International Environmental Negotiation

edited by
Gunnar Sjöstedt

A Publication of the
Processes of International Negotiation (PIN) Project.
International Institute for Applied Systems Analysis, Laxenburg, Austria

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SAGE Publications
International Educational and Professional Publisher
Newbury Park  London  New Delhi
The Law of the Sea Conference: Lessons for Negotiations to Control Global Warming

JAMES K. SEBENIUS

Ongoing and future negotiations to control global warming parallel the earlier United Nations-sponsored Law of the Sea (LOS) negotiations in many important respects. Obviously, both the oceans and the atmosphere are global resources. Moreover, when the General Assembly authorized the 1992 United Nations Conference on Environment and Development (UNCED), whose mandate includes global issues such as climate

AUTHOR'S NOTE: This work has benefited from the ideas and helpful comments generously offered by Lance Antrim, Arthur Applbaum, Sorin Bodea, Albert Carnesale, Abram Chayes, William Clark, Robert Dorfman, Tommy T. B. Koh, Henry Lee, Marc Levy, Ronald Mitchell, Bradford Morse, Howard Raiffa, Elliot Richardson, Jeffrey Rubin, Eugene Skolnikoff, Lawrence Susskind, John Swing, Peter Thacher, and Shirley Williams, as well as members of the Negotiation Roundtable at Harvard and the Salzburg Environmental Initiative. This chapter draws freely on previous work (Sebenius, 1984; 1991a) and incorporates by reference the relevant bibliographic citations contained therein.
change, it forged a direct personal link to the LOS experience by choosing T. T. B. "Tommy" Koh as chairman of the Preparatory Commission. Koh, who later became Singapore’s ambassador to the United States, was president of the LOS Conference during its final decisive sessions. Designed to come together with the 1992 UNCED Conference were the deliberations of the Intergovernmental Negotiating Committee (INC) on climate change, which began in 1991 and were also sponsored by the UN General Assembly. Given current and future diplomatic activities dealing with global climate change, it becomes more important to explore the deeper implications of the intensive and precedential LOS experience for negotiated responses to the prospect of greenhouse warming.

On the positive side, contrary to the predictions of many knowledgeable observers, a broadly acceptable LOS Conference—an international "constitution for the oceans"—resulted from this mammoth effort despite technical complexity, uncertainty, and ideological division. It is quite possible that something similar to the present convention would have been ratified by the United States if completed during the Nixon, Ford, or Carter administrations. The twelve year negotiation process and the resulting LOS treaty have reduced much of the ocean conflict that was burgeoning at the outset of the negotiations. Claims of extended territorial jurisdiction into the ocean—a prime U.S. motivation for participating in the LOS Conference—have been largely moderated, while hot conflicts have diminished such as the "cod war" between the United Kingdom and Iceland (which involved not only gunfire but Iceland’s threat to expel a NATO base). Rights to fish, offshore oil, deep seabed minerals (the "common heritage of mankind"), and other resources have been clarified; agreements were reached on rules for the protection of the marine environment along with the conduct of marine scientific research. The conference itself made several innovations, from negotiations by a "single text" process to novel roles for conference officers to unique structure and voting systems for an international seabed authority. Given these factors—and that the atmosphere, like the oceans, is a "global" resource—there have been calls from some quarters, notably at the 1988 Toronto Conference on the Changing Atmosphere, for a loosely analogous, comprehensive Law of the Atmosphere to address global warming (Zaelke & Cameron, 1990).

By contrast, many view the Law of the Sea as precisely the wrong way to negotiate a convention. As British UN Ambassador Sir Crispin Tickell noted, "There are many . . . who would like to look forward to a Law of the Atmosphere on the same lines as the Law of the Sea. To them I counsel caution." More bluntly, United Nations Environment Program (UNEP) Executive Director Mostafa Tolba declared, "With an eye toward the frustrations and difficulties in the elaboration of the Law of the Sea, I don’t..."
want to see UNEP take on a 'Mission Impossible' ” (Tolba, 1989). The process was conducted at a level of detail that arguably should have been unthinkable in a treaty framework; moreover, 20 years after its inception, the result has yet to enter into force. For those who hold these views, if there is a lesson to be learned from the Law of the Sea as an example of how to negotiate a convention, especially with respect to the possibility of a comprehensive Law of the Atmosphere, it is simple and resounding: “Don’t!”

Faced with these sharply conflicting views of the implications of the LOS experience for climate-change negotiations, therefore, this chapter seeks more nuanced answers to the question, What lessons does the Law of the Sea contain for possible global action on climate change? Rather than join the substantive controversy over global warming and judge the scientific or economic underpinnings of the issue, however, this essay simply takes as a point of departure—for purposes of analysis—the currently intense political concerns about climate change and addresses present and future diplomatic efforts to fashion a collective response.

Law of the Sea and Climate-Change Negotiations: Critical Similarities and Consequential Differences

**Critical Similarities**

The range of vital interests at stake makes quick negotiations with decisive results unlikely. Both the Law of the Sea and the climate-change negotiations affect major national interests of many countries, virtually guaranteeing the time-consuming nature of any meaningful negotiations. In the case of the Law of the Sea talks, vital interests at stake included definition of the territorial sea, fishing rights, oil on the outer continental shelves, submarine passage under straits, naval and maritime mobility, overflight of international and territorial waters, marine pollution, scientific research, manganese nodules, and other deep-sea resources.

Climate change also covers a range of separate issue-areas. New rules to deal comprehensively with the greenhouse effect could greatly alter a range of crucial national activities for many countries. In conventional scenarios, slightly less than half of the expected warming from emissions during the 1980s comes from energy-related activities (coal, petroleum, and natural gas), with nonenergy industrial activities (mainly chlorofluorocarbons, CFCs) delivering about a quarter or less depending on the effects of the Montreal Protocol, and land-use activities (deforestation, rice cultivation, fertilization, and so on) causing the rest. About 55% of the expected contribution to warming from emissions during this period is due
to carbon dioxide, with CFCs (24%), methane (15%), and nitrous oxides delivering the rest. About half of the expected warming will reflect population growth and about half will reflect growth in per capita demand. Some 40% of the expected warming now comes from activities in the developing nations, a figure that may rise to 60% by the end of the 21st century. (These proportions are reversed, of course, for the developed world.) Thus issues of both economic growth for the industrial nations and economic development in the Third World will be critical as possible responses to global warming are fashioned.

It is widely assumed that negotiators will seek to hammer out an overall or nation-by-nation schedule of emission reductions, such as the 20% decrease in carbon dioxide by the year 2005 that was discussed by 68 nations during the November 1989 Ministerial Conference on Atmospheric Pollution and Climate Change held in Noordwijk, the Netherlands (Noordwijk Declaration, 1989). Yet, any such simple target will face overwhelming complexities. In part, as Michael Grubb of the Royal Institute of International Affairs has argued cogently, this derives from the great variation in the energy economies of different nations. Carbon emissions per unit of gross national product vary internationally by a factor of more than 10. Sizable international differences in population, level of development, fuel mix, amount and kind of energy reserves (from high-carbon coal to low-carbon natural gas to no-carbon hydro), and industrial and transportation patterns add up to a powerful case for the complexity and difficulty of reaching negotiated targets. In short, to seek equal absolute or percentage reductions (à la Montreal) or efficiency targets or similar benchmarks will entail inequities and frustrations. Grubb (1990) concludes that the notion of “all the countries of the world sitting around a table and agreeing on who should reduce by how much... like the Montreal Protocol writ large [is an] illusion best dispersed before it leads us irretrievably down a blind alley.” By late 1990, the nations of the European Community had committed themselves to a collective greenhouse stabilization target. Yet within a year, negotiations to establish individual country targets consistent with reaching the collective EC target had failed—and attention turned from targets per se to energy taxes that increased with carbon content.

Given the high level of public concern about the greenhouse issue, many environmental advocates expect quick negotiations adopting decisive, sustained actions to mitigate greenhouse gas emissions. By late 1990, the optimistic view was supported by the significant number of industrial countries that unilaterally or in small groups had committed themselves to greenhouse gas stabilization or reduction targets (although there is a long road between target and result). These included the European Community,
the European Free Trade Agreement nations, Japan, Canada, Australia, and others. Yet, powerful economic and political actors will face potential restrictions and will seek to delay, avoid, and shift abatement costs. Even more than the 12-year Law of the Sea process, climate-change negotiations could impinge seriously on a range of vital activities and should be expected to be an enduring feature of the diplomatic landscape.

Genuine mutual dependence gives real leverage to all sides and implies the centrality of North-South issues. In any large-scale climate-change negotiation, as was the case with the Law of the Sea, developing nations (the South) will have a major influence on something that many developed nations (the North) want or genuinely fear. Despite an air of greater pragmatism at the UN today than was the case in the 1970s, this may lead to Southern insistence on an agenda derived from principles of the New International Economic Order (NIEO), including significant wealth redistribution, greater participation for less developed countries (LDC) in the world economy, and greater Third-World control over global institutions and resources. Already, United Nations General Assembly debates and early sessions of the preparatory commissions for the 1992 negotiations on environment and development have included NIEO-like LDC demands for technology transfer and large resource commitments from the industrial world.

To develop the parallel with climate talks, it is instructive to review the source of LDC leverage in the LOS negotiations. Major maritime establishments, especially in the former Soviet Union and the United States, were powerfully motivated in the 1960s by the desire to stop so-called jurisdictional creep or the tendency for territorial claims to expand and cast an ever-widening net of restrictions on submarine, ship, and aircraft mobility in what had traditionally been the high seas. Developing nations in South America, along with those bordering critical straits (such as Gibraltar, Malacca, Singapore, and Bab el Mandeb), had asserted many such claims during the 1950s and 1960s and could have continued this expansionist territorial trend. As a result, previously routine maritime activities could have been increasingly curtailed, could have required politically costly confrontations, or could have led to endless renegotiations with coastal or straits states (resembling base rights negotiations). Thus the developing world influenced something of high value to the maritime powers.

Emboldened by this genuine maritime interdependence, many developing nations effectively pressed for a seabed regime modeled on NIEO precepts. This real LDC leverage meant that the maritime powers could not reject NIEO demands without cost and just walk away. This perceived vulnerability to LDC coastal state power kept the United States and other
maritime powers at the LOS bargaining table for years, but ideological disagreements ultimately spurred a rejection of the treaty.

The long-term success of global climate-change negotiations is impossible without the cooperation of the developing world. Greenhouse gases in the atmosphere now are mainly due to developed nations. With projected population and economic growth in the developing world, however, the source of the greenhouse problem will shift rapidly over time, especially if India and China choose the least expensive development paths that rely on their vast coal resources. China, for example, now plans to expand its coal consumption fivefold by 2020, a result that would add nearly 50% to current worldwide carbon emissions (Grubb, 1990). Anti-global warming steps agreed to and accepted by the developed world alone could be heavily offset over time by inaction in the developing nations; by 2050, projected warming without developing nation cooperation would be 40% higher than with it (Lashoff & Tipirak, 1989).

Thus, the developed world cannot solve the climate problem in the long run without the cooperation of the LDCs. In the case of the CFC negotiations, developing nations’ concerns played a significant role in the Vienna/Montreal process. Many LDCs concurred with the 1985 Vienna Framework Convention with its hortatory language about their concerns, but were disappointed with the final Montreal result that contained only general undertakings on funding for ozone-friendly technology for the developing world. India, China, and Brazil—all potentially significant future CFC producers—did not initially sign the Montreal Protocol. They were especially irritated by the Bush administration’s decision—ultimately reversed after a firestorm of international environmental protest—against contributing to a fund intended to assist LDCs in this area. Only after substantial and far more specific undertakings were made in London during the June 1990 meetings, did key LDC representatives agree to urge their governments to sign a strengthened protocol.

Although it has been moderated considerably since the 1970s, the underlying ideological template, present in both the LOS and Vienna/Montreal negotiations, is that of the New International Economic Order. It is quite possible that either or both of the INC framework/protocol processes and the 1992 conference could end up focusing mainly on generalized North-South concerns expressed in well-worn NIEO terms. The risk, to be assessed later in more detail, is that the attempted use of real Southern leverage on behalf of NIEO precepts might meet Northern intransigence based on antipathy to the underlying ideology. Any progress on climate issues per se could be blocked as a result. Further, Northern opponents of climate-change action may well use the actual or alleged NIEO-like character of a proposed regime as a basis for political opposition to a greenhouse convention.
Like the Law of the Sea, therefore, the range and depth of the vital national interests involved combined with the real interdependence means that climate-change talks contain the ingredients for an inescapable, long-term engagement with the prospect of North-South clashes. As will be discussed, creative steps are essential for meeting legitimate interests while reducing the risk that such an engagement will result in endless delay and damaging ideological confrontation.

Consequential Differences

A “convention of expansion” versus a “convention of limitation.” Perhaps the most important difference between the Law of the Sea and significant climate-change negotiations is the fundamental nature of each enterprise. Much of the LOS accord granted or legitimated a series of previously tenuous new claims to resources by many states. For example, the United States solidified its claim to the rich resources contained in more than 2.2 million additional square miles of ocean space off its coastlines. Mankind in general, with special provisions for developing nations, developed a mechanism to share in any eventual benefits of completely new and physically vast resources of the deep seabed. Devising an LOS convention of expansion involved the relatively easy problem of how to divide an expanding pie. By contrast, climate-change negotiations probably will focus on developing convention(s) of limitation, of shared sacrifice, and of painful transfers and compensation—requiring curtailments in energy use, more expensive LDC development paths, changes in agricultural patterns, cessation of currently profitable deforestation, and other such activities. To the extent that climate-change negotiations are perceived as allocating sacrifices, they fundamentally will be more difficult than the LOS problem of allocating “new” resources. Of course, to the extent that the participants focus on the joint gains relative to preventing a feared climate disaster, the process will be that much easier. And some groups that will benefit directly—such as the vendors of renewable, cleaner, more efficient energy and the technologies that make such energy use possible—may join environmental advocates as vocal proponents of a greenhouse control regime.

The “common heritage of mankind” was not a true global commons. Though the atmosphere is widely and correctly recognized as a global “commons,” such status is analytically distinct from what many people see as a similarity to deep seabed resources—which the UN General Assembly unanimously declared as the “common heritage of mankind.” This declaration concerned collective property rights to manganese nodules. By
contrast, the global atmosphere is a true commons because any greenhouse gas emissions from a single country eventually will mix and adversely affect the entire world. True commons resources contain economic disincentives for individual initiatives to curb emissions (Hardin, 1968). This results from the fact that the full costs of efforts to mitigate harmful emissions by one state can be borne fully by that state—while the benefits of such actions are diffused throughout the global community. Moreover, any benefits of actions that would slow the present rate of growth of greenhouse gases would be felt only decades hence by the inhabitants of a future world. Thus, facing full costs of abatement today but enjoying only a fraction of any future benefits, individual entities lack powerful incentives to cease emitting. Moreover, an abatement agreement can be frustrated by the inherent commons characteristic of the climate problem that allows those who do nothing to take a "free ride" on any costly actions others might take to mitigate the problem.

The LOS negotiations addressed immediate problems and conflicts, not future uncertain ones. While global climate change threatens a rise in sea level, crop pattern alterations, increased variability and severity of weather conditions, and a host of other consequences decades hence, most of these harms are subject to considerable scientific uncertainty about their timing, magnitude, and distribution across countries and regions. Indeed, for both genuine and cynical reasons, some observers even claim to see future winners as well as losers from global warming (such as milder winters in Massachusetts and Siberia, expanded areas of cropland in currently cold climates), a stance that could greatly complicate negotiations on costly mitigation measures.

By contrast, LOS negotiators faced a range of pressing problems as well as future concerns. Lyndon Johnson warned about an imminent "race to grab and hold the lands under the high seas"; other observers made dire predictions of the "biggest smash and grab" of (ocean) territory since the great powers carved up Africa in the late 19th century. Seaward territorial claims had proliferated; conflicts over fishing rights had frequently turned violent; ownership of oil under continental shelves was disputed; legal duties and liability provisions were muddled around ocean environmental disasters such as the breakup of the Amoco Cadiz; and a range of other problems proliferated. As Henry Kissinger (1975) apocalyptically warned, "The current [LOS] negotiation may thus be the world's last chance... The breakdown of the current negotiation... will lead to unrestrained military and commercial rivalry and mounting political turmoil." Further, in addressing these ocean problems, LOS delegates could build on centuries of legal development, with a relatively small part of their task requiring
entirely new legal regimes. By contrast, climate-change negotiators mainly face a distant, uncertain threat requiring entirely new legal rules and standards of behavior.

*Climate-change issues are far more publicly salient.* A primary difference from the LOS problems that favors action on climate change concerns the public salience of the issues and the magnitude of potential ecodisasters that threaten without a decisive collective response. In general, the Law of the Sea negotiations were quite obscure. By contrast, public concern about environmental issues in general, and global-warming issues in particular, is very high, and the demand for action could grow enormously. Actual and potential public concern, as drawn on and even shaped by activist negotiators, can be a major resource in pressuring governments toward international accommodation.

As difficult as the Law of the Sea negotiations proved to be and as mixed as their results, a comprehensive collective action on climate change would appear to face far higher obstacles: as a convention of limitation and restriction versus a convention of expansion, as a "true" global commons with the associated problems of incentives and free riding, and as a response to distant uncertain problems rather than to an immediate, tangible set of problems.

**Lessons From the Law of the Sea Process**

Some lessons from the Law of the Sea process, although valuable, are obvious: the importance of personalities, relationships, trust, mutual respect, and understanding of others' perceptions and real interests; the need to convert the negotiation process from blame-casting and ideological clash to joint problem solving; the value of focusing on future common interests as opposed to present conflicting ones; the critical importance of rules of procedure; the crucial effect of the choice of conference officers; and so on. Moreover, the specific processes, practices, and inventions of the conference and their evolution offer some useful lessons. Beyond these items, valuable lessons for climate negotiations derive from the LOS Conference itself, its global and comprehensive character, as well as the complexity and detail involved; from the formation of the Seabeds Committee in 1967, to the UN General Assembly's authorization in 1970 to start LOS negotiations in 1973, and to their conclusion in 1982. It is well worth investigating the causes behind this lengthy process. The balance of this chapter suggests and elaborates a dozen specific lessons from this and other aspects of the LOS experience for climate-change negotiators.
A broad agenda, universal participation, consensus, and the package deal. Several related factors contributed to the length of the LOS Conference. These included the sheer scope of the agenda, the large number of participating states, the vital importance of many of the issues to the national interests of the participants, the substantive and bargaining inter-relationships among the various agenda items together with the objective of a single convention, the fact that the conference was progressively advancing international law and agreement rather than merely codifying existing practice, the degree of specificity and detail of the negotiations, the sometimes cumbersome and obstructionist tendencies of a “group” system in which like-minded states coalesced and acted in unison, the frequent difficulty that national bureaucracies had in LOS-related decision making, the novel nature of the Enterprise, and the requirements of expertise and technical knowledge.

However, taken together in this context, four cornerstones of the LOS process virtually guaranteed its duration and easily could do the same if adopted for global-warming negotiations. These included: (1) virtually universal participation; (2) a powerful set of rules and understandings aimed at taking all decisions by consensus (if at all possible); (3) a comprehensive agenda; and (4) the agreement to seek a single convention that would constitute a “package deal” (Evensen, 1986; Koh & Jayakumar, 1985).

Lesson 1. It would be a very time-consuming mistake for climate-change negotiators to create a universally inclusive process with respect to both issues and participants, together with the requirements of consensus on an overall package deal. As with the LOS process, the ultimate results would be held hostage to the most reluctant party on the most difficult issue.

A broad convention versus a framework convention and specific protocols. An understandable reaction to this aspect of the LOS experience has been the decision to seek a general framework convention on climate change followed by more specific and independent protocols. While ideally retaining the virtues of universal participation and consensus, these protocols on various subjects would not be lashed together in an enormous and unwieldy negotiating bundle; in a sense this negotiating vision is analogous to the LOS process but minus the comprehensive agenda linked into a package deal. To strive for a framework followed by manageable protocols has attractive negotiating features, but it was the failure of precisely this approach—of independent packages—in earlier LOS conferences (in 1958 and 1960) that led indirectly to the comprehensive package approach of the UN Conference on Law of the Sea III (UNCLOS III).
Lesson 2. Expect highly selective adherence to independent “mini-conventions” or “protocols” on separate issues.

By 1958 the International Law Commission had suggested a negotiating structure for the Law of the Sea Conference with four separate conventions, concerning different issues such as the breadth of the territorial sea and the extent of the continental margin. With respect to the comprehensive agenda that came to mark the 1973 LOS Conference, President Koh observed:

The intention was for the present conference to adopt a single convention of wide acceptance promoting international stability. A disadvantage of adopting several conventions is that states will choose to adhere only to those which seem advantageous and not to others, leaving the door open to disagreement and confrontations.

Lesson 3. Expect great pressure to combine issues rather than negotiate separate protocols as is intended in the INC and UNECD talks.

Following the 1958 and 1960 LOS experiences, two separate negotiations were attempted; until linked, each proved fruitless. With deep seabed resources being declared as the “common heritage of mankind,” the Seabeds Committee undertook a negotiation on the regime for seabed mining. Developing countries wanted this convention to offer meaningful participation in deep seabed mining and the sharing of its benefits. Yet the developed countries whose companies potentially possessed the technology, the capital, and the managerial capacity ultimately to mine the seabed saw no reason to be forthcoming, and these negotiations went nowhere. At about the same time, the United States, the former Soviet Union, and other maritime powers—greatly concerned about the increasing numbers of claims by coastal, straits, island, and archipelagic states to territory in the oceans—strenuously sought to organize a set of negotiations that would lead to a halt of such “creeping jurisdiction.” In effect, the maritime powers were asking coastal states to cease an activity (claiming additional ocean territory) that was valuable to the coastal states, but without compensation. Not surprisingly, these discussions concerning limits on seaward territorial expansion in the ocean yielded little result. It was ultimately the linkage of these two issues, “navigation” and “nodules” in a bargaining sense, that was at the heart of the comprehensive LOS Conference negotiations.

The LOS negotiations were certainly the products of large-scale “horse-trading” among different interests, but there were also widely shared interests, such as concern about radioactive contamination of the ocean and other environmental threats. Yet, as the negotiations evolved, those
shared interests were not nearly strong enough to ensure the treaty. Indeed, noting the intense desire of many developed countries for environmental provisions with some force, certain developing countries—for both genuine reasons and tactical reasons—negotiated as if they did not want nor were able to afford even unrelated environmental provisions, unless the developed world made concessions.

With respect to climate-change negotiations, it is easy to imagine that separate protocols calling on different groups to undertake painful and costly measures will be rejected in a similar way unless they can be packaged in ways that offer sufficient joint gains to all. Since any action on climate change will involve shared and parallel sacrifice, it is probably only by linking issues such as technological assistance and various forms of compensation, financial or in kind, that many countries will be induced to join.

Lesson 4. Within the structure and procedures of the climate-change and related environmental negotiations, seek to link issues into packages that promise that sufficient joint gain is attractive to a large number of parties—yet that are not so broadly comprehensive as to risk excessive complexity and delay.

It is generally preferable to deal with issues on their separate substantive merits as much as possible, yet be alert to potential linkages to break impasses. This suggests a conference design with independent working/negotiating groups with a higher level body seeking to integrate the groups and facilitate valuable "trades."

The LOS experience suggests mutually beneficial "manageable packages" of protocols under a framework climate convention, and the same logic could be extended cautiously to other issues in the context of the 1992 Conference on Environment and Development. For example, desertification and soil erosion issues may be more pressing than greenhouse questions to key developing countries. Many developed countries that are unwilling to make what could be characterized as "bribes" to induce developing country participation may be more willing to be forthcoming on these regional issues in the context of a larger agreement that promises global climate benefits.

One of the most effective long-term steps that developing countries could take to combat global warming (as well as a host of other environmental issues) is a significantly stepped-up population control program. Unlike, say, energy-use restrictions, this course of action helps rather than hinders economic development objectives. For cash-strapped LDCs, relatively modest developed country aid in this dimension could considerably enhance domestic population-control efforts. Unfortunately, population
issues were not on the agendas of either the INC process or the 1992 UN Conference on Environment and Development.

Lesson 5. Link with caution. It can be extraordinarily difficult to "unpackage" issues once they have been combined for bargaining purposes.

In the most prominent example from the LOS experience that illustrates this point, the United States was generally in favor of the navigational portions of the LOS treaty, but had problems with the concessions demanded on a seabed regime. The United States exerted strenuous efforts to unlink or separate these topics into manageable packages, but to no avail. The package deal was too strong in the minds of many delegates, and ultimately the convention contained both elements.

Outside scientific information and models. One unusual element of the LOS experience consisted of the influence of a computer model of deep ocean mining that was developed at the Massachusetts Institute of Technology (Sebenius, 1981). Largely as a result of its sponsorship, process, and other credible features, the MIT model came to be widely accepted in the face of tremendous uncertainty felt by the delegates about the engineering and economic aspects of deep seabed mining. A critical point in the negotiations occurred during a Saturday morning workshop—held outside the UN premises, under the auspices of Quaker and Methodist nongovernmental organizations (NGOs)—in which developed and developing country delegates were able to meet and extensively query the MIT team that had built and revised the model.

Over time, the delegates made frequent use of the model for learning about and inventing new options. In some cases, delegates even used the model’s analysis as a political excuse to move from frozen positions. Similar roles were played by analyses offered by the U.S. Office of the Geographer in the State Department and by senior scientists from the U.S. Geological Survey on technically complex issues of continental shelves and boundary delimitations.

Analogous experiences leading to the Montreal Protocol on the protection of the ozone layer occurred at a series of informal, off-the-record workshops where diplomats and politically active participants in the negotiations gathered with scientific experts (Benedick, 1991). These informal events greatly increased scientific awareness and mutual understanding, improved relationships, and directed the process toward a successful treaty.

Lesson 6. Despite its potential abuse, outside scientific information—when it is objective and is accessible to all participants—can move a
complex and deadlocked negotiation, even one that is highly politicized and ideologically controversial, toward mutual cooperation. Low-profile forums in which scientists and diplomats can interact can be very useful.

Unexpected dynamics. In conventions that involve many delegates handling many issues, leverage is diffused, procedural elements have unexpected consequences, and different groups and people become decisive in ways that need careful analysis. For example, the requirement that any action by the LOS Conference receive two thirds of the vote gave potential blocking power to any group larger than a third of the conference membership—even though consensus largely characterized conference decision making. At the beginning of the negotiations it was scarcely expected that the “landlocked and geographically disadvantaged states” would constitute such a blocking group as an artifact of this rule, but the results gave this unlikely group considerable sway over a range of issues.

Likewise, some of the most potent spoilers in the Law of the Sea process were those mineral-producing nations that felt threatened by the potential emergence of a competing seabed-mining industry. In particular, cobalt producer Zaire, nickel producers such as Cuba and Canada, and copper producers from Latin America and Africa become adroit at using treaty procedures and bloc politics to impose burdensome restrictions on a future seabed-mining regime. In general, one should expect the “politics of blocs”—both familiar and unanticipated—in such international conferences. There was an emergence not only of the traditional UN geographic groups such as the Asians, the Latins, and the Group of 77, but also of groups of states, for example, with wide continental margins that acted in concert and coordinated their strategies.

In large-scale climate-change negotiations, one might expect to see many such new groupings emerge around such common characteristics as states with large coal reserves (India, China), states generating a sizable fraction of their electricity through nuclear power (France, the Commonwealth of Independent States), energy-efficient states (Japan), island or low-lying states vulnerable to sea-level rise (Bangladesh, the Seychelles, the Maldives), as well as those that genuinely or cynically might act as if they would benefit from global warming (Argentina, the Commonwealth of Independent States). The positive aspect of such emergence is a clear articulation of their interests. A negative characteristic may be the tendency toward rigidity and obstructionist tactics.

The central role of various individuals and nations was even more difficult to anticipate. For example, in one of the crucial conference issues—how to divide any profits from an ultimate seabed-mining operation—the final agreement was struck between representatives of Pakistan,
Singapore, Mauritius, Argentina, and the United States. This was hardly a coalition that might have been expected on an a priori basis.

**Lesson 7. Excessively detailed prior strategizing may be futile since it is very difficult to predict the negotiating dynamics of mega-conferences with widespread participation and agendas of broad scope.**

**Lessons From the U.S. Rejection of the LOS Treaty**

One of the more significant aspects of the LOS experience was its blunt rejection by the United States; a careful analysis suggests lessons that transcend the actions of a conservative U.S. administration. To draw meaningful lessons for climate-change negotiations from the U.S. rejection of the LOS treaty requires a clear understanding of the rationale for the U.S. action by focusing on the dominant issues: navigation and ocean resources. As U.S. Ambassador Elliot Richardson explained, "Although the convention has . . . dealt with issues ranging all the way from piracy to vessel source pollution, its participants understood from the outset that the accommodation of navigational and resource issues must be at the core of any eventual single 'package deal'" (Richardson, 1980).

When an announced absolute requirement of maritime nations on one issue (mobility rights) is linked with an apparently flexible position on an issue of keen importance to developing nations (nodule mining), it should not be surprising that concessions on the latter issue are the currency with which the former demand is bought, most likely at a high price. This proposition is exemplified by the negotiating progression through the Nixon, Ford, and Carter years leading to the acceptance of the parallel system for manganese nodule mining.

In particular, the original "navigation for nodules" proposition no longer offered the lure of joint gain to the Reagan administration. U.S. interests had shifted to place a relatively heavier emphasis on seabed access and in particular a much greater negative weight on precedential aspects of the seabed regime. The alternatives to a negotiated agreement—assertion of customary law with the threat of force in the background, along with the "mini-treaty" option for nodule mining—looked far more tolerable than earlier assessment had held. "Paying dear" (with seabeds) for "something cheap" (navigation) looked like a bad bargain (Sebenius, 1984).

**Blocking coalitions.** It is sobering to recall how the LOS treaty’s burdens on seabed mining—for all intents and purposes a nonexistent industry—engendered tenacious and ultimately effective opposition, for
both economic and ideological reasons. In the early days of the LOS process, U.S. industrialists supported a universal treaty as the only feasible means of ensuring them the needed 20 to 30 years of secure tenure over the vast ocean mine sites required by the technology (and their bankers). Yet as the seabed regime became more elaborate—with what prospective seabed miners judged to be onerous financial requirements, technology transfer provisions, production limitations, and a complex international regulatory bureaucracy—the industry grew increasingly strident in its opposition. As the UN treaty evolved, the industry began to support an alternative involving a much smaller group of countries—the so-called minitreaty option—and lobbied for it very actively in Congress, along with the broader U.S. mining and business communities and the administration.

Yet the raw economic self-interest of the seabed miners is an insufficient focus. The most effective vehicle found by the seabed-mining industry to oppose the LOS treaty was the great discomfort of many participants about the governance precedents involved in the entire exercise. *Wall Street Journal* editorialists, observers of the LOS process in conservative think tanks, and others were preoccupied with the UN’s (earlier and unanimous) declaration that seabed resources were the “common heritage of mankind.” Prior U.S. agreement with that principle, while dismissed by many at the time of UN resolution as bland, innocuous, and largely meaningless, turned out to have a dramatic effect both during the LOS negotiations themselves and subsequently toward energizing opposition to the treaty.

In response to such objections and to problems in the evolving seabed regime, the negotiation strategy of the United States can be understood as a detailed effort to generate a system that, while burdensome, was commercially workable. Ultimately, U.S. negotiators acceded to provisions that “gave” ideological declarations (on technology transfer, seabed production limits, and financial payments) to the developing world and cloaked commercially workable substantive provisions in quite visible trappings of the New International Economic Order. Close analysis, for example, of the technology transfer provisions of the LOS treaty suggests that it would be almost impossible to invoke them, and that the international community would obtain this technology by other, nonforcible means. The production limits were negotiated on the basis of technically complex formulas that generally ensured that they would pose no real constraint. The financial terms of contracts, if anything, are more flexible and efficient at sharing risks than most mining contracts negotiated for land-based contracts or oil leases. Enormous U.S. negotiating effort was expended in obtaining these substantive outcomes. Yet, an approach that in effect placed a relatively pragmatic system behind a Third-World facade
proved decisive in energizing opposing ideological coalitions. (For an extended analysis of these assertions, see Sebenius, 1984.)

In a time when population policy, social issues, and the proper role of public authority are hotly contested in the United States, climate-change negotiations may well engender powerful blocking coalitions based on these ideological or precedential considerations. For example, while very real issues of efficiency and mission surrounded the sustained U.S. attacks on UNESCO, a sizable ideological component animates this U.S. policy. Likewise, if the shape, coloration, character, and language negotiated as part of a climate-change convention invoke images such as central command, heavy-handed international bureaucracy, forcible technology transfer, blame-casting ideological declarations, guilt-based wealth transfers, and the like, the results of any such negotiations run substantial risk of being overturned for these reasons.

Lesson 8. In an age of media-driven symbolic politics, be careful not to energize opponents by a negotiating strategy that appears to make major ideological concessions in return for pragmatic fine print.

Subjects for negotiation should be chosen carefully with an eye toward the potential blocking coalitions that may be energized by international action. After all, the LOS treaty was scuttled in the United States and other important industrial nations by the economic and ideological concerns of an industry segment (seabed mining) that did not even exist. With respect to the ozone process, the 1990 Economic Report of the President estimates the U.S. costs of compliance with the Montreal accord at $3.7 billion—one measure, since reduced, of the costs that motivate skeptical policymakers and corporations to oppose the treaty (U.S. Council of Economic Advisors, 1990). Despite periodic public concern over the ozone layer, the Montreal treaty was effectively delayed for several years by these groups until the scientific consensus shifted. The same report cites the costs of an anti-greenhouse measure to cut carbon dioxide emissions by 20% at between $800 billion and $3.6 trillion (Manne & Richels, 1990; for a contrasting view, see Williams, 1989). If these figures are even remotely accurate, they suggest that those concerned by large-scale greenhouse control (such as policy skeptics, coal and oil companies, automakers) would have an economic motivation for opposition—regardless of the level of environmental benefits—literally hundreds of times stronger than that of the CFC industry.

One of the greatest mistakes that might be made by a comprehensive climate-change convention would be to energize and unify a large set of otherwise independent potentially opposing interests. An unlikely but illustrative domestic parallel may be found in Michael Pertschuk’s stewardship
of the formerly sleepy Federal Trade Commission (FTC) in the late 1970s. The FTC had launched a number of rule-making efforts directly affecting a range of small-business interests in the United States, from funeral homes and used car dealers to optometrists and others. Further, the FTC decided to challenge the issue of “kidvid,” or children’s television advertising, that not only threatened major media advertising revenues, but also smacked of First Amendment restrictions. In effect, by energizing and unifying an enormous coalition of large and small businesses and media companies—many of whom formerly had been bitter rivals in Washington politics—the FTC engendered a firestorm of protest, had its budget and authority slashed, and was shut down for some time. In part, Pertschuk’s legacy was a far more unified and politically effective business community. A comprehensive Law of the Atmosphere, replete with across-the-board regulations that affect several potentially powerful interests, would run the grave risk of energizing and unifying otherwise independent forces—targeted oil companies, coal-mining interests, or automobile-manufacturing firms, as well as various agricultural concerns—let alone the full range of human activities that result in greenhouse gases.

Lesson 9. Those concerned with organizing effective international action to combat global warming should carefully anticipate having to deal with the potential blocking coalitions that it in turn may create—for both economic and ideological reasons.

Beyond converting opponents by irresistible science and appealing to shared interests, careful procedural and substantive choice can sometimes prevent their formation at the outset (Sebenius, 1991). Opponents sometimes may be swayed by providing selective incentives, by linking issues as “side payments,” by demonstrating how a new control regime really would be in their interest, or by inventing new options that sidestep specific objections. Opponents sometimes may be isolated and overwhelmed by political pressure, divided and conquered, lulled, or simply outmaneuvered.

In this connection, recall that the climate negotiations have aimed at producing a general “framework” convention, followed by specific “protocols.” As such, the choice of which specific issues or protocols to pursue, singly, in combination, or in sequence (for example, transportation, energy, tropical forestry) will heavily determine which interests will arise to oppose action. Protocols have been suggested, seemingly without much explicit analysis of their implications for negotiating success, on a virtually endless number of potential subjects (such as targets for reducing national greenhouse gas or carbon emissions, credits for providing carbon “sinks,” automotive transportation, industrial energy use, tropical forestry,
agricultural practices, sea-level rise, technology transfer, international funds to aid LDCs, population growth, a carbon tax, tradable emission permits, and methane controls). A good way to guarantee an endless negotiating impasse would be to handle all or many of the above-mentioned protocols in a comprehensive Law of the Atmosphere package to be agreed upon by consensus. Despite potential joint gains from trades across disparate issues, and economic efficiency considerations, a comprehensive climate-change convention might well energize and unify a large set of otherwise separate opposing interests. To avoid creating a potent unified opposing coalition, one option is to proceed sequentially with protocols. Greenhouse control advocates might first pick “easy” subjects—protocols directed at greenhouse contributors that are politically weak, morally suspect, and concentrated in countries with a strong Green movement—to generate momentum, with strategically chosen later protocols building on early successes.

Another preventive approach to the problem of domestic blocking entities would be the early negotiations of a protocol specifying a baseline date after which anti-greenhouse measures taken by individual nations would be credited against the requirements of a later international agreement (Moomaw, 1990). With such an agreed-upon date in place, states could promptly undertake unilateral or small-group initiatives to reduce greenhouse emissions in the confidence that these measures would count toward the reductions required by an ultimate regime. Such a baseline year agreement could help to neutralize a major delaying tactic of domestic opponents of anti-greenhouse measures who argue that individual action without an overall international agreement is unwarranted or foolish.

However, enough nations and environmental organizations have already supported anti-greenhouse action that it may be unnecessary to wait for the conclusion of a framework convention to begin taking steps to prevent global warming. Former UNEP Deputy Executive Director Peter Thacher has argued against the conventional wisdom of waiting for a negotiated framework convention as a “first step,” to be followed by specific protocols. Instead, in line with the Mediterranean and Ozone Action Plans, he suggests that as many nations as are now willing should agree first on a greenhouse “action plan” that contains no formal obligations, but offers the willing sponsors a coordinated vehicle within which to commence valuable research, monitoring, and assessment programs, as well as offers developing countries needed assistance to participate in technical and negotiating forums. Such voluntary actions would support and may well expedite the conventional framework/protocol negotiation (Thacher, 1990a).

A slightly “harder” option has been suggested by Abram Chayes in an analogy to the launching of the International Monetary Fund (Chayes,
1990). By creating a postwar "transition" period during which IMF treaty members could simply "maintain" various forbidden restrictions (e.g., on currency convertibility) until they voluntarily relinquished them, the institutional apparatus could be developed, professional staffs and reporting practices established, and general momentum built toward the result that ultimately was widely accepted. Applied to the greenhouse case, this approach would permit further collection of detailed statistics on global emissions, facilitate technical assistance to environmental agencies (especially in the developing world), permit the development and empirical validation of more specific performance criteria, and help develop a technically competent and credible monitoring and compliance capability.

The actions discussed thus far have had the potential to overcome potential opposition to a greenhouse treaty. Yet, return to the possibility of an ideologically driven impasse. Beyond exhortations to shared interest and attention to special developing country needs, a number of specific measures could help avoid recreating a sterile North-South clash in a climate context. First, well-publicized regional workshops prior to the negotiations—presented by regional scientists and policymakers and focused on possible local impacts—could help spread the conviction that this is a common threat from a shared problem. Joint developing-developed country research likewise could be encouraged. During the negotiations, similar informal workshops, perhaps presented by nongovernmental organizations on neutral ground, could be helpful. Second, conference leadership could avoid structuring the issues and work groups in a way that makes latent North-South clashes more salient. Examples include assigning preparation of negotiating drafts to groups with mixed memberships; likewise, designating protocols or negotiating groups as dealing solely with, say, technology transfer, carries higher risk of polarization than considering such issues together with others. Third, conference leadership could make extensive use of broadly constituted advisory groups—composed of business and other interests—to understand concerns, anticipate emerging problems, correct misapprehensions, and communicate about the issues and evolving negotiating responses. Not only could the two-way communication be useful in such settings, but cross-cutting coalitions might form (such as industries that want to sell energy-efficient equipment combining with Green advocacy groups and LDCs to press governments for more resources).

Finally, ideological blockage may be diminished by the development of a new ideological template. Until recently, many international negotiations were hobbled by the ideological clash between East and West. With this ideological conflict receding into the past, new creative solutions are becoming possible in areas from trade to human rights and arms control.
At a minimum, this new conception need not shoehorn countries with vastly different climate interests—from coal-rich developing countries such as China and India to sub-Saharan Africa to the Second World of Eastern Europe to Norway and the United States—into catchall categories such as “North” and “South.” The most promising candidates to date are the principles of “sustainable development”—an insistence on development that meets the needs of the present without compromising the ability of future generations to meet their own needs—articulated by the Brundtland Commission in *Our Common Future* (World Commission, 1987). Although in need of clearer definition, these widely discussed principles call for tight links between environment and development, and offer some hope of reframing the climate negotiations in terms distinct from “old” North-South conceptions.

**Effects of the passage of time on reaching agreements.** Had the treaty that ultimately resulted from the LOS Conference been concluded earlier, it would have stood a better (though by no means a certain) chance of acceptance by the United States. This has led some observers to endorse the Wall Street adage that the passage of “time is the enemy of ‘doable’ deals” for international accords. In other words, when the confluence of issues and personalities permits the conclusion of a complex and significant agreement, even on a less than fully comprehensive basis, action should be taken before these underlying conditions (inevitably) shift.

For example, imagine that a tax on carbon emissions were agreed on, but initially set at a low enough level—for example, to collect resources for an international environmental fund—so its relatively diffuse impact did not trigger the same concentrated opposition that more targeted protocols could arouse. Later with the structure in place, the levels might be increased gradually, if the state of the science merited it and broad-based support existed for such a move. In virtually any case, getting the structure in place along with a ratchet mechanism for tightening the standards seems preferable to holding out for a more stringent regime at the outset.

Indeed, a review of the history of the ozone negotiations suggests the potential value of the advice to proceed step-by-step, rather than to seek a comprehensive accord like the LOS treaty. When an agreement to set CFC limits proved unreachable in 1985, the United States and others pressed for the Vienna Framework Convention that collectively legitimated the problem, set in motion joint efforts to monitor, coordinate, and exchange data, and envisioned the later negotiation of more specific “protocols.” (This is another in line with the “softer” options discussed above.) In 1987, after scientific consensus on the problem had solidified and industry opposition was largely neutralized, the Montreal Protocol
embodied an agreement to cut chlorofluorocarbon production and use by 50% by the year 2000. Many environmental activists harshly criticized these agreed-upon targets as inadequate. Yet negotiators at the time felt that the 50% cut was the maximum that then could be negotiated, and that to press for more would have resulted in deadlock.

More importantly, as part of the institutional arrangements set up by the Montreal Protocol were provisions that facilitated a review of the agreed limits in the face of new evidence (or, effectively, with shifts in public opinion). In effect, these provisions functioned as a “ratchet,” whereby the 50% cut served as a base; later findings stimulated treaty parties to tighten the limits. This treaty model of settling for relatively modest restrictions on which early agreement can be reached, together with arrangements that facilitate reconsideration, may well be emulated in the climate context. As UNEP’s Tolba recently put it, “By aiming in 1987 for what we could get the nations to sign . . . we acquired a flexible instrument for action. If we had reached too far at Montreal, we would almost certainly have come away empty-handed. . . . [The] protocol that seemed modest to some . . . is proving to be quite a radical instrument” (Tolba, 1989). This assessment was borne out by the 1990 London negotiations that converted a 50% reduction into a virtual CFC ban (Browne, 1990).

Yet there is a danger with partial agreements, as exemplified by the 1963 Partial Nuclear Test Ban Treaty. Some observers have criticized these accords as stopping too soon and bleeding off the intense public pressure for change—when, arguably, a comprehensive test-ban treaty was then attainable with intensified negotiating efforts. By addressing the concerns about strontium 90 from atmospheric testing in the food chain (mother’s milk in particular), according to this argument, the broader dangers of nuclear testing were not addressed and a more valuable opportunity was squandered. Rather than acting as a stepping stone to a larger accord, the Partial Nuclear Test Ban Treaty became a stopping place.

One might also draw an analogy to the U.S. Gramm-Rudman anti-deficit law, which eerily resembles a climate framework convention in that it contains targets and timetables but leaves specific agreement on budget cuts and tax increases for later. As such, this law served for years as an expedient political solution—at a time of intense public deficit concern—allowing executive and legislative officials to declare the problem solved and to return to budgetary chicanery. It is quite possible that the significant number of unilaterally adopted greenhouse gas control targets or a very weak framework convention that was politically touted as the solution to global warming could have analogous effects.

It is important, therefore, to be aware of the two different risks associated with the passage of time. To sea-law advocates, dragging out the LOS negotiations in search of a comprehensive accord paved the way for a new
administration with a contrary view to scupper the treaty. By contrast, settling too quickly on partial, expedient measures may reduce the pressure for more genuinely effective accords.

With respect to climate-change negotiations, in particular, it is quite likely that public concern will be cyclic, in part as a result of natural variations in climate as well as unrelated environmental events (such as medical waste on beaches and the Exxon Valdez). Arguably, a naturally occurring period of climatic calm, including milder summers and normal rainfall, will lead to a reduction in public concern and pressure for action. Moreover, scientific understanding will change over time. These prospects argue for more limited agreements with analogs to the ratchet mechanism in the Montreal Protocol—that would be activated if, and as, more stringent action appears warranted. Such agreements could constitute a “rolling process of intermediate or self-adjusting agreements that respond quickly to growing scientific understanding” (Mathews, 1989). And an even more fundamentally adaptive institution might be envisioned, better matching the rapidly changing science and politics of this issue. Yet the overall point seems clear: the hazards of blocking coalitions, as discussed above with respect to the U.S. rejection of the LOS treaty and the experience of the ozone negotiations, likewise suggest a stepping-stone approach.

Lesson 10. Better an earlier, more modest treaty with provisions to expedite reviews of the specifics, if attainable, than the uncertain prospect of a more sweeping instrument down the road.

Alternatives to negotiated agreement and the dangers of free riders. Perhaps the most obvious lesson from the LOS experience for climate-change negotiators is the role of alternatives to negotiated agreement. In the encompassing atmosphere of large-scale international negotiations, it is sometimes easy to lose sight of the fact that each state ultimately will assess the value of a possible agreement relative to the best no-agreement alternative—and will choose that alternative if, rightly or not, it is judged preferable to that state’s full set of interests. In the longer run, of course, the inherent interdependence between North and South on greenhouse issues means that a “Northern-only” alternative is not viable over time; it will be essential to have the cooperation of at least certain critical “Southern” states like China, India, Brazil, Mexico, and Indonesia. Yet, just as a mining minitreaty appeared to offer advantages over the LOS seabed regime to the Reagan administration, so may a smaller scale climate accord (perhaps as a stepping stone to a more universal arrangement; this possibility will be elaborated later). Moreover, the “commons quality” of the atmosphere—that all nations could benefit from actions to mitigate warming, while the costs of the actions may be narrowly concentrated—offers
a powerful economic incentive to "free ride" the treaty, since nonadherents could share fully the later benefits of reductions by others without bearing the costs themselves.

**Lesson 11.** To enhance the prospect of sufficient adherence to a climate convention, substantial negotiating attention is required to design an instrument that over time is preferable—in terms of the perceived interests of a wide group of states—to the inherently attractive alternatives to negotiated agreement.

Some observers admit the theoretical correctness of this observation about the attractiveness of free riding but minimize or ignore its practical consequences for climate accords. Yet, a major example from the Law of the Sea that, as indicated above, was not even a true "commons problem" perhaps unexpectedly illustrates the very real dangers of free riding the actions of others. A somewhat cynical interpretation of the U.S. strategy, once the LOS treaty was negotiated, would be of a choice to free ride the benefits of the treaty (the navigation and other provisions), while rejecting the costs involved (the seabed-mining provisions).

**Lesson 12. Anticipate and provide for the likelihood of free riders.**

Climate-change agreements contain far more evident incentives for free riding than the Law of the Sea agreement since the uncertain future benefits of actions to mitigate emissions accrue to signatories and nonsignatories alike, although the costs would be borne by specific, identifiable interests in the near term. While the U.S. rejection of the LOS treaty underlines the potential seriousness of free riding, the question arises concerning the appropriate responses. Briefly, care should be taken to make joining a regime and adhering to it preferable to the alternatives—by a combination of moral suasion, tangible benefits for signatories perhaps in the realms of financial and technical assistance or preferences with respect to trade or debt, along with sanctions for those remaining outside the agreement (for example, bad publicity, financial or trade penalties). Special attention should be given to adherence by states that are major greenhouse gas contributors. Finally, to avoid setting in motion events that might cause a negotiated regime to unravel, some free riding should be anticipated and should not be overly discouraging to adherents.

A Promising Option: The Small-Scale (Expanding) Agreement

In spite of the previous suggestions for successful climate negotiations, the complexities of a universal process, either in a stand-alone framework/
protocol context or as part of a larger conference, may threaten endless delay or impasse. In such cases, an alternative possibility will likely become more salient. Suppose that a smaller group of nations, probably certain industrialized states with potent domestic interests keenly concerned with anti-greenhouse measures, were to negotiate among themselves a reduction regime, which could take on various forms—including timetables and targets, either voluntary or mandated. Presumably the core group of any such smaller scale negotiations would include major contributors to the greenhouse problem in which there was substantial and urgent domestic sentiment for action. A natural starting core would be the 12 nations of the European Community, the six member states of the European Free Trade Association, plus Japan, Australia, and Canada—all of which by late 1990 had unilaterally or collectively adopted greenhouse gas stabilization or reduction targets. At present, the OECD countries account for approximately 45% of carbon emissions; with the addition of the Commonwealth of Independent States and Eastern Europe, the total would rise to 71% (Manne & Richels, 1990).

It would likely prove far easier to achieve agreement among such a group than to achieve a global accord as a function of the smaller number of states involved as well as their greater economic and political homogeneity. Existing institutions (such as the UN Economic Commission for Europe or the OECD) might facilitate the process. And while there clearly would be substantial negotiating difficulties involved, this smaller scale process could avoid the protracted, inconclusive North-South clash that might characterize a larger forum.

To be effective in the longer term, of course, a smaller scale agreement would have to be expanded later to include key developing countries such as China, India, Brazil, Indonesia, and Mexico (as well as additional developed nations, especially in Eastern Europe). In this sense, an agreement explicitly designed for an increasing number of adherents has strong parallels to agreements that “ratchet” to become increasingly stringent.

The design of the smaller negotiations could anticipate and facilitate such an expansion in several ways. First, the smaller agreement should seek to follow the negotiation of a widely accepted framework convention on climate, such that the general problem is legitimated and accepted to the largest possible extent.

Second, the smaller scale agreement should be cast not so much as an alternative to the global process over protocols but as a complement to it—in which those nations that evidently have caused the present greenhouse gas problem so far are those who are taking early action to mitigate emissions. This would give the smaller group that had agreed to cuts a higher moral standing in soliciting later reductions from others.
Third, the smaller scale group should structure its accord with the explicit expectation of collectively negotiating incentives, likely tailored to special circumstances, for key developing nations to join the accord. For example, the smaller group might agree to tax its members on their carbon emissions. All or part of those tax proceeds could be used to gain the acquiescence of key countries to anti-greenhouse measures. Rather than attempt ad hoc negotiations by its members with such other countries, the smaller group could create an entity that itself would carry out these negotiations. Such negotiations between the smaller treaty group and, say, China, could set a schedule of emission targets and offer China significant incentives to reach them. Or it could address a range of China's special concerns—environmental and other—in return for less climate-damaging development (such as assistance with greater exploration for Chinese natural gas reserves and Chinese agreements to use CFC substitutes in refrigeration and to undertake more greenhouse-friendly coal development, perhaps by the transfer of more efficient electrical-generating equipment). Critically, the character of such "customized" small-group Chinese negotiations—as well as with others such as India and Brazil—should be more conducive to environmentally desirable results than would generalized North-South clashes in a full-scale UN conference.

Fourth, as the group of adherents to the smaller convention grew, it might choose, in addition to such incentives, to impose a tax on products imported into their member countries from nonadherents, perhaps based on the direct or indirect carbon content of those products. The carrot (of providing individually tailored, negotiated incentives for nonadherents to join) and the stick (of raising such a "carbon-fence" around the anti-greenhouse group) together might lead to more countries jointly taking measures to prevent climate change. Evidently, a price to be discussed, anticipated, and (reluctantly) accepted by the smaller group would be a substantial number of free-riding countries. With a large enough group of adherents, however, the smaller group agreement could still be preferable to no agreement at all.

Ironically, though several developing countries have joined the Montreal Protocol, it is quite possible after the fact to interpret this experience as strongly analogous to the smaller scale convention just discussed. While carried out in the context of a widely accepted framework (the Vienna Convention), the relatively small number of key CFC-producing countries ultimately acceded to the CFC reductions in the Montreal Protocol. However, important LDCs (India, China, Brazil) did not go along with 1990. India, for example, demanded $2 billion—an amount related to its cost of using more ozone-friendly technology in the future—as its price to join the 1987 protocol (Stone, 1990). In 1990, a number of developed nations
agreed to provide such assistance up to $240 million. This proved sufficiently attractive to representatives of states such as India and China, and they indicated willingness to join. Yet, crucially, as a result of the smaller scale 1987 Montreal Protocol, more significant ozone-protection measures got under way—well before the full resolution of important issues such as financial aid and technology transfer to the developing world. In retrospect, especially given the sharply heightened scientific evidence on ozone depletion since 1990, these early actions appear to be of particular benefit.

It is important to note that the provisions in the Montreal Protocol for LDC financial and technical assistance, while favoring such actions in general terms, did not contain very specific commitments. Taking this frustrating experience as a lesson, LDC activists (such as India, Brazil, and China) will likely press for far more specificity in a larger climate conference, possibly at the framework stage. Clearly these questions must be addressed; equally clearly, requiring their resolution before any climate action is undertaken could be a recipe for considerable delay. The experience of Montreal as a de facto smaller scale convention may give rise to a more explicit minitreaty in a larger climate context.

Notes

1. Analogously, NIEO demands became much more salient after the first oil embargo, when the price to the developed world of ignoring them appeared to be deprivation of vital energy resources.

2. This does not, of course, mean that action by developed countries themselves would be useless; it could help mitigate the problem and buy valuable time to fashion other responses.

3. There were, of course, limitations on various activities (for example, coastal state seaward territorial claims, marine scientific research) negotiated in the LOS context. Not surprisingly, they were among the most difficult aspects of the conference.

4. There were true commons LOS issues, such as the marine environment and the depletion of fish stocks, but they were far less important in a negotiating sense than navigation and seabed resource issues.

5. The greenhouse gas stabilization and reduction targets adopted to date by individual countries and groups of countries stands in contrast to this simple “commons logic”—perhaps illustrating the power of domestic political forces and the moral aspects of the greenhouse issue as seen by many people. Viewing states as monolithic, strategically rational actors in this context may be misleading.

6. See Ehrlich and Ehrlich (1990). Even if the United States did not go along with such a proposal, the amount of money required at the margin to increase the effectiveness of population programs is relatively small enough that contributions of other nations could be very effective.

7. The phrase blocking coalition is used in a looser sense than is common in a well-structured (e.g., parliamentary) context. For traditional discussions of these concepts see Luce and Raiffa (1957) or Riker (1962). Think of a winning coalition as defined only with
respect to a set of policy measures from the point of view of the particular actor or actors; such coalitions consist of sufficient numbers of adherents to render the policy effective (again from the point of view of the specific actor or actors). Blocking coalitions, then, are those opposing interests that could prevent a winning coalition from coming into existence or being sustained. The term actor should be contextually obvious and can include states, domestic interests, and transnational groupings of either as appropriate.

8. Indeed, the negotiations that led to the Vienna Convention began in 1981, four years after UNEP had formulated a World Plan of Action on the Ozone Layer (Chapter 3 this volume; Thacher, 1990a).

9. The idea of a smaller scale agreement was considerably discussed and developed in the discussions of the Harvard Negotiation Roundtable during 1989-1990. For a perceptive discussion of other such alternatives, see Grubb, 1990.

10. The experience of the Convention on Long-Range Transboundary Air Pollution, in which groups of expanding size acceded to the later sulfur and nitrogen oxides protocols, is also generally in accord with this small-scale approach. For a summary, see Jackson (1990).