

CHAPTER

6

Negotiating Our Climate

UNDERSTANDING
THE POLITICS OF
CLIMATE CHANGE

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One of the principal concerns of political science is to understand how governments address societal problems by adopting and implementing laws, policies, and programs, either on their own or in cooperation with other governments either nationally or internationally. Political scientists examine not only the actions of governments, but also the processes through which governing bodies make policies and the political forces that influence the actions of public officials. Governments will inevitably have to play a central role in efforts to address global climate change by regulating the human activities that are adding to atmospheric concentrations of greenhouse gases, such as carbon dioxide and methane.

with negotiated agreements, known as **treaties**, which are written documents that spell out in more specific language what is expected of the states that formally accept them. Treaties may apply to as few as two states or they may be products of negotiations open to all states, in which case they are commonly referred to as **conventions**.

The acceptance of treaties by states is a multiple-stage process. Once the representatives of the nations participating in treaty negotiations are satisfied with the wording of the agreement, they are given an opportunity to sign the agreement for their countries. Such a signature does not officially oblige a state to comply with the provisions of a treaty or a convention. It does, however, suggest that the branch of government participating in the negotiations will proceed to the next step in the treaty approval process, which is **ratification** of the agreement through appropriate constitutional processes of its country. In the United States treaties are ratified by a two-thirds vote in the Senate. Nations that have ratified a treaty are then required to comply with its provisions only after it "enters into force," which occurs once ratification papers have been received from a certain number of countries specified in the treaty (Janis 1999).

International bodies or specially convened conferences, such as those of the United Nations, often adopt another type of document usually called a **resolution**, but also may be referred to as a declaration, a statement of principles, or a plan of action. Typically, such documents set forth principles and guidelines for addressing problems, and in some cases spell out concrete measures that might be carried out. These documents may be adopted by a majority vote of the nations represented in the body or by a less formal consensus. Under most circumstances, such documents, including those adopted by the General Assembly of the United Nations, are merely recommendations and no country is legally obliged to comply with their recommendations, even the countries that voted for them. For this reason, resolutions and similar documents are sometimes described as "**soft law**," in contrast to customary law and treaties that are referred to as "**hard law**" because they are binding on at least some countries. Such documents are also sometimes called "**instant law**" because they can be debated and

adopted rather quickly, in contrast to treaties that may take years or even decades to negotiate. Despite their marginal standing, resolutions or similar documents can be an important step in the evolution of international regimes, as they often provide a statement of principles that becomes a basis for more formal negotiations of a treaty (Jurgielewicz 1996).

International institutions, in particular the United Nations and affiliated organizations and programs, play an essential role in the creation and development of international regimes. In some cases, they sponsor and provide the venue for negotiations on international treaties. The United Nations Environment Programme (UNEP) has performed this role for negotiations on a number of major environmental treaties, including those designed to protect the ozone layer. International organizations, in particular the specialized agencies of the United Nations, coordinate and facilitate international scientific programs that monitor environmental trends and contribute to a deeper understanding of the dynamics of the earth system. The World Meteorological Organization and UNEP have jointly sponsored the World Climate Programme, which was created in 1980 to monitor and investigate the phenomena of climate changes, including those that occur naturally or are human induced. The same two organizations also oversee the Intergovernmental Panel on Climate Change (IPCC), which since it was formed in 1988 has engaged more than 2,000 scientists from around the world to sift through the findings of scientific studies that shed light on climate change and its possible impacts and to issue reports to inform negotiations on the problem. International organizations also play an important role in the implementation of treaties, such as by reviewing national reports on steps taken to comply with international regulations and by monitoring and publicizing violations (Werksman 1996).

THE GLOBAL CLIMATE CHANGE REGIME

International concern over the prospect of human-induced global warming and its potentially catastrophic impacts rose sharply during the 1980s in response to increasingly urgent warnings from the scientific community.

Moreover, a trend toward markedly warmer global average temperatures during the decade as well as a spate of unusual weather phenomena around the world seemed to bear out the forecasts of scientists. A series of major international conferences convened toward the end of the decade took up the subjects of climate change and what could be done to limit it to manageable proportions (see figure 1). The Canadian government sponsored the first of these meetings in Toronto in 1988 called the Changing Atmosphere Conference. The Intergovernmental Panel on Climate Change (IPCC) issued its first report in 1990, warning of a 1° to 3°C (1.8° to 5.4°F) increase in global average temperatures over the next century if steps were not taken to significantly limit emissions of **greenhouse gases (GHGs)** (IPCC 1990). Following up on the recommendations of the Second World Climate Conference, which was held in Geneva later in 1990, the United Nations General Assembly voted to convene an International Negotiating Committee (INC) to draft an international agreement on climate change (Soroos 1997).

The INC succeeded in negotiating a treaty known as the Framework Convention on Climate Change (FCCC), which was ready for adoption at the Earth Summit in Rio de Janeiro in 1992. A **framework convention** or treaty is an initial agreement that lays the foundation for negotiating additional measures, often referred to as **protocols**, as circumstances dictate. The FCCC is similar to framework agreements that address other environmental problems, such as transboundary air pollution and depletion of the ozone layer, in that it does not legally oblige the parties to reduce emissions of the pollutants that are responsible for the problem. Nevertheless, the FCCC is notable for several reasons. First, it sets forth an ambitious goal of "preventing dangerous anthropogenic interference" with the global climate system, which already appears to be an unrealistic objective. Second, it explicitly acknowledges that the industrialized countries are largely responsible for past human additions to concentrations of greenhouse gases in the atmosphere and calls on these countries to take the lead in combating climate change. Third, to demonstrate their commitment toward taking the first steps toward addressing the problem, the industrial countries, which are listed in Annex I of the treaty, agreed to a

- 1988 The United Nations (UN) organizes the Intergovernmental Panel on Climate Change (IPCC). The Changing Atmosphere Conference takes place in Toronto.
- 1990 The first IPCC report is released projecting a mean global temperature increase of 1° to 3° C (1.8° to 5.4° F) by the year 2100. The Second World Climate Conference is held in Geneva.
- 1991 The United Nations convenes an Intergovernmental Negotiating Committee (INC) to begin drafting the Framework Convention on Climate Change (FCCC).
- 1992 The FCCC is finalized and signed by more than 150 countries at the Earth Summit in Rio de Janeiro. The United States is among the first countries to ratify the treaty.
- 1995 The first Conference of the Parties (COP I) is held in Berlin. Parties adopt the Berlin Mandate, which commits them to conclude an agreement at COP III in 1997 that would include a timetable for binding emissions for the industrial countries. The IPCC releases its second report with warming projections from 1° to 3.5° C (1.8° to 6.3° F) by 2100.
- 1996 COP II is held in Geneva. Parties attending endorse the second report of the IPCC and continue planning for a future protocol to limit GHG emissions.
- 1997 COP III is held in Kyoto. More than 150 countries adopt the Kyoto Protocol establishing a schedule for emission limitations by the developed countries, but details remain to be worked out. The Clinton administration agrees to a 7% reduction in U.S. emissions from 1990 levels by 2012.
- 1998 COP IV is held in Buenos Aires. The United States insists that developing countries also commit to emission limits.
- 1999 COP V is held in Bonn. Numerous issues remain unresolved, but the parties commit to finalizing the Kyoto Protocol at COP VI scheduled for 2000.
- 2000 COP VI is held in The Hague. A stalemate between the United States and the European Union thwarts final agreement on the Kyoto Protocol.
- 2001 IPCC releases its third report projecting a warming of 1.4° to 5.8° C (2.5° to 10.4° F) by 2100. The Bush administration rejects the Kyoto Protocol. Final version of the protocol is adopted at a continuation of COP VI in Bonn without the concurrence of the United States.

Figure 1. Time line of climate change negotiations. (Not all dates included in this time line are discussed in the text.)

nonbinding goal of returning their emissions of greenhouse gases to 1990 levels by the year 2000. These so-called **Annex I countries** are also to provide reports detailing how they plan to reduce GHG emissions and enhance carbon sinks (Bodansky 1993).

Efforts to strengthen the international climate change regime have been undertaken at annual Conferences of the Parties (COPs). The first of these meetings, known as COP I, took place in 1995 in Berlin a year after the agreement came into force, after having been ratified by the requisite fifty states. It was readily apparent to the nations represented at COP I that the FCCC was by no means an adequate response to the climate change problem, but they were still unable to reach a consensus on mandatory limits on emissions of greenhouse gases. However, the delegates made a commitment to have an agreement ready for adoption at COP III in Kyoto in 1997, which would specify mandatory emission limits for the developed countries for years 2000, 2005, and 2010 (Rowlands 1995).

The prospects for a significant agreement did not appear favorable as the dates for COP III approached, nor was much progress apparent during the first ten days of the conference. Then, at an all-night session convened after the conference was scheduled to end, the delegates hammered out a document that has become known as the **Kyoto Protocol** of 1997. The most significant feature of the protocol is the schedule for mandatory limitations of GHG emissions by the developed Annex I countries. The limits pertain to a package of six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride).

In contrast to common practice in other environmental treaties of requiring the same percentage of reduction for all countries, known as "across-the-board" cutbacks, the Kyoto Protocol has "differentiated" reduction targets for the developed Annex I countries. These targets specify 1990 as the base year and the limits are to be achieved by the period 2008 to 2012, with an average figure being calculated for these five years. Most European countries, including the members of the European Union, agreed to reduce their GHG emissions by 8%, the United States by 7%,

and Japan and Canada by 6%. The Russian Federation and Ukraine merely agreed to hold their emissions to 1990 levels. Several other states agreed only to restrain their increases, the most notable example being Australia, which would keep its emissions from rising more than 8%. The rationale for these varied limitation targets was that some countries had unusual circumstances that would make it prohibitively expensive, if not impossible, for them to achieve the more ambitious reduction targets of other countries. Collectively, these commitments would achieve a 5.2% reduction in GHG emissions of the developed Annex I countries. Nothing in the Kyoto Protocol obliges developing countries to reduce or even to limit their emissions.

The Kyoto Protocol is also notable for the inclusion of what have been called **flexibility mechanisms**, which offer the developed countries an array of options for achieving their limitations on GHGs emissions. One is the possibility of taking steps to sequester additional carbon as way of offsetting emissions of greenhouse gases. This might be done by planting trees to increase forest cover or by various agricultural practices, such as no-till cultivation. Another flexibility mechanism would institute a system of international emission trading in which countries that were not achieving their emission limitation target domestically could purchase emission credits from countries that more than complied with their obligations to limit emissions. The two countries most likely to have substantial credits to sell are the Russian Federation and Ukraine, which have seen a substantial drop in their GHG emissions during the 1990s, as inefficient, antiquated industries have been shut down and the economies of these countries have fallen into a deep recession. Such permits for emission reductions that would have occurred even without the protocol are critically referred to as "hot air," because they would undermine the purpose of the agreement.

There is the possibility for cooperative ventures known as **joint implementation** (JI), in which Annex I countries would receive emission reduction units (ERUs) for investing in projects in other Annex I countries that would result in emission reductions in addition to those that would have been achieved otherwise in these countries. It is anticipated

that it will be far less costly for the highly developed Annex I countries to acquire ERUs than to achieve an equivalent amount of reductions domestically. Annex I countries could use the ERUs that they have accumulated toward fulfilling their obligations to reduce or limit GHG emissions. The protocol also establishes a **clean development mechanism (CDM)** through which Annex I countries, or industries based in them, could invest in JI projects in developing countries that would provide them certified emission reductions (CERs). This could be done, for example, by investing in the development of renewable energy sources or simply by projects that would improve the efficiency of **fossil fuel** use. Another option would be to contribute to forestation programs that would sequester more **carbon dioxide**. The developed country or company making the investment would then receive credit for whatever net reductions in GHG emissions resulted, which could take the place of reductions they would otherwise be obliged to achieve domestically (Ott 1998).

Finally, the so-called bubble provision permits a group of countries to achieve a reduction target collectively. Under this arrangement, some countries in the group could be given less ambitious targets as long other countries were committed to achieving greater GHG reductions than the group's average. This flexibility mechanism was especially attractive to the European Union (EU) whose members vary considerably in their capacity to cut back on emissions. Thus, although the EU countries are obligated to reduce their emissions by 8%, Germany and Denmark agreed to reduce their emissions by 25% and the United Kingdom by 10%, whereas Greece and Portugal are allowed increases of 25% and 27%, respectively. If the EU countries fail to cut their collective emissions by the amount designated in the Kyoto Protocol, then each country is obliged to comply with the 8% reduction (Ringius 1999).

In the rush to conclude the Kyoto Protocol, the tired delegates postponed decisions on many of the technical details regarding how the agreement would be implemented and enforced. On many of these details, the conflicting positions of states have defied a quick compromise. Furthermore, how these issues are ultimately resolved will have a

considerable impact on the effectiveness of the protocol in achieving its objectives. Thus, efforts to work out the remaining details of the agreement have proceeded at COP IV in Buenos Aires in 1998 and COP V in Bonn in 1999 (Lanchbery 1998). It was hoped that COP VI in The Hague in 2000 would finalize the Kyoto Protocol, but the talks collapsed in acrimony and disarray, as the European Union was firm in refusing to yield to a U.S. proposal that countries be allowed to achieve part of their emission reduction commitments by preserving existing carbon sinks, such as forests and range land.

Early in 2001, the new U.S. president, George W. Bush, summarily rejected the Kyoto Protocol, arguing that the agreement was "flawed" and would damage the nation's economy. Despite this major blow to the Kyoto process, COP VI was reconvened in Bonn in July 2001. With the United States on the sidelines during the negotiations, the other 184 nations in attendance worked out the remaining details of the Kyoto Protocol.

The Politics of Climate Change

INTERNATIONAL POLITICS

Treaties are the product of negotiations between representatives of nations in which there is often a high level of disagreement and conflict among blocs of countries. Negotiators tend to seek an agreement that maximizes the benefits that their states will derive from it, while minimizing the obligations and sacrifices that are required of them. Thus, the process of negotiating major treaties can drag on for years, and in some cases even over a decade or more, during which a series of negotiating sessions is held, each of which lasts a few weeks. Because states cannot be compelled to ratify treaties and be bound by their provisions, an effort is made to draft language that all states can accept, in particular the larger, more influential ones whose refusal to ratify a treaty could render it ineffective. The task of reaching a consensus on a major treaty is especially daunting when the negotiations are open to all states, which has been the

case with the efforts to forge treaties to limit global climate change (Muldoon et al. 1999).

Three major groupings of countries have shaped the negotiations on limiting global climate change: (1) a coalition composed largely of European countries, which has consistently pushed for strong international agreements that set target dates for binding reductions of greenhouse emissions, (2) a small bloc of the remaining developed countries, led by the United States, that has resisted committing to mandatory reductions of GHG emissions, and (3) a large bloc of developing countries that argues the industrialized countries are responsible for the problem and should take the first steps to address it. Several other groups also played active roles in the negotiations, including the countries-in-transition of the former Soviet bloc, whose GHG emissions have declined sharply over the 1990s due to their economic restructuring; an alliance of small island nations that is especially vulnerable to rises in sea levels associated with global warming; and a group of oil-producing countries concerned that agreements designed to reduce the use of fossil fuels would significantly reduce their export revenues.

Even before official negotiations on the framework convention commenced in 1991, most industrialized countries, the notable exception being the United States, were calling for a schedule for cutting back GHG emissions. Several states even made unilateral commitments to stabilize if not substantially reduce their emissions in hopes of setting an example for other countries. These states argued strongly that mandatory emission reductions by the developed countries should be included in the FCCC being prepared for adoption at the Earth Summit. They were disappointed by the refusal of the United States to agree at the time to binding reductions, but in the interests of keeping the United States in the process, compromised on the voluntary goal of stabilizing GHG emissions at 1990 levels by 2000. As negotiations resumed at the COPs beginning in 1995, most of these countries continued to push for a firm schedule for reducing emissions (Soroos 1997). As the Kyoto COP III approached, the European Union proposed a 15% reduction in emissions by 2010.

The European-based coalition has been joined by a group of countries that has formed the Alliance of Small Island States (AOSIS) in 1990. This alliance, which has grown to forty-three states that consist of islands or low-lying areas from all oceans and regions, has consistently been making the most radical proposals for mandatory GHG emission reductions by the developed countries. Prior to the Kyoto meetings in 1997, the AOSIS was calling for a 25% cutback by 2005. While the AOSIS countries are small and even tiny by most measures—territory, economy, and population—the thirty-six of them that are members of the United Nations account for 19% of the votes in that organization. The leaders of small of the smallest and most vulnerable of these countries, such as Kiribati, Tuvalu, Vanuatu, and the Maldives, have repeatedly appealed to the conscience of the world community, maintaining that their existence and the survival of their cultures are being threatened by a problem caused largely by the industrial countries (Acharya 1995).

At the time the FCCC was negotiated in the early 1990s, the United States was virtually alone in its opposition to a schedule for mandatory reductions of emissions of GHGs. Its only consistent allies in the talks were the oil-producing countries that had a vested economic interest in not limiting the consumption of fossil fuels. The United States tried to justify its position by noting that the science of climate change and its impacts were still too uncertain to warrant postponing limits on emissions of GHGs that could prove very costly to implement. The United States was receptive to adopting so-called no regrets policies to address climate change, which could be justified by other benefits if the threat of global warming proved to be less urgent. The United States also argued that any reduction scheme should not be limited to carbon dioxide, but should be comprehensive in including other known GHGs, such as chlorofluorocarbons (CFCs), which were being phased out by the **Montreal Protocol** and its later amendments.

As the Clinton administration took office in 1993, hopes ran high that the United States would be more willing than its predecessor to accept binding reductions of GHG emissions. These expectations were not realized, at least initially, as the new administration was also hesitant about making such a commitment. Moreover, the United States was joined in the

negotiations by several other countries that had reservations about agreeing to substantial reductions of GHG emissions, including Australia, Japan, Canada, New Zealand, and Norway, which along with the United States became known as the Umbrella Group. As the date for COP III in Kyoto approached, the United States set forth a plan that would include \$6 billion in investments in research on energy efficiency and alternative energy sources over the next decade and an effort to stabilize GHG emissions at 1990 levels by 2008 to 2012. This proposal was strongly criticized by the European countries and environmental groups for being much too weak.

The United States surprised most observers when it agreed at the Kyoto COP to reduce its GHG emissions by 7% from 1990 levels by 2008 to 2012. The acceptance of this goal, however, was contingent on the inclusion of "flexibility" mechanisms, in particular emission trading and joint implementation, which would provide the United States, and other Annex I countries, a less costly option of achieving much of its reduction in other countries. The alternative of sequestering carbon, such as by expanding forest cover, also made the agreement more palatable to the United States as did the five-year target period over which emissions could be averaged. Other Umbrella Group countries took advantage of the opportunity for differentiated limitations on GHG emissions to avoid cutbacks or to merely agree to restrict their increases. Australia, which had previously joined European countries in supporting emission reductions, had a change of heart under its new conservative government and argued that its unique circumstances justified an 8% increase in emissions (Christoff 1998).

The COP VI negotiations broke down when the European Union refused to yield to the United States on several key issues. Among these was a U.S. proposal that countries be permitted to claim credit for preserving existing sinks, such as forests, cropland, and rangeland to partially fulfill their emission reduction targets. The United States also insisted that no limits should be placed on emission trading as an option for meeting its Kyoto obligations. Representatives of leading European countries, such as German and France, were concerned that permitting so much flexibility for achieving emission targets would substantially diminish whatever

impact the Kyoto Protocol might have on limiting the flow of GHGs into the atmosphere. They were also adamant that the United States should achieve a large portion of its commitment to reduce GHGs domestically by curbing its excessive consumption of fossil fuels.

The developing countries make up by far the largest bloc in the climate change negotiations. As in many other negotiations, these countries meet and coordinate their negotiating positions through a coalition of Asian, African, and Latin American countries known as the Group of 77/China. The Group of 77/China began caucusing together in United Nations forums beginning in 1964 and has grown to 133 members (Williams 1997). Throughout the negotiations on the climate change regime, the Group of 77/China has emphatically argued that the industrialized countries are primarily responsible for human additions to GHGs to the atmosphere. Accordingly, fairness would seem to dictate that these countries act first to cut back their emissions, and thus to mitigate climate changes that could impact more heavily on developing countries. The Group of 77/China has been nearly unanimous in rejecting any proposals for mandatory limits on their GHG emissions, which they contend would hamper their legitimate aspirations for economic development and reducing poverty. Nor have the developing countries been very supportive of the flexibility mechanisms written into the Kyoto Protocol on grounds that the developed countries, and in particular the United States, should not be able to use their wealth to avoid making significant sacrifices to reduce their GHG emissions (Dunn 1998).

Figures on emissions of carbon lend considerable legitimacy to the position taken by the Group of 77/China. The industrialized countries, including those of the former Soviet bloc, account for approximately 75% of cumulative carbon emissions since 1950. Calculated on a per capita basis, the carbon emissions of the developing countries continue to be a small fraction of comparable figures for the industrial countries. China's per capita emissions are only about one-eighth of those of the United States, whereas those of India are only about one-twentieth the U.S. figure. From the perspective of the developing countries, it is highly unjust that the industrialized countries are the principal contributors to climate changes

that are likely to have more severe impact on developing countries (Engelman 1995). Moreover, Third World countries have far fewer resources with which to adapt to the unwanted consequences of climate change.

Most of the developed countries acknowledge the legitimacy of the position of Group of 77/China on emission reductions. The United States, however, has been insisting in recent years that it will ratify the Kyoto Protocol only when the developing countries agree to constrain their GHG emissions. The United States notes that the emissions of developing countries are rising more rapidly given their economies and populations. Developing countries currently account for approximately 40% of the world's carbon emissions and by 2020 are predicted to surpass the annual emissions of the industrialized countries. By 2015 China, with an economic boom fueled by its vast coal reserves, may surpass the United States as the world's leading emitter of carbon (Dunn 1998). The United States also expresses the concern that industries using large amounts of fossil fuels may relocate to developing countries that impose no limits on GHG emissions. For these reasons, the United States argues that any cutbacks in GHG emissions by the developed countries may be nullified by rising emissions in the developing countries.

The countries in transition that composed the former Soviet bloc have played a less prominent role in the climate change negotiations than the blocs mentioned thus far. These countries have faced difficult challenges in the transformations to democratic forms of government and market-based economies. Thus, environmental problems, especially global ones, have not been high on their list of priorities during the 1990s. The restructuring of their economies has led to the closing down of numerous antiquated industrial plants that were highly inefficient in their use of fossil fuels and thus major emitters of carbon. The closing of these plants along with the steep economic declines in Russia, Ukraine, and several of the other countries in transition has resulted in drops of 30% or more in GHG emissions during the 1990s. Both Russia and Ukraine agreed to zero net change in GHG emissions from 1990 levels under the Kyoto Protocol, which offers the prospect of earning billions of dollars through the sale of emission permits to other industrial countries, such as the United States.

Thus, these countries have been generally supportive of the Kyoto Protocol and its flexibility mechanisms.

U.S. DOMESTIC POLITICS

Political scientists are not content simply to describe the international regimes that have been created to address a given problem. They also seek to understand *why* the process resulted in a given outcome, be it a success or failure. Explanations of why states take the positions they do in negotiating or ratifying international climate change agreements typically consider factors such as size of the country, level of economic development, endowment of natural resources, dependence on fossil fuels for energy, costliness of reducing GHG emissions, and vulnerability to climate changes and their impacts. Of particular interest is the politics of climate change within countries, as shaped by their governing institutions, perceptions and priorities of leaders and policy makers, influences of nongovernmental groups, public opinion, and general political cultures. The internal politics of climate change defined by these variables is unique to each country. This section will focus upon the politics of climate change within the United States in view of its disproportionate share of global GHG emissions and the importance of its role in international efforts to address the problem.

The political system of the United States is distinctive in two ways. First, there is a well-defined division of power among the executive, legislative, and judicial branches of government. Thus, the Congress operates with an independence of the presidential branch that is in marked contrast to most European countries in which prime ministers work closely with the parliamentary majorities that put them in office. The relationship between the U.S. president and Congress is often contentious, especially when there is a divided government, with one party controlling the presidency and the other the houses of Congress, as has been the case during all but one legislative session over the past two decades. The U.S. government system is also notable for having a federal structure in which there is a division of political

authority between the national government in Washington, D.C., and the governments of the fifty states.

Negotiations on the climate change regime have spanned the elder Bush, Clinton, and younger Bush presidencies. The elder Bush administration strongly resisted committing to a firm schedule for cutting back on GHG emissions, which frustrated efforts by other industrialized countries to write mandatory reductions into the FCCC. While numerous federal departments and agencies have been involved in formulating the U.S. climate change policy, it was widely believed that President Bush's position was strongly influenced by his chief of staff, John Sununu, who was openly skeptical about the scientific evidence of human-induced climate change. The 1992 election of the Democratic ticket of Bill Clinton and Al Gore, the latter an outspoken believer in the threat of climate change, raised hopes of a major shift in American policy toward supporting a stronger international climate change regime (Gore 1992). Although the Clinton administration finally acceded to a 7% reduction in GHG emissions under terms of the Kyoto Protocol, environmentalists were dismayed at the administration's procrastination in making such a commitment and its failure to do more to mobilize the public support needed to prod the Senate to ratify the protocol. The younger Bush administration, with its close ties to the petroleum and other energy industries, was quick to disassociate itself from the Kyoto Protocol that the Clinton administration negotiated with 150 countries at COP III. Thus far, the Bush administration has not offered any alternative approaches for addressing climate change, while standing back to watch most other countries work out the final details of the protocol.

Congress plays two important roles in U.S. climate change policy. First, ratification of treaties negotiated by the presidential branch of government is the constitutional responsibility of the Senate. Treaties must have broad bipartisan support if they are to receive the two-thirds vote of senators required for ratification. A ratified treaty becomes the law of the land in the United States, which is not necessarily the case in other countries. Second, the House and the Senate must then jointly adopt legislation needed to bring the United States into compliance with whatever obligations the country has under terms of the agreement. Congress tends to take a skeptical view of the

treaties negotiated by the presidential branch. Thus, numerous treaties in realms such as arms control, human rights, and the environment have gone unratified, even after most other countries have formally accepted them. A failure of the Senate to ratify a treaty does not, however, preclude Congress from taking steps to implement the provisions it finds acceptable.

In recent years, the Republican-controlled Senate has taken a very critical view of ongoing international efforts to address climate change, in particular the Kyoto Protocol. Several months before COP III in Kyoto, the Senate adopted a resolution by a vote of 95-0 that counseled the Clinton administration not to sign an agreement mandating new reductions or limits of GHG emissions for the United States that (a) did not also require a similar commitment from developing countries to limit or reduce their emissions or (b) would result in "serious harm to the economy of the United States." While the climate change issue has increasingly taken on a partisan tone, with Democrats generally expressing more concern about the threat of global warming, the unanimous vote of the Senate on its pre-Kyoto resolution revealed that many Democratic senators were also unwilling to support the anticipated type of protocol. Among the Democratic senators voting for the resolution were those from states that are major producers of fossil fuels or automobiles. The willingness of the administration to agree to a protocol requiring a 7% emission reduction by the United States with no similar requirement for developing countries seemed to defy the advice of the Senate, provoking some senators to declare the agreement would be "dead on arrival" if submitted to them for ratification. To avoid having the protocol resoundingly defeated, the Clinton administration withheld it from the Senate while trying to persuade developing countries to commit to limits on their emissions, which is unlikely for the foreseeable future (Pope 1998).

The controversial and seemingly self-serving positions of the United States at the COP VI were apparently calculated to make a final version of the Kyoto Protocol more palatable to hesitant senators and thereby enhance its prospects for ratification. The option of making unlimited purchases of emission credits from other countries, such as Russia and Ukraine, would make it unnecessary for the United States to adopt politically unpopular policies that would sharply constrain fossil fuel use. Provisions for receiving

credit for forest and agricultural sinks might appeal to senators from timber and farm states.

Nongovernmental advocacy groups play a greater role in the U.S. policy-making process than in most countries, in part because the division of power among the executive, legislative, and judicial branches offers them more possibilities for influencing governmental decisions. Environmental groups, such as the Sierra Club, World Watch, Greenpeace, Friends of the Earth, and the Union of Concerned Scientists, have been striving for years to inform the public of the seriousness of the threat of climate change and to lobby the administrative and legislative branches of the federal government to work for strong international agreements to address the problem. The possibility that the United States would commit to mandatory emission reductions has energized numerous **nongovernmental organizations (NGOs)** whose interests might be adversely affected by policies designed to curb GHG emissions from the use of fossil fuels. A coalition of more than thirty such groups representing industries, such as coal and oil producers and automobile manufacturers, and consumer unions protecting the interests of seniors and various minorities sponsored a \$13 million media blitz in 1997 to persuade Americans that the Kyoto Protocol would be unfair to the United States because developing countries would not be required to reduce their emissions.

Thus, regardless of whatever form the Kyoto Protocol might take, the chances for its ratification will be remote unless the U.S. public is convinced of the seriousness of the problem. Public opinion polls have repeatedly shown that a sizable majority of Americans are concerned about global warming and favor ratifying the Kyoto Protocol. Surveys also reveal, however, that the environment ranks rather low on the list of priorities of U.S. voters and, among environmental issues, climate change tends to be of less concern to them than other more local and immediate problems, such as air and water pollution. Furthermore, Americans seem to be less persuaded than Europeans of the urgency of the threat of climate change or the need for potentially costly responses (Skolnikoff 1997).

Among the reasons for the apparent ambivalence of Americans about climate change is the exposure they have had in recent years to the views of

a rather small group of scientists who have been outspoken in expressing skeptical views on the science of climate change. These scientists, some of whom have had their activities supported by industrial groups opposed to any limits on the use of fossil fuels, have received extensive coverage by U.S. media committed to presenting opposing views on public issues. They have also been given ample opportunities to testify before congressional committees by chairs who are openly hostile to the Kyoto Protocol. These skeptics appear to have had considerable success in counteracting the warnings of the mainstream scientific community expressed in the reports of the IPCC, and to have left the U.S. public confused about the state of science on the problem and whether immediate action to address it is warranted (Gelbspan 1997; Pearce 1997).

There also are more general features of the U.S. political culture that give politicians reason to pause before making commitments to significant GHG emission reductions. One is the strong aversion of Americans to new or increased taxes of the magnitude that would be necessary to significantly alter their energy consuming habits. Europeans are generally more tolerant of taxes, as is apparent from energy taxes in their countries that are currently several times higher than those in the United States. Americans are also much more committed than Europeans to personal freedom, such as on choosing the size and location of housing and the size of automobiles, and accordingly are more resentful of governmental regulations that may limit their choices. Achieving the reductions that would be necessary to accomplish the emission reductions mandated by the Kyoto Protocol would require lifestyle changes dictated by strong governmental policies that politicians fear would be highly unpopular among their constituencies.

Conclusion

As we enter a new century, the prospects are not very favorable for creating a strong international regime that could effectively limit global climate change. Although a promising first step, the Kyoto Protocol, as finalized in Bonn in 2001, will only slow down the rate at which GHGs are accumulating in the

atmosphere, even in the unlikely event that the United States reverses course and ratifies and implements the agreement. A reduction of GHG emissions of at least 60% will be needed just to stabilize concentrations of these gases in the atmosphere, much less return them to preindustrial levels. Population growth in the developing world combined with aspirations for economic development and reduction of poverty make it highly probable that GHG emissions will continue to rise rapidly in the Third World, thus offsetting any reductions achieved in the developed world.

The basic challenge is to persuade sovereign countries to consent to making substantial sacrifices to provide a common global good in the form of a stabilized climate. The task would be easier if the countries most responsible for the problem of human-induced climate change also anticipated suffering the most serious impacts. This is not the case, however, as the United States and other major industrialized emitters of GHGs are less vulnerable to these impacts and have more resources available for adapting to them. Policy makers are especially reluctant to commit their countries to potentially costly and disruptive adjustments in the short run for benefits that may not be very apparent for decades. Ironically, the developing countries and the small island nations, which are the most vulnerable to climate change and its impacts and the least able to adapt to them, are responsible for a relatively small proportion of GHG emissions. Thus, it is unlikely that a stronger international climate change regime will be developed unless high visibility climatic and environmental events occur that can be unambiguously linked to human pollutants and have serious consequences for the United States and the other industrialized countries that have lagged in their commitment to address the problem.

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CHAPTER

7

CONCLUDING THOUGHTS ON CLIMATE CHANGE

The Long Road Ahead

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and

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What resonates most clearly from the essays in this volume is that climate change will likely be the most complex environmental challenge, both scientifically and socially, of the twenty-first century. We cannot hope to address the problem without an understanding of how scientific uncertainty shapes the economic and policy debate, and how global cooperation hinges on cultural and historic patterns of behavior. Although the authors in this volume have discussed these issues previously, we would like to leave you with some additional thoughts on the difficulty and urgency of linking scientific knowledge with positive environmental outcomes.

Much of what is discussed about climate change in media is a debate over the certainty of science. Major snowstorms lead to stories that suggest