *

Negotiations within the Enlarged Bureau commenced on the basis of the chairman’s Working Paper. The chairman argued that the formulation on emission commitments of developed countries, which had emerged after very difficult and delicate negotiations, should not be reopened. The Indian delegate expressed the view that the paper as a whole was under negotiation, including the new formulation on the emissions commitments of developed countries. In the end, India did not press for action on this proposal, in light of bearing in mind also the importance of securing a consensus Convention. The EU-U.S. formulation itself was later revised slightly by its authors. It was finally incorporated into the Convention in this revised form, with only a few very minor changes.

Vigorous negotiations took place in the Enlarged Bureau over the next several days, often lasting until the early hours of the morning. There were also frequent consultations among delegations outside the Bureau. Efforts were made by group representatives to inform and consult countries not represented in the Enlarged Bureau, but these efforts could not keep pace with the rapid development of text within the Bureau. After agreement had been reached within the Enlarged Bureau, texts were circulated to the plenary for wider discussion and approval. But, since some of the crucial elements relating to “Commitments” were finalized only on the final day, a majority of delegations saw the full text of the convention just hours before its adoption by consensus. The discussion did not significantly alter the text emerging from the Enlarged Bureau.

Chandrashekhara Dasgupta, *The Climate Change Negotiations*, in IRVING M. MINTZER, ET AL., *NEGOTIATING CLIMATE CHANGE: THE INSIDE STORY OF THE RIO CONVENTION* 129, 142–44 (1994). Chairman Ripert employed two “tried and true” strategies to facilitate the last negotiating session: (1) he introduced a “chairman’s” draft, and (2) he reduced the number of Parties involved in the principle negotiations by creating an “Enlarged Bureau” of just 24 countries. Can you see why these steps may be necessary to reach consensus? Can you see why they may breed resentment among many of the Parties? These two strategies are still widely used in the climate negotiations.

2. As you read the description of the negotiations leading up to the UNFCCC, consider the extent to which they match the general model outlined in Section I. Can you identify the different stages in the negotiating process? What entity, for example, hosted or organized the negotiations? Also, review the Convention itself and determine how it addresses issues such as ratification, accession, and entry into force.

IV. THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Lacking in any binding commitments to reduce greenhouse gases, the resulting UNFCCC was somewhat disappointing to environmentalists. It nonetheless marked significant progress in the international commitment to address climate change. Most importantly, the UNFCCC established the policy and institutional framework for the continued implementation and progressive development of the regime into the future. Indeed, more than twenty years later, the UNFCCC still provides the basic framework for the international response to climate change. The Kyoto Protocol nests within the UNFCCC, supplementing it with binding commitments but not replacing most of its provisions. Moreover, although the United States has never ratified the Kyoto Protocol, the United States remains a Party to the UNFCCC and is bound by whatever obligations it contains. As the world moves beyond Kyoto and looks for ways to gain commitments from developing countries and the United States, the UNFCCC remains critical for shaping the post-Kyoto negotiating process.

PROBLEM EXERCISE: READING THE UNFCCC

The following sections describe different aspects of the UNFCCC, including the basic principles, objective, commitments, and institutional arrangements. Before reading these sections, we recommend that you review the UNFCCC, reproduced as Appendix I of this textbook, to gain some understanding of the UNFCCC in its entirety. In addition, work with the treaty by finding answers to the following questions in its text:

- (1) Why are some countries included in Annex I not included in Annex II? What is the difference in their commitments under the UNFCCC?
- (2) How many Parties does it take to amend the UNFCCC? Do amendments apply to Parties who do not vote for the amendment?
- (3) What is the difference between a “reservoir” and a “sink” in the UNFCCC? What, if anything, are Parties supposed to do with respect to their reservoirs and sinks?
- (4) Find at least four decisions or actions the Conference of the Parties is supposed to make at their first meeting. When does the first meeting of the Conference of the Parties take place?
- (5) What requirements to actually reduce greenhouse gas emissions, if any, are developed countries required to take under the UNFCCC?

- (6) What steps can one Party take to force a resolution of any dispute it has under the UNFCCC with another Party?

A. Principles of the UNFCCC

As noted above, international environmental agreements are negotiated against a backdrop of general international environmental law principles and many agreements explicitly acknowledge those principles, typically in the preamble of the convention. The UNFCCC is no exception, but it also repeats some of the principles, such as State sovereignty, common but differentiated responsibilities, equity and the precautionary principle, among others, in the main text of the Convention in Article 3.

UNFCCC, PREAMBLE

The Parties to this Convention,

Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind, * * *

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs, * * *

Acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions, * * *

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

Reaffirming the principle of sovereignty of States in international cooperation to address climate change, * * *

Recognizing also the need for developed countries to take immediate action in a flexible manner on the basis of clear priorities, as a first step towards comprehensive response strategies at the global, national and, where agreed, regional levels that take into account all greenhouse gases, with due consideration of their relative contributions to the enhancement of the greenhouse effect,

Have agreed as follows: * * *

UNFCCC, ARTICLE 3

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, inter alia, by the following:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.
3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors.
4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.
5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

The inclusion of Article 3 in the UNFCCC was controversial during the negotiations, as described in the following excerpt:

DANIEL BODANSKY, THE UNITED NATIONS FRAMEWORK

CONVENTION ON CLIMATE CHANGE: A COMMENTARY

at 501–02^{*}

Most developing countries supported the inclusion of an article on general principles, arguing that such an article would serve as the lodestar or compass to guide the parties in implementing and developing the Convention. Some even argued that the Convention should include only principles and leave commitments to future protocols. In contrast, developed countries generally questioned the inclusion of a principles article. The United States in particular insistently opposed its inclusion, arguing that its legal status was unclear. The United States maintained that if the principles merely stated the intentions of the parties or provided a context for interpreting the Convention's commitments, they served the traditional functions of the preamble, and placing them in the operative part of the Convention would be unnecessary and even misleading. On the other hand, the United States argued, if the principles were themselves commitments, they should be designated in the Convention as such.

The U.S. reasoning, however, fails to take into account that principles may serve a third function, different from those of either preambles or commitments: unlike preambular paragraphs, principles embody legal standards, but the standards they contain are more general than commitments and do not specify particular actions. As Ronald Dworkin explains, both legal principles and legal rules:

point to particular decisions about legal obligation in particular circumstances, but they differ in the character of the direction they give. Rules are applicable in an all-or-nothing fashion. . . . [A principle] states a reason that argues in one direction, but does not necessitate a particular decision. . . . All that is meant, when we say that a particular principle is a principle of our law, is that the principle is one which officials must take into account, if it is relevant, as a consideration inclining in one way or another.

Because of the open-ended character of principles, a government cannot be certain of where they will eventually lead. This may explain why the United States, which is deeply skeptical of the international lawmaking process, opposed a principles article and preferred more clearly enunciated commitments.

Although developing countries ultimately prevailed in obtaining the inclusion of a principles article, the United States successfully pressed for several changes to Article 3 to reduce its potential legal implications. First, a chapeau was added, specifying that the principles are to “guide” the parties in their actions to achieve the objectives of the Convention and to implement its provisions. Second, the term “states” was replaced by “Parties.” Finally, the term “inter alia” was added to the chapeau to indicate that the parties may take into account principles other than those listed in Article 3 in implementing the Convention. These three modifications were intended to forestall arguments that the principles in Article 3 are part of customary international law and bind states generally. Instead, the principles clearly apply only to the parties and only in

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relation to the Convention, not as general law.

Developing countries also had to compromise on the substance of the principles. In some cases, Western opposition led to the transfer of proposed principles to the preamble; in other cases, principles proposed by developing countries were not included in the final text at all. In general, Western countries were able to define the principles more narrowly than in the parallel negotiations on the Rio Declaration, possibly because the INC was a less politicized, less public forum than the UNCED Preparatory Committee.

As suggested by the above, the legal status and effect of these principles may not have been clear, but they have nonetheless remained important to the development of the climate regime. The developing countries continue to use these principles as a compass, pushing for considerations of equity and common but differentiated responsibilities in current negotiations, and are aided by the precedent that they are included in the UNFCCC. Indeed, it is difficult to fully understand current negotiations of the post-Kyoto regime without some understanding of the implications of these general principles.

QUESTIONS AND DISCUSSION

1. What general concepts or principles of international environmental law are found in the UNFCCC? What purpose does including such broad principles serve?

2. In general, preambles to conventions are not considered binding, but provide guidance regarding the negotiating history, purpose, and general approach of the treaty. Review the preamble to the UNFCCC reproduced in Appendix I. Can you see how the preamble to the UNFCCC reflects many of the compromises and tensions between industrialized and developing countries that are further reflected throughout the body of the UNFCCC? What other functions do you think the preamble serves?

3. The climate negotiators were clearly influenced by the success of the Montreal Protocol in gaining broad-based developing country support for restrictions on the production and use of ozone depleting substances. Although the principle of common but differentiated responsibilities is not explicitly identified as such in the Montreal Protocol, the Protocol did provide significant financial and technical assistance to developing countries and, most importantly, explicitly delayed the imposition of any restrictions on developing countries' production and consumption of ozone-depleting substances for at least ten years as compared to developed countries. This approach was widely viewed as effective and working in the ozone regime, and was part of the "formula" that the climate negotiators hoped to follow. *See* Montreal Protocol, Article 5.

4. The principle of common but differentiated responsibilities also appears in the chapeau to Article 4.1 as a condition on commitments that all Parties accept under the Convention: "All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall . . ." Article 4 can also be seen as providing some clarification as to what precisely was meant by common but

differentiated responsibilities. All Parties agreed to the commitments in Article 4.1, but only developed countries (Annex I countries) agreed to the commitments in Article 4.2. Review these articles in the Convention. Does it give you more of a sense of how the Parties intended to allocate responsibilities? Do developing countries have any binding responsibilities under the Convention?

5. The concept of common but differentiated responsibilities remains particularly controversial in the climate negotiations. The concept partly explains why only industrialized countries were required to accept binding emission reduction levels in the Kyoto Protocol. This issue — whether developing countries should be allowed less rigorous compliance requirements — was one of the most difficult issues in negotiations over binding targets and timetables under the Kyoto Protocol and remains a major impediment to consensus in the post-Kyoto negotiations. Indeed, the United States now argues that the principle should be reconsidered in light of changing circumstances. In particular, the United States emphasizes that China is now the leading emitter of greenhouse gases, and many of the largest developing countries can arguably afford to adopt stronger environmental commitments. China and many other developing countries adamantly oppose this, arguing that the negotiations must continue under the approach agreed to in the UNFCCC. Reaching a compromise approach may require the articulation of some new organizing principle or some new refinement of common but differentiated responsibilities.

B. The UNFCCC Objective

Article 2 of the UNFCCC sets out the climate regime's overall objective:

UNFCCC, ARTICLE 2 Objective

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

The phrasing of the objective is important for several reasons. First, the objective clarifies that the Convention is not only about curbing greenhouse gas emissions. The objective is not written in terms of “reducing emissions,” but rather in terms of the “stabilization of greenhouse gas *concentrations* in the atmosphere.” In this way, the objective signals the tremendous ambition of the climate regime to cover not only fossil-fuel emissions, but land-use and forestry policies that relate to the ultimate concentrations of greenhouse gases. The breadth of the climate regime is further signaled by reference to the goal of avoiding impacts on the “climate system,” which is defined in Article 1 of the Convention to mean the “totality of the atmosphere,

hydrosphere, biosphere and geosphere and their interactions.”

The objective is necessarily written in general terms — i.e., to stabilize greenhouse gas concentrations at a level necessary to prevent anthropogenic interference with the climate system — but it also provides some additional potential benchmarks for determining whether we have stabilized greenhouse gas concentrations at an appropriate level. The acceptable level is defined as that level that allows us to avoid impacts on (1) the ability of natural ecosystems to adapt to climate change; (2) impacts on food production; and (3) the achievement of sustainable development. These benchmarks are important because it means that the debate over whether we have met our objective — on whether we can be satisfied with progress under the climate regime — will be partially determined by reference to things that can be measured objectively and that are not inherently political. Particularly for impacts on natural ecosystems or food production, scientists and other presumably apolitical experts will be important for informing the discussion of whether more action is needed under the climate regime. Although that decision will ultimately be made by diplomats and politicians, it is more difficult to announce “mission accomplished” if experts in the field can point to empirical evidence that the stated objective of the Convention has not been met.

And as long as the international community’s climate objective — as defined in the Convention is not met — then the Parties must continue to strengthen their policies and commitments. Under Articles 4(2)(d) and 7(2)(a), for example, the Conference of the Parties is charged with periodically evaluating implementation of the Convention to ensure that commitments are adequate to meet this overall objective. It was just such an evaluation that ultimately led to the recognition that binding targets were necessary in the Kyoto Protocol.

Twenty years later, the failure to reach Article 2’s objective still generally frames the ongoing post-Kyoto negotiations. The gap between current commitment levels by countries and the levels needed to avoid dangerous anthropogenic interference with the climate system has been famously labeled the “ambition gap.” Persuading countries to do more — to fill the ambition gap — and meet their agreed upon UNFCCC objective is a significant part of current negotiations.

QUESTIONS AND DISCUSSION

1. The UNFCCC’s objective helps to answer the question of what impacts are we trying to avoid (impacts on food production, natural ecosystems and sustainable development). But how would you further operationalize the objective? Should the objective be set at stabilizing greenhouse gas concentrations at pre-industrial levels? Should it be set with reference to a certain allowed temperature increase? This issue, reframed as the search for a “shared vision,” is discussed more in the context of the post-Kyoto negotiations in Chapter 6.

2. The breadth of the UNFCCC is generally seen as an asset. One cannot solve climate change without also addressing unsustainable land-use practices and deforestation. Conceptually, therefore, an agreement that brought all impacts on the climate system together makes logical sense for fashioning a comprehensive global response to the problem. Given where we are today

in discussions over the post-Kyoto strategy, do you agree that the comprehensive approach was the best one? Is the system too complicated? Would we, for example, be better off addressing climate change with sector-by-sector responses? Should we focus solely on CO₂ emissions first? Are such approaches precluded by the Convention?

3. The breadth of the UNFCCC was a subject of significant debate in the negotiations. Some European countries desired a convention that focused primarily on reducing carbon dioxide emissions — in part because those countries had significant methane emissions. The United States supported a broader approach that would deal with all greenhouse gases, primarily because it wanted greater flexibility in designing policy responses. The Convention's objective reveals that it is concerned with all greenhouse gases, which is defined broadly to mean "those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation." The United States did not get everything it wanted, however, because all of the commitments under the Convention relate only to those greenhouse gases "not regulated under the Montreal Protocol." The United States had hoped to get credit for the considerable amount of global warming it had avoided by phasing out chlorofluorocarbons and other ozone depleting substances (that are also greenhouse gases). The Europeans and developing countries believed that countries should not receive credit under the climate regime for reductions that they were already legally obligated to make.

4. Can you see how the UNFCCC's objective could be used to depoliticize the decision of whether stronger commitments are needed? Who should make the assessment about whether greenhouse gas concentrations are going to stabilize at an acceptable level? Do you see a role for other international institutions such as the IPCC, the Food and Agriculture Organization, or the United Nations Development Program in assisting the Parties to evaluate progress in meeting the goal?

5. The UNFCCC framework is arguably biased against adaptation because it only contemplates the costs of adaptation. No benefits are assumed from adaptation because by definition, they are implemented only to respond to expected impacts from climate change. Roger Pielke explores this topic:

Under the UNFCCC definition, "adaptation" refers only to actions in response to climate changes attributed to greenhouse gas emissions. Absent the increasing greenhouse gases, climate — by definition — would not change and the adaptive measures would be unnecessary. This means that under the UNFCCC adaptation can have only costs because the measures represent costs that would be incurred only because of the changes in climate that result from greenhouse gas emissions. That is, the narrow definition excludes other benefits of adaptive measures. This exclusion of benefits may seem like a peculiarity of accounting but it has practical consequences. One IPCC report used the UNFCCC definition to discuss climate policy alternatives in exactly this way, affecting how policy makers perceive alternative courses of action. The IPCC report discusses mitigation policies in terms of both costs and benefits, but discusses adaptation policies only in terms of their costs. The bias against adaptation comes from disallowing consideration of its ancillary benefits while by contrast mitigation's ancillary benefits are

considered. This “stacks the deck” against adaptation policies and ensures that mitigation will look better from a benefit-cost standpoint.

The bias against adaptation is particularly unfortunate not only because the world is already committed to some degree of climate change (as the IPCC makes inescapable), but also because many communities around the world are maladapted to current climate. Many, if not most, adaptive measures would make sense even if there were no greenhouse gas-related climate change. The UNFCCC definition of climate change provides little justification for efforts to reduce societal or ecological vulnerability to climate variability and change beyond those impacts caused by greenhouse gases. From the perspective of the broader IPCC definition of climate change, adaptation policies also have benefits to the extent that they lead to greater resilience of communities and ecosystems to climate change, variability and particular weather phenomena.

The restricted perspective of the UNFCCC definition makes adaptation and mitigation seem to be opposing strategies rather than complements, and creates an incentive to recommend adaptive responses only to the extent that proposed mitigation strategies cannot prevent changes in climate. From the perspective of adaptation, the UNFCCC approach serves as a set of blinders, directing attention away from adaptation measures that make sense under any scenario of future climate change. As nations around the world necessarily move toward a greater emphasis on adaptation in the face of the unavoidably obvious limitations of mitigation-only policies, reconciling the different definitions of climate change becomes more important.

R.A. Pielke Jr., *Misdefining “Climate Change”: Consequences for Science and Action*, 8 ENVTL. SCI. & POL’Y, 548, 555 (2005). Do you agree that most adaptation strategies would make sense with or without a need to respond to man-made climate change? Why do you think the UNFCCC defined adaptation in this way?

C. Commitments

As suggested by the negotiating history described above, perhaps the most controversial provisions were those that addressed the specific commitments of the Parties. The Parties are essentially divided into three categories: all Parties; Parties listed in “Annex I,” which includes all industrialized country Parties; and Parties included in “Annex II,” which includes all industrialized country Parties except those from the former Soviet bloc in a process of economic transition. All Parties must meet some general commitments, for example to cooperate, exchange information, create national inventories and report certain information. *See* Article 4.1. Annex I countries agreed to more specific commitments on reducing emissions and enhancing sinks. *See* Article 4.2. Annex II countries agreed further to the provisions requiring financial assistance and technology transfers. *See* Articles 4(3)–4(5). Each of these categories of commitments is described below.

1. *General Commitments of All Parties*

General commitments applicable to all Parties, including all developing country Parties, were set forth in Article 4.1.

UNFCCC, ARTICLE 4 Commitments

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
 - (a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;
 - (b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;
 - (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;
 - (d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;
 - (e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;
 - (f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

- (g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;
- (h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;
- (i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations; and
- (j) Communicate to the Conference of the Parties information related to implementation, in accordance with Article 12.

UNFCCC, ARTICLE 12

Communication of Information Related to the Implementation

1. In accordance with Article 4, paragraph 1, each Party shall communicate to the Conference of the Parties, through the secretariat, the following elements of information:
 - (a) A national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol . . . using comparable methodologies to be promoted and agreed upon by the Conference of the Parties;
 - (b) A general description of steps taken or envisaged by the Party to implement the Convention; and
 - (c) Any other information that the Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends.

The following excerpt from Professor Dan Bodansky highlights some of the conflicts and compromises that shaped the commitments made under the UNFCCC:

DANIEL BODANSKY, THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE: A COMMENTARY at 508–09*

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From the beginning, the negotiators viewed general commitments as qualitative rather than quantitative in nature. An extensive list of general commitments was proposed, including use of best available technology to limit greenhouse gas emissions; promotion of energy efficiency and conservation; development of renewable energy sources; promotion of sustainable forest management; removal of subsidies that contribute to global warming; harmonization of national policies, taxes, and efficiency standards; internalization of costs; and development and coordination of market instruments. During the negotiations, these proposals were slowly pared away (in some cases, becoming specific commitments) or watered down, and the general commitments became general not only in their application to all parties, but also in their content.

Perhaps the most important general commitments to survive the negotiating process are those designed to promote long-term national planning and international review of national actions — in essence, those embodying the concept of “pledge and review.” Article 4(1) requires each party to develop, periodically update, and publish national inventories of greenhouse gas emissions and removals by sinks, using “comparable methodologies” to be agreed on by the COP. These inventories are to lay the basis for national planning and to provide more accurate information for use in future scientific assessments of the greenhouse problem. Each party must also formulate, implement, and regularly update programs to mitigate and adapt to climate change, and communicate information to the COP on its national inventories and the steps it has taken to implement the Convention. The COP is then to review the national reports and assess the parties’ implementation, the overall effects of the measures taken pursuant to the Convention, and the progress towards meeting the Convention’s objective. * * *

In contrast to these provisions, which survived the negotiations relatively intact, the general commitments relating to sources and sinks were progressively weakened. Oil-producing states such as Saudi Arabia and Kuwait objected to the regulation of sources, while countries with large forests such as Malaysia and Brazil fought substantial commitments on enhancing sinks. As a result, Article 4(1)(c) (dealing with greenhouse gas emissions) makes no mention of energy efficiency measures or renewable energy sources, and seems to place all relevant economic sectors (energy, transport, industry, agriculture, forestry, and waste management) on an equal footing. Similarly, Article 4(1)(d) fails to single out forests for special consideration in requiring states to promote the sustainable management and enhancement of sinks and reservoirs. * * *

2. Developed Country Commitments: Policies and Measures

In addition to the general commitments agreed to by all Parties, developed countries listed in Annex I to the Convention also agreed to more specific commitments aimed at reducing emissions, and enhancing sinks, of greenhouse gases. It is these provisions that embody the ultimate compromise between Europe and the United States over whether to commit to targets or timetables to reduce greenhouse gas concentrations. The compromised and therefore somewhat ambiguous text is found in Articles 4(2) and 12(2):

UNFCCC, ARTICLE 4 Commitments

2. The developed country Parties and other Parties included in annex I commit themselves specifically as provided for in the following:
 - (a) Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;
 - (b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7;
 - (c) Calculations of emissions by sources and removals by sinks of greenhouse gases for the purposes of subparagraph (b) above should take into account the best available scientific knowledge, including of the effective capacity of sinks and the respective contributions of such gases to climate change. The Conference of the Parties shall consider and agree on methodologies for these calculations at its first session and review them regularly thereafter;
 - (d) The Conference of the Parties shall, at its first session, review the adequacy of subparagraphs (a) and (b) above. Such review shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information. Based on this review, the Conference of the Parties shall take appropriate action, which may include the adoption of amendments to the commitments in subparagraphs (a) and (b) above. The Conference of the Parties, at its first session, shall also take decisions regarding

criteria for joint implementation as indicated in subparagraph (a) above. A second review of subparagraphs (a) and (b) shall take place not later than 31 December 1998, and thereafter at regular intervals determined by the Conference of the Parties, until the objective of the Convention is met;

- (e) Each of these Parties shall: (i) Coordinate as appropriate with other such Parties, relevant economic and administrative instruments developed to achieve the objective of the Convention; and (ii) Identify and periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol than would otherwise occur; * * *
- (g) Any Party not included in Annex I may, in its instrument of ratification, acceptance, approval or accession, or at any time thereafter, notify the Depositary that it intends to be bound by subparagraphs (a) and (b) above. The Depositary shall inform the other signatories and Parties of any such notification.

* * *

UNFCCC, ARTICLE 12

Communication of Information Related to Implementation

- 2. Each . . . Party included in Annex I shall incorporate in its communication the following elements of information:
 - (a) A detailed description of the policies and measures that it has adopted to implement its commitment under Article 4, paragraphs 2(a) and 2(b); and
 - (b) A specific estimate of the effects that the policies and measures referred to in subparagraph (a) immediately above will have on anthropogenic emissions by its sources and removals by its sinks of greenhouse gases during the period referred to in Article 4, paragraph 2(a).

The compromise language on targets and timetables is not a shining light of clarity, precisely because it is the product of compromise between those who wanted commitments to reduce emissions (i.e., Europe) and those who did not (i.e., the United States). As Professor Bodansky explains:

**DANIEL BODANSKY, THE UNITED NATIONS FRAMEWORK
CONVENTION ON CLIMATE CHANGE: A COMMENTARY**
at 512–17*

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In connection with the specific commitments to adopt and report on national policies and measures [Article 4.2], the Convention establishes a quasi-target and quasi-timetable for greenhouse gas emissions. The targets and timetables issue was perhaps the most controversial in the entire negotiation. Although, in common parlance, the term “target” means an object or goal, in the context of international environmental negotiations the phrase “targets and timetables” means quantitative limitations, including those that are legally-binding commitments. In recent years, targets and timetables have become the preferred form of international regulation of atmospheric pollution. They tend to be easier to negotiate than uniform international regulatory rules, because they allow countries to choose how to meet overall national emissions levels, for example, by direct regulation, market mechanisms, or taxes. * * *

Both before and during the negotiations, most Western states pressed vigorously for the adoption of an internationally-defined stabilization target and timetable to stabilize greenhouse gas emissions, particularly carbon dioxide emissions. For example, the European Community supported an immediate commitment by developed countries to stabilize carbon dioxide emissions at 1990 levels by the year 2000. In fact, many OECD countries unilaterally adopted national targets and timetables. The main holdout against the adoption of targets and timetables was the United States, which derided the targets and timetables adopted by most other countries as political in nature, not backed by concrete measures designed to achieve them. * * *

A compromise was finally reached in two highly ambiguous subparagraphs of Article 4(2). By way of setting a quasi-target, Article 4(2) states that developed countries are to adopt and report on national policies to limit emissions and enhance sinks with the “aim of returning to” 1990 emissions levels. Although this phrase has been equated with stabilization, the term “return” unlike “stabilize” does not necessarily have an ongoing temporal dimension. Thus, a state could potentially argue that, once it had achieved a “return” to 1990 levels, emissions increases would be allowed. The “time-table” is even more ambiguous: the Convention simply states that developed countries recognize that a return by the year 2000 to earlier (unspecified) emissions levels would contribute to a modification of longer-term emissions trends.

Article 4(2)’s quasi-target and quasi-timetable are not only highly ambiguous, but also heavily qualified. Because some eastern European countries were concerned about meeting the quasi-target . . . , the COP is to allow countries with economies in transition “a certain degree of flexibility.” The Convention does not limit the type of “flexibility” that may be accorded, but identifies the baseline emissions level as a potential subject of flexibility. Additionally, the quasi-timetable is to take into account differences in the parties’ starting points and approaches, economic structures, and resource bases; the need to maintain strong and sustainable economic growth; available technologies and other individual circumstances; and the need for equitable and appropriate contributions by each party to the global effort.

Indeed, it is questionable whether the Convention creates a legally binding target and timetable at all. Article 4(2) states that parties “shall” adopt national policies and take corresponding measures to mitigate climate change, and “shall” communicate information on these policies and measures and on the resulting projected emissions. For the quasi-target and quasi-timetable, however, the Convention uses less obligatory language. The target is phrased as an “aim,” and the verbs used to characterize the timetable are all descriptive rather than

imperative. These ambiguous formulations allow states to put their own spin on the requirements imposed by Article 4(2). Indeed, within days after the Convention was adopted, various countries advanced divergent interpretations. For example, [the first] President Bush's domestic policy advisor stated, "there is nothing in any of the language which constitutes a commitment to any specific level of emissions at any time." In contrast, the chief British negotiator characterized the provisions as "indistinguishable" from an absolute guarantee. These widely divergent interpretations illustrate the limitations of the quasi-target and quasi-timetable contained in Article 4(2). * * *

QUESTIONS AND DISCUSSION

1. If you were advising the Clinton Administration, which took office shortly after the United States signed the UNFCCC, what would you say the United States was legally required to do to comply with the treaty? Do you think there would be any need for new regulations or policies?

2. In fact, the Clinton Administration prepared a national plan to address climate change based entirely on voluntary incentives and measures. The plan was widely criticized as having no chance of achieving 1990 levels of emissions. Read again Article 4(2) and the commentary by Bodansky. Can you make an argument that the United States was out of compliance with the UNFCCC?

3. The question of U.S. compliance arose again after the United States repudiated the Kyoto Protocol in 2001. The United States remains a Party to the UNFCCC. Can you make any arguments that the United States was out of compliance, particularly given that U.S. emissions were nowhere near 1990 levels by 2000? What commitments, if any, are imposed by the Convention after the year 2000?

4. Re-read the obligations found in Article 4 regarding Annex I countries (i.e., industrialized countries). How does this provision reflect a compromise between those wanting a clear target and timetable and those countries wanting no target?

5. One of the most controversial aspects of the commitments and one that shaped the Kyoto Protocol was the concept of "joint implementation," found in the last sentence of Article 4.2(a): "These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph." This seemingly benign reference to acting "jointly" was shorthand for the intentions of the United States and other countries to meet their obligations in part by investing in projects in developing countries. This general idea — that developed countries can meet their treaty obligations by choosing to reduce emissions off-shore in developing countries that have no binding cap on emissions — would be the conceptual predecessor to the Kyoto Protocol's Clean Development Mechanism (CDM). Implementation of the CDM has led to billions of dollars in investments in developing countries, albeit with significant questions regarding climate and development benefits. The CDM is described further in Chapter 5.

3. Developed Country Commitments: Financial Assistance and Technology Transfer

As is the case in almost all environmental agreements, financial issues were among the most controversial in the UNFCCC negotiations and were critical to gaining full participation by developing countries. Moreover, countries of the former Soviet bloc who were facing significant financial uncertainties in their economic transitions would not commit to providing financial assistance. Thus, the financial and related technology transfer provisions would apply only to developed countries not undergoing economic transition. They are listed in Annex II of the Convention. The primary financial and technology provisions were provided in Articles 4(3) and 12.

UNFCCC, ARTICLE 4 Commitments

3. The . . . Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.
4. The . . . Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.
5. The . . . Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies. * * *
7. The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and

social development and poverty eradication are the first and overriding priorities of the developing country Parties.

* * *

ARTICLE 12

Communication of Information Related to Implementation

3. In addition, each . . . Party included in Annex II shall incorporate details of measures taken in accordance with Article 4, paragraphs 3, 4 and 5.
4. Developing country Parties may, on a voluntary basis, propose projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental costs, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits.
5. Each . . . Party included in Annex I shall make its initial communication within six months of the entry into force of the Convention for that Party. Each Party not so listed shall make its initial communication within three years of the entry into force of the Convention for that Party, or of the availability of financial resources in accordance with Article 4, paragraph 3. Parties that are least developed countries may make their initial communication at their discretion. The frequency of subsequent communications by all Parties shall be determined by the Conference of the Parties, taking into account the differentiated timetable set by this paragraph. * * *
7. From its first session, the Conference of the Parties shall arrange for the provision to developing country Parties of technical and financial support, on request, in compiling and communicating information under this Article, as well as in identifying the technical and financial needs associated with proposed projects and response measures under Article 4.

The following excerpt, again from Professor Bodansky, describes the compromises shaping the Convention's treatment of financial resources and technology transfer.

DANIEL BODANSKY, THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE: A COMMENTARY

at 523–30^{*}

Transfers of financial resources to developing countries were proposed for two general purposes: (1) to offset the various costs of implementing the Convention's general commitments, and (2) to aid developing countries in adapting to the adverse effects of climate change if steps

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taken under the Convention fail to abate global warming adequately.

(1) Implementation Costs (Articles 4(3) and 12(3))

. . . [D]eveloping countries argued that they would assume general commitments to combat climate change only if they received financial resources from developed countries to cover their increased (or “incremental”) costs. Developed countries generally accepted this position, but insisted in return that the channeling of money occur through an appropriate financial mechanism; that developing countries accept at least some binding commitments, in particular, commitments to report on their greenhouse gas emissions and national programs; and that developing countries agree to establish institutions with adequate authority to implement the Convention effectively. Although this quid pro quo was rarely stated explicitly, it shaped the package that ultimately emerged from the negotiations. * * *

[Although the requirement on developed countries to provide financial resources is mandatory,] the Convention does not mandate a specific level of funding, . . . [and] specific figures for financial transfers were never proposed. . . . [S]ome developing countries suggested that developed countries be required to make “assessed” contributions — that is, to provide specified amounts, possibly determined by the COP.

This proposal was unsuccessful. Instead, Article 4(3) simply stresses the “need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.” While this provision lays down important guidelines, the Convention allows each developed country to determine for itself the size of its financial contribution. * * *

Instead of seeking specific minimum sums, some developing countries sought a more general commitment by developed countries to provide “adequate, new and additional” financial resources. Although the exact meaning of this phrase was never fully explained, the general thrust of the developing countries’ demands was clear: money to implement the Convention should not be diverted from existing development aid, but should consist of “new and additional” resources . . . [M]ost Western countries were willing to accept language requiring the provision of “new and additional” financial resources, although the United States opposed this formulation until near the end of the negotiations.

Also problematic was the demand by developing countries that financial transfers should cover their “full incremental costs” in implementing the Convention. Although the general concept of “incremental costs” is clear, identifying these costs can be very difficult, if not impossible, since for many types of actions there is no baseline from which to measure a country’s incremental costs. For this reason, states in general can more easily agree on specific categories of costs to be funded rather than on a general definition of “incremental costs.” * * *

Ultimately, the parties resolved the financial resources issue by distinguishing between two types of financial transfers: (1) transfers to help developing countries comply with their reporting obligations under Article 12(1); and (2) transfers to help developing countries implement other aspects of the Convention, such as mitigation measures, research, information exchange,

education, training, and public awareness. Developing countries were most immediately concerned with the former category of costs, because those costs were their only definite costs of joining the Convention. Developed countries were amenable to underwriting these costs fully, both because they want developing countries to develop and publish inventories and reports and because the costs of doing so will be limited. In contrast, developed countries resisted underwriting the other costs that may be incurred by developing countries in addressing climate change, because such costs are open-ended and potentially great. They could include the costs of building hydroelectric or nuclear facilities to replace coal-fired power plants, or the opportunity costs of not clearing forests for timber sales. Developed countries, particularly the United States and the United Kingdom, wanted to ensure that in accepting the Convention they would not be writing a blank check. * * *

Technology cooperation and transfer is closely related to the issue of financial resources. Delegations generally agreed on the importance of technology transfer and on the need to view technology broadly (to include “know how” as well as hardware). Discussions on this issue centered on the terms of technology transfer. Developing countries initially sought a commitment by developed countries to transfer technology on “concessional and preferential terms.” They argued that, to implement the Convention, they needed access to environmentally sound technologies at an affordable cost. Some even suggested that the Convention provide for “assured access to technology” or “compulsory licensing.”

In contrast, developed countries emphasized technology “cooperation” rather than “transfer” and the need to protect intellectual property rights in order to preserve incentives for innovation. Most were willing to agree to the transfer of technology only on “fair and most favorable terms.” Since the rights to most technologies are privately held, developed countries argued that governments could not commit to their transfer. For reasons not fully apparent, developing countries . . . accepted a quite moderate provision in the Convention which does not define the terms on which transfers will occur. Instead, Article 4(5) requires developed countries simply “to take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties,” and to support the “development and enhancement of endogenous capacities and technologies of developing country Parties.”

QUESTIONS AND DISCUSSION

1. Review Articles 4 and 12. What specific financial assistance did the developed countries agree to provide? Article 4.7 ties the fulfillment of developing country obligations under the Convention to the developed countries meeting their financial assistance and technology transfer obligations. Does the language relieve developing countries of any legal obligation to comply with their Article 4.1 obligations if the developed countries fail to provide sufficient financial and technical support?

2. The Toronto Conference Statement leading up to the formal climate negotiations had “called upon governments to establish a World Atmosphere Fund financed in part by a levy on the fossil fuel consumption of industrialized countries.” What other mechanisms or fees could

the climate regime impose to generate a regular flow of revenue for supporting activities in developing countries? What are the advantages and disadvantages of such an approach? *See also* discussion of the surcharge imposed by the Clean Development Mechanism, discussed in Chapter 5.

3. Not only did the North and South split over the amount and nature of the financing, but they also were divided over what the delivery mechanism should be. The United States and other donor countries did not want to create a new mechanism, particularly if it was going to be controlled by developing countries. They argued that funding under the climate regime should be done through the Global Environment Facility (GEF), a mechanism operated jointly by UNEP, the United Nations Development Programme, and the World Bank, but essentially controlled by the World Bank. Donor countries retain a majority of the votes at the World Bank. The Convention ultimately agreed to allow the GEF to be the interim financial mechanism until a mechanism could be found that met certain criteria set forth in Article 11 of the Convention. Several years later, the continued controversy would be resolved by a restructuring of the GEF; the World Bank's dominant role was reduced and the GEF adopted a complicated, but arguably more democratic, governance structure.

As of 2007, GEF's committed grants in the climate change focal area totaled \$1.75 billion. One example is a \$3.3 million GEF grant to Costa Rica to install wind turbines to generate power that would otherwise have been provided by thermal plants. For updated information, see the Global Environment Facility's website at <http://www.gefweb.org>. For information about other climate-related funding mechanisms, see discussion of the Clean Development Mechanism and the new Adaptation Fund in Chapters 5 and 6.

4. Some countries wanted Parties to the Convention to cover social and economic costs that could result from implementation of the Convention. Oil-producing States, for example, sought compensation for the expected reductions in fossil fuel consumption by other States. Does the Convention cover these costs? Consider in this regard the wording of articles 4(3) and 4(4). This issue, reframed as "response measures," remains an aspect of the ongoing post-Kyoto negotiations and is discussed in Chapter 6.

D. Institutional Architecture

One of the most important, though often overlooked, aspects of international environmental agreements is the institutional architecture that they establish. Lawyers often focus only on the legal norms and binding commitments included in a treaty. Yet, in many cases (and the climate regime is no exception), the ability of the regime to respond over time to changing scientific, economic, and political conditions is as important as the binding norms. The flexibility of any regime and its long-term effectiveness depend on having an institutional framework that allows for dynamic evolution of the regime over time.

In the case of the UNFCCC (as with most environmental treaties), the top decisionmaking authority is vested in a Conference of the Parties (CoP), which meets annually. Each Party sends a diplomatic delegation to represent it at the CoP. Some delegations may be only one person, but

the United States often comes with dozens of members. The CoP issues broad policy decisions that interpret the treaty as well as detailed decisions that guide implementation of the treaty, such as detailed guidelines for the submission of greenhouse gas inventories. It also issues mandates to the Secretariat and the Convention's subsidiary bodies. *See* UNFCCC, Article 7, for the CoP's specific responsibilities. Day-to-day administration of the Convention is the responsibility of a permanent Secretariat, now located in Bonn, Germany. The Secretariat's duties include compiling and transmitting to the Parties the various reports submitted to it, as well as providing technical and other assistance to the Parties. The Secretariat also organizes the meetings of the CoP. *See* UNFCCC, Article 8, for the precise functions of the Secretariat.

QUESTIONS AND DISCUSSION

1. The best way to understand the functions and roles of the CoP and the Secretariat of the UNFCCC is to visit the UNFCCC website at www.unfccc.org and spend some time reviewing the various decisions, reports, workshops, and other activities that these bodies carry out. Given the complexity of the climate change issue, it should not be surprising to find that the Secretariat is a burgeoning bureaucracy that plays a critical role in the development and implementation of the climate regime.

2. Perhaps the most important function of the Convention's CoP is to periodically review the state of the science regarding climate change and to evaluate the ultimate effectiveness of the regime in meeting its objective. For example, after determining that the Convention would not meet its objective of stabilizing atmospheric greenhouse gas concentrations at safe levels, the CoP became the primary forum for negotiating binding targets and timetables under the 1997 Kyoto Protocol.

3. In addition to the Conference of the Parties and Secretariat, the Convention also establishes two subsidiary bodies (essentially specialized working groups of the Parties) — the Subsidiary Body for Scientific and Technical Advice (SBSTA) and the Subsidiary Body on Implementation (SBI). These bodies are comprised of representatives of the Member Parties. *See* Articles 9 and 10 of the Convention, respectively.

4. The UNFCCC also sets forth some general provisions regarding implementation and dispute resolution. Acting under Article 13, Parties at the first CoP established a "multilateral consultative process," which was meant to provide the procedural approach to monitoring implementation and compliance with the Convention. This process was largely eclipsed by the compliance mechanism created under the Kyoto Protocol and discussed further in Chapter 5. Under Article 14, the Convention addressed dispute resolution and set forth a procession of increasingly formal steps that could be taken to resolve disputes that arise under the Convention. These include: settlement of the dispute through "negotiation or any other peaceful means of their own choice"; establishment of a "conciliation commission"; submission of the dispute to the International Court of Justice; or arbitration in accordance with procedures adopted subsequently by the Conference of the Parties. Negotiation over compliance and associated concepts such as monitoring, reporting and verification remain critical and controversial points of contention in the current climate negotiations.

V. EVALUATING THE UNFCCC: THE FRAMEWORK- PROTOCOL MODEL

If one is looking for binding commitments to address climate change, then the UNFCCC must be considered a disappointment. But that is probably not the appropriate standard to use. The negotiators of the UNFCCC had learned from prior negotiations relating to ozone depletion and to a lesser extent transboundary air pollution that gaining broad participation was just as important initially as imposing binding commitments. Binding commitments could then be added incrementally over time through subsequent protocols. This model of environmental treaty-making would become known as the “framework-protocol” approach. While the climate negotiators failed to achieve binding reduction commitments, they were more successful in gaining nearly universal participation in a framework that could, if Parties proved amenable, lead to incrementally stronger steps to address climate change.

Thus, the climate regime’s framework-protocol approach was self-consciously designed to start with a general convention with the full expectation that further agreements (i.e., Protocols) would follow to add specific commitments as science or technology expanded our understanding. Supporters of this approach argued that it would allow for broad initial participation by many countries, even those not yet willing to take any significant steps to curb climate change. Reaching consensus was also possible because, lacking any specific obligations, neither States nor special interests like the fossil fuel industry would incur sufficient costs to lead them to try to block the consensus. In this way, it was hoped that a framework convention would help to build political will around the general need for an international response, while allowing time to establish the institutional structures that would be needed later to negotiate and implement stronger commitments. In this way, the UNFCCC envisioned a dynamic regime that could evolve to reflect shifts in scientific understanding, technological innovation, or value changes. As was the case with the Montreal Protocol regime, the climate negotiators fully expected that trends in science and technology would lead to greater political will for stronger commitments over time. And in fact that is exactly what would happen with the completion of the Kyoto Protocol in 1997.

Of course, the framework-protocol approach can also be criticized for providing recalcitrant governments with a politically acceptable way of participating. Parties that may never have any intention of ever complying with international targets and timetables, for example, may be able to continue to participate in the UNFCCC without facing significant political isolation or pressure. Certainly as compared to an agreement with substantive commitments, the framework-protocol approach delays meaningful commitments and simply puts off the difficult political decisions until later. It also invites countries not seriously committed to addressing climate change (think oil-rich countries) to participate in the regime but at the price of giving them the power to impede consensus. The calculation inherent in this approach was that sufficient time existed to allow for this incremental approach before the planet would face irreversible and catastrophic climate change. We likely still do not know the answer to whether the Parties to the UNFCCC were correct in that calculation.

QUESTIONS AND DISCUSSION

1. Given the general framework-protocol approach to treaty-making that has emerged in international environmental treaty-making, we can expect that framework conventions would include the following elements:

- (1) Legitimize the “internationalization” of the issue by explaining the justification for why the subject matter should not be left to each state under the principle of state sovereignty;
- (2) Set out the basic goals or objectives of the regime;
- (3) Set out basic principles that will help guide interpretation and development of the regime;
- (4) Establish and organize the collection of baseline information and promote relevant scientific research, including, for example, by requiring national reporting on emissions and other activities, creating coordinated research agendas, and establishing or identifying an international scientific community to organize and present the scientific data;
- (5) Establish the institutional structure of the regime, including the role of the conferences of the Parties and the secretariat as well as various other bodies or mechanisms to address topics such as science and technology, implementation, compliance, dispute resolution or financing;
- (6) Create the process for the dynamic evolution of the regime, including the process for amending the treaty or creating or revising protocols to the convention.

What elements of the UNFCCC fulfill these functions? Does it fulfill these functions well? Does this change your opinion about the relative merits of the UNFCCC?

2. *Epistemic Communities.* As you consider the relative merits of the Framework Convention, consider the role of the Conference of the Parties and of the Secretariat in building and strengthening an international cohort of climate experts to work on the issue. The annual meetings of the climate regime are now massive affairs, providing a forum for thousands of climate experts to gather and share information and ideas. Known as “epistemic communities,” such international communities of experts provide “a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area.” Peter Haas, *Introduction: Epistemic Communities and International Policy Coordination*, 46 INT’L ORG. 1, 3 (1992). Such communities play a critical role in the development and implementation of international environmental regimes. Consider the following observations by Peter Haas:.

In articulating the cause-and-effect relationships of complex problems,

helping states identify their interests, framing the issues for collective debate, proposing scientific policies, and identifying salient points for negotiation . . . [m]embers of transnational epistemic communities can influence state interests either by directly identifying them for decision makers or by illuminating the salient dimensions of an issue from which the decision makers may then deduce their interests. The decision makers in one state may, in turn, influence the interests and behaviors of other states, thereby increasing the likelihood of convergent state behavior and international policy coordination, informed by the causal beliefs and policy preferences of the epistemic community.

Id. at 2, 4. Robert Keohane and Joseph Nye add the following view of the epistemic community:

When the same officials meet recurrently, they sometimes develop a sense of collegiality which may be reinforced by their membership in a common profession, such as economics, physics, or meteorology. Individual officials may even define their roles partly in relation to their transnational reference group rather than in purely national terms. . . . Regularized patterns of policy coordination can therefore create attitudes and relationships that will at least marginally change policy or affect its implementation. . . .

As such practices [i.e., patterns of regularized policy coordination] become widespread, transgovernmental elite networks are created, linking officials in various governments to one another by ties of common interest, professional orientation, and personal friendship. Even where attitudes are not fundamentally affected and no major deviations from central policy positions occur, the existence of a sense of collegiality may permit the development of flexible bargaining behavior in which concessions need not be required issue by issue or during each period.

Robert Keohane & Joseph Nye, *Transgovernmental Relations and International Organizations*, 27 *WORLD POLITICS* 39, 44–45 (1974). The development of an epistemic climate community is quite clear to anyone who has participated in the annual meeting of the Conference of the Parties. More than 10,000 people participated in the 2007 Bali meeting and hundreds of side events were held, in addition to the formal negotiations. More than 40,000 people attended the Copenhagen meeting in 2009. Although perhaps hard to measure, over time the level of trust that is built, information that is shared, and partnerships that are formed may be as important to addressing climate change as the formal negotiated text.

3. In evaluating the UNFCCC shortly after its negotiation, Professor Bodansky offered another set of criteria against which to measure the Convention:

First, it should be politically acceptable to a wide variety of states, given the global nature of the climate change problem. Second, it should be equitable, that is, it should encourage burden-sharing and treat developing countries fairly. Third, it should promote economic efficiency, by encouraging states to consider the cost-effectiveness of measures to address climate change. Fourth, and perhaps

most critical, the convention should be flexible. Flexibility is essential, given the long-term nature of the climate change problem and current uncertainties about both scientific predictions of global warming, and the costs and benefits of response measures. Fifth, it should lay a foundation for future work by reducing uncertainties, promoting consensus, and building a base of information. Finally, it should establish targets and timetables for greenhouse gas limitations.

Bodansky, *A Commentary*, at 555–56. How do you think the UNFCCC measures up against these criteria? Would your assessment have been different in 1992 as compared to now? As we turn to a discussion of the Kyoto Protocol in Chapter 5, consider what additional criteria you would suggest for evaluating the Protocol and any future climate agreement?

4. One proposal put forward at the time of the negotiations was to develop a General Agreement on Climate Change modeled on the GATT, involving a semi-continuous process of negotiation “rounds,” see David G. Victor, *How to Slow Global Warming*, 349 NATURE 451 (1991). How would this differ from the approach we have now? What topical priorities might various rounds have addressed?

5. On the use of the Montreal Protocol ozone regime as a model for the climate negotiations, see Winfried Lang, *Is the Ozone Depletion Regime a Model for an Emerging Regime on Global Warming?*, 9 U.C.L.A. J. ENVTL. L. & POL’Y 161 (1991); Peter M. Morrisette, *The Montreal Protocol: Lessons for Formulating Policies for Global Warming*, 19 POL’Y STUD. J. 152 (1991). For critical evaluations of the framework convention/protocol approach to climate change, see David G. Victor, *How to Slow Global Warming*, *supra*, at 454, (questioning whether framework convention/protocol model allows sufficient issue linkages to gain widespread acceptance); James K. Sebenius, *Designing Negotiations Towards a New Regime: The Case of Global Warming*, INT’L SECURITY 114–18 (1991).