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INTERNATIONAL ENVIRONMENTAL REGIMES: DYNAMIC SECTORAL LEGAL SYSTEMS

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I. INTRODUCTION

In recent years, international environmental cooperation has emerged and intensified in many areas in response to new scientific information and technological advances in pollution control. While in many cases it has not yet reached the level of legally binding conventions, the body of formal international environmental law is growing fast, as evidenced by international legislation regarding the protection of the Mediterranean[1] and the Baltic,[2] transboundary hazardous waste,[3] marine pollution from land-based sources,[4] the protection of the ozone layer[5] and long-range transboundary air pollution in Europe,[6] to name but a few examples. The legal framework governing these areas of international environmental relations often consists of a convention as well as one or more protocols and/or annexes that contain detailed provisions on specific issues. As with other multilateral treaties, most of these instruments have been negotiated within existing international organizations.

Yet, with their entry into force, these instruments create their own formally independent discussion fora. Contrary to ordinary multilateral treaties, all of them provide for the establishment of a conference of parties that meets regularly. These conferences undertake a variety of tasks, including the adoption of

[1] Barcelona Convention for the Protection of the Mediterranean Sea against Pollution (1976), 15 *ILM* 290 (1976); Protocol Concerning Co-operation in Combatting Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency (Barcelona 1976), 15 *ILM* 306 (1976); Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona 1976), 15 *ILM* 300 (1976); Protocol for the Protection of the Mediterranean Sea from Land-based Sources (Athens 1980), 19 *ILM* 869 (1980).

[2] Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki 1974), 13 *ILM* 546 (1974).

[3] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989), 28 *ILM* 657 (1989).

[4] Convention for the Prevention of Marine Pollution from Land-Based Sources (Paris 1974), 13 *ILM* 352 (1974).

[5] Vienna Convention for the Protection of the Ozone Layer (1985), 26 *ILM* 1529 (1987); Montreal Protocol on Substances that Deplete the Ozone Layer (1987), 26 *ILM* 1550 (1987).

[6] Convention on Long-range Transboundary Air Pollution (Geneva 1979), 18 *ILM* 1442 (1979); Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent (Helsinki 1985), 27 *ILM* 699 (1988); Protocol to the 1979 Convention on Long-range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes (Sofia 1988), 28 *ILM* 214 (1989).

protocols[7] and annexes,[8] the supervision of the implementation of prescriptions[9] and (though rarely in explicit form) the revision of the convention itself.[10] This wide competence contrasts with the traditional type of international agreement which provides for technical commissions to implement prescriptions while retaining the separate mechanism of diplomatic conferences for handling political matters, e.g., revisions or extensions of the legal framework itself.[11] In the above-mentioned international environmental conventions, the distinction between political and technical issues has virtually disappeared. Given the assortment of tasks, the conferences of contracting parties are at the same time technical and political bodies.

Frequently, these conferences develop into permanent fora for the negotiation and adoption of new instruments of international law[12] or, as the case may be, for major revisions of existing ones.[13] Due to their political character, conferences of parties are often held at a high political – occasionally even at a ministerial[14] – level.

Regulations developed in these fora, and governing a defined area of international environmental relations, shall be labelled international environmental

[7] *See* Vienna Convention (Article 6, paragraph 4 (g) and (h)); Basel Convention (Articles 15 and 17), but *cf.* Barcelona Convention (Article 16). Significantly, the Geneva Convention does not contain any explicit rule on future protocols or annexes. This reflects the precarious state of consensus at the conclusion of the Convention. *See* E. Choussudovsky, *"East-West" Diplomacy for Environment in the United Nations. The High-level Meeting within the Framework of ECE on the Protection of the Environment* (1989). As a matter of principle, the revision of any protocol is the prerogative of the contracting parties to the respective instrument. In the case of the regime for the protection of the ozone layer, this led to the establishment of a second, virtually independent meeting of the conference of parties to the Montreal Protocol.

[8] *See* Vienna Convention (Article 6, paragraph 4(g)); Barcelona Convention (Article 17); Paris Convention (Article 18, paragraph 4) on revisions of a substantial annex.

[9] *See* Vienna Convention (Article 6, paragraph 4(a)); Geneva Convention (Article 10); Basel Convention (Article 15, paragraph 5); Paris Convention (Article 16, paragraph 1); Barcelona Convention (Article 14, paragraph 2).

[10] *Cf.* provisions of the Geneva Convention (Article 10) with those of the Vienna Convention (Article 6, paragraph 4(e) and the Basel Convention (Article 15, paragraph 5(b) and Article 17, paragraph 2).

[11] During negotiations on the Convention for the Protection of the Ozone Layer, discussion arose on the appropriateness of conferring the right to prepare revisions of the Convention to the conference of parties. *See* UNEP/WG.78, paragraph 23. *See also* the formally more restricted approach of the Barcelona and Baltic Sea Conventions.

[12] For example, under the Convention on Long-range Transboundary Air Pollution in Europe, three protocols have so far been adopted. In addition to the instruments on SO_2 and NO_x (see *supra* note 6), they include the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for the Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), 27 *ILM* 701 (1988). A fourth instrument is being prepared. *See* Draft Protocol to the 1979 Convention on Long-range Transboundary Air Pollution Concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, EB.AIR/WG.4/R.12.

[13] For example, see amendments and adjustments to the Montreal Protocol in UNEP/OzL.Pro.2/3.

[14] Examples of ministerial level meetings include the sixth session of the Executive Body for the Geneva Convention (Sofia 1988) that finalized and adopted the NO_x Protocol (see ECE/EB.AIR/18); and the Second Meeting of the Parties to the Montreal Protocol (London 1990), on the occasion of the final negotiation and adoption of a comprehensive package of revisions (see UNEP/OzL.Pro.2/3).

regimes.[15] A special characteristic that these regimes share is the close relationship between their normative "substance" and their decision-making procedures to implement, administer and develop prescriptions to meet the demand for quick legal action.[16] Law-making within these regimes is a quest for consensus among actors on the necessity for internationally coordinated action, as well as on the basis for implementing decisions to take action thus arrived at. As a result, a commonly accepted body of technical knowledge emerges within the regime. In the same fashion, a consensus on the priorities of, and strategies for, internationally coordinated action emerges which, in turn, produces a body of commonly accepted norms. The cognitive and normative aspects of the process are mutually reinforcing: changing knowledge demands an adaptation of normative prescriptions, whereas agreed-upon norms induce the generation of technical knowledge. Thus the continuous modification of international environmental law is not an intentional by-product of technological and scientific evolution. On the contrary, the pace of modification is deliberately accelerated by the mechanisms established within international environmental regimes.[17]

While the type of international regimes discussed in this paper[18] is based upon multilateral conventions that tend to produce formally binding treaty law, common normative expectations at any given time are only partially reflected in formal legal instruments. Owing to the slow ratification and amendment procedure of international treaties, even far-reaching decisions are frequently contained in commonly accepted interpretations, decisions, declarations and other instruments that are below the threshold of formal international law. Moreover, international environmental regimes develop their own dispute settlement procedures within the respective issue-areas. Accordingly, dispute settlement procedures are organized consistent with the consensus-building process of communication within regimes. By internalizing the making and application of international law within their respective issue-areas, international environmental regimes develop into comparatively autonomous sectoral legal systems.

[15] On the notion of international regime, see Johnston, "Systemic Environmental Damage: The Challenge to International Law and Organization," 12 *Syracuse J. Int'l L. & Commerce* 255, at 270 (1985). *See also* Klein, "International Regimes," in R. Bernhard, ed., 9 *Encyclopedia of Public Int'l Law* 202 (1986). A theoretical concept of international regimes has been developed by U.S. international relations theorists; *See, generally,* S. Krasner, ed., *International Regimes* (1983); R. Keohane, *After Hegemony. Cooperation and Discord in the World Political Economy* (1984); O. Young, *International Cooperation. Building Regimes for Natural Resources and the Environment* (1989).

[16] Though regime theorists generally define international regimes as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations" (Krasner, "Structural Causes and Regime Consequences," 36 International Organization 186 (1982)), neither the impact of the latter aspect of decision-making procedures, nor the relationship between normative and decision-making elements has been thoroughly examined.

[17] *See* J. Brunnée, *Acid Rain and Ozone Layer Depletion: International Law and Regulation* 265–268 (1988), who calls this a pragmatic "management approach."

[18] Reference will be made throughout to the elaborate and extremely dynamic international environmental regimes governing long-range transboundary air pollution in Europe and the protection of the ozone layer, respectively.

II. SHAPING CONSENSUS

Because the international legal system lacks a centralized authority for the creation and enforcement of law, consensus, at least among the most important actors, is necessary for the creation of new rules of international law and their adaptation to changing conditions. Usually, consensus-building involves extensive negotiations. Organizing the process to shape consensus in a specific and often narrowly defined area of international relations is the most important operative function of an international regime.

A. Shaping Cognitive Expectations: The Technical Dimension

"Technical" questions concerning the necessity for internationally coordinated measures, as well as the capacity[19] of the concerned parties to act accordingly, usually form the essence of international environmental issues. Because of the decentralized structure of the international system, actors cannot be expected to endeavor seriously to reduce or abate a specific form of pollution of the transnational environment until the need for such usually costly action has become sufficiently clear and until they have the capacity to take remedial action. Making the technical basis for political negotiations "sufficiently clear" does not necessarily imply a high threshold of scientific evidence. Rather, at stake is the joint appraisal and interpretation of scientific findings[20] in an authoritative way within the regime, for political negotiations can set aside the consideration of scientific issues only if mutually acceptable scientific knowledge can be developed by a forum authorized by the participating actors. Thus, the degree of scientific clarity is less important than the degree of unity in appraising the scientific "state of the art."

Policy questions (i.e., the deliberate setting of political goals and priorities) and questions about the "technical" basis of these policy decisions are often intermingled in the bargaining process. Yet, to a large extent, international regimes address "technical" questions apart from political issues. Consider, first, the question of the necessity for internationally coordinated action. Within the regimes on long-range transboundary air pollution and the protection of the ozone layer, extensive consultative mechanisms forming important structural parts of these institutions have been established to harmonize the interpretation and appraisal of scientific findings.

One of the cornerstones of the international regime on long-range transboundary air pollution,[21] indeed its very foundation,[22] is the "European

[19] On the concept of "capacity" influencing the process of environmental politics (*i.e.*, the process of lawmaking), see V. Prittwitz, *Das Katastrophenparadox. Elemente einer Theorie der Umweltpolitik* 107–112 (1990).

[20] *See* Haas, "Do Regimes Matter? Epistemic Communities and Mediterranean Pollution Control," 43 *International Organization* 377 (1989).

[21] Negotiations were influenced by both environmental and East–West considerations. On the former aspect, see Wetstone and Rosencranz, "Transboundary Air Pollution: The Search for an International Response," 8 *Harvard ELR* 89, at 100–107 (1984). On the latter aspect, see Choussudovsky, *supra* note 7.

[22] Since the program is mentioned in rather specific terms in the Final Act of the Conference on Security

Monitoring and Evaluation Programme" (EMEP), established in 1979. In order to contribute to solving a major international environmental conflict that arose in Europe during the 1970s, EMEP was designed to account for the long-range transport of air pollutants in Europe, starting with sulphur dioxide (SO_2), based upon calculations that process nationally supplied emission data and model meteorological conditions and atmospheric chemistry.

Unlike past cases involving environmentally adverse effects of SO_2 emissions,[23] damage to fish in Nordic lakes could not be easily traced back to emissions from nearby sources. As a first step toward internationally agreed-upon pollution control measures, the Nordic countries had to establish the international relevance of the long-range transport of air pollutants. As long as the causal relationship between emissions in Great Britain, Germany or Poland and damage in the Nordic countries was not convincingly established, polluters could simply deny that reducing emissions would benefit acidified lakes in Scandinavia.[24]

Starting with the base years of the protocols on sulphur dioxides (1980) and nitrogen compounds (1987), EMEP provides tables showing annual transboundary transmission of these pollutants.[25] Thus, European governments, as well as the public, concerned industries and interested non-governmental organizations, are now aware of the origin of acid precipitation in any given country,[26] the degree to which deposition is produced in other countries, and the primary destination of the pollutants. All calculations are based upon an internationally accepted data processing methodology.[27] Since the appropriateness of applied modeling methods is no longer seriously contested, political negotiations are free of disputes about

[22] *cont.*
and Co-operation in Europe, Section on the Environment (14 *ILM* 1309 (1975)), it can truly be considered the root of the entire regime.

[23] *See* the famous *Trail Smelter* case, 3 *UNRIAA* 1905; and Read, "The Trail Smelter Dispute," *1 Canadian Yearbook of Int'l Law* 213 (1963).

[24] An initial program of a similar kind was carried out within the OECD, but was curtailed in part due to pressure from major polluters. *See* Wetstone and Rosencranz, *supra* note 21 at 94–99.

[25] *See* Sand, "Regional Approaches to Transboundary Air Pollution" in J. Helm, ed., *Energy: Production, Consumption and Consequences*, at 246–249 (1989). For recent calculations of European sulphur and nitrogen "budgets," see EB.AIR/GE.1/16/Add.1.

[26] *See* the disclaimer in the Convention regarding the possible implications of the EMEP on the international responsibility of polluting states, including compensation for transnational damage. Though the disclaimer appears to be attached as a footnote to Article 8, it seems, in fact, to refer to the word "damage" and by its very wording ("The present Convention does not contain a rule on State liability as to damage") should apply to EMEP as well.

[27] Since emission figures are supplied under national authority, the harmonization of criteria for the collection of data becomes a major issue within the program. In the framework of EMEP, workshops on "emission inventory" are regularly held. *See* EMEP report EB.AIR/GE.I/16, paragraphs 32–34. Nevertheless, the supplied data vary greatly in quality. *See* Fraenkel, "The Convention on Long-range Transboundary Air Pollution: Meeting the Challenge of International Cooperation," 30 *Harvard ILJ* 447, at 460 (1989). Occasionally, missing data have to be estimated according to a mutually agreed-upon procedure. Yet, it has to be emphasized that these difficulties do not undermine the overall authority of EMEP calculations as a reliable source of information.

the significance and amount of long-range transboundary air pollution afflicting a particular country. Within the international regime, EMEP has established the importance of the long-range, international aspects of air pollution in Europe with a degree of authority sufficient to support political negotiations proceeding within the regime.[28]

During its first stages, the international regime for the protection of the ozone layer depended, to an equally high degree, on the authoritatively calculated impact of substances with an identified ozone-depleting potential. Since observations of the actual depletion of the ozone layer were not published until 1985,[29] coordinated international as well as unilateral action was based solely on a theoretically derived relationship between the emission of chlorofluorocarbons (CFCs) and ozone depletion and on atmospheric models. Prior to the entry into force of the Vienna Convention and the Montreal Protocol,[30] authoritative evaluation and appraisal of scientific findings were performed by the Co-ordinating Committee on the Ozone Layer (CCOL).[31]

Yet, institutionally, CCOL remained outside the regime,[32] and the Convention did not specifically provide for a committee on technical issues.[33] Characteristic of the dynamic type of international legal regulation explored in the present paper, the regime developed its own mechanism for evaluating scientific findings at the first review of the control measures stipulated in the Montreal Protocol.[34]

[28] Equally important (but certainly less advanced) is a comprehensive research program on the effects of air pollutants on forests, rivers and lakes, buildings and agricultural crops. Results will be discussed in a Working Group on Effects, a permanent sub-committee of the Executive Body for the Geneva Convention. On the current state of the four International Co-operative Programmes for Assessment and Monitoring of Air Pollution Effects, established pursuant to Article 7, paragraph d of the Geneva Convention, see EB.AIR/WG.1/14, paragraphs 10–15.

[29] *See* Kindt and Menefee, "The Vexing Problem of Ozone Depletion in International Environmental Law and Policy," 24 *Texas ILJ* 261, at 280–282 (1989).

[30] Negotiations on the Montreal Protocol began long before the entry into force of the Vienna Convention. Therefore, they did not proceed within the framework of the conference of contracting parties to the convention, but rather within UNEP. *See* Resolution 2 of the Final Act of the 1985 Vienna Conference of Plenipotentiaries on the Protection of the Ozone Layer, 26 *ILM* 1523 (1987).

[31] *See* reports and summaries of scientific assessments from CCOL to the political working groups on the framework convention and the protocol: UNEP/WG.69/6; UNEP/WG.78/12; UNEP/WG.110/3; UNEP/WG.151/Background 3. CCOL was founded by UNEP in 1977. *See* report of the UNEP Governing Council 1977, UNEP/GC/106, Decision 84(V)C, at 123.

[32] Given the composition of the Committee, incorporation into an intergovernmental convention seemed difficult. *See* UNEP/WG.69, paragraph 22. The Committee consisted of a limited number of interested governments and concerned industrial associations. Industry's collaboration was particularly important as production figures of ozone-depleting substances, on which modeling had to be based, could only be supplied by producers.

[33] This was apparently to avoid duplication of work, although early drafts of the Convention contained proposals for such a technical body. *See* Article 8 (Scientific-Technological Advisory Body/Mechanisms) and commentary in UNEP/WG.78/2.

[34] The review process began on an informal basis almost immediately after conclusion of the Protocol (September 1987) but prior to its entry into force (January 1989). At its first session (May 1989), the conference of the parties of the Protocol took over supervision. *See* Decision II/3, UNEP/OzL.Pro.1/5, at 14.

A "scientific" panel of experts evaluated recent calculations of the degree and rate of the depletion of the ozone layer, while an "environmental" panel reviewed research on the effects of stratospheric ozone depletion on human life and the biosphere.[35] The panels reported to a working group on the revision of the Protocol.[36] Hence, even before the formal entry into force of the Protocol, the assessment of scientific findings by designated experts (with a view to facilitating political negotiations) was carried out within the structure of the regime. Having been appraised by governmental delegations within the political working group revising the Protocol,[37] these assessments laid an authoritative foundation for negotiations.

In sum, both the long-range transboundary air pollution and protection of the ozone layer regimes establish mechanisms to develop information regarding the abatement of certain types of pollution for the purpose of facilitating political negotiations. Such information is prepared by experts in their respective fields, subject to the approval of the authorized sub-committees of the conference of parties. Thus, the above two regimes produce "in-house," i.e., on their own, a body of commonly agreed-upon technical knowledge that is widely accepted as a valid basis for political negotiations.

However, assessment of scientific evidence is only one essential aspect of any effective, internationally coordinated strategy of pollution control. Another equally important conditioning factor is the technological capability to implement a control strategy commensurate with the findings of the assessment process.

During the major 1990 revisions of the Montreal Protocol to the Vienna Convention, deliberations on the technological capability to reduce the consumption of ozone-depleting substances were of utmost importance. While earlier rounds of negotiations focused on the relatively easy challenge of eliminating CFCs as spray-can propellants, the new round had to address the question of identifying available substitutes for more sophisticated applications of CFCs and halons.[38] As scientific data strongly suggested the need for an accelerated timetable for the reduction and eventual phase-out of these substances, the margin for possible internationally coordinated action became a function of technological capability.

[35] *See* UNEP Scientific Review of Ozone Layer Modification and its Impact, UNEP/Sc.I/2 (Note by the Executive Director UNEP). Prior to the entry into force of the Protocol, the work plan and timetable for the panels were approved by an intergovernmental Working Group on Harmonization of Data on Production, Imports and Exports of Substances that Deplete the Ozone Layer. *See* UNEP/OzL.WG.Data.2/3/Rev.2, paragraph 25. The Working Group was established according to Resolution 3 of the Final Act of the 1987 Montreal Conference of Plenipotentiaries on the Protocol on Chlorofluorocarbons to the Vienna Convention on the Protection of the Ozone Layer, 26 *ILM* 1549 (1987).

[36] Revisions were adopted at the Second Meeting of the Parties in 1990. *See* Report of the Meeting, UNEP/OzL.Pro.2/3.

[37] *See* "Synthesis Report," UNEP/OzL.Pro.WG.II(1)/4.

[38] CFCs are, in particular, used as blowing agents for plastic foams, coolants in refrigerators and air conditioners, and as solvents; halons are used in fire-extinguishers. On consumption figures, broken down by uses, see Report of the Panel of Technical Assessment, Executive Summary, OzL.Pro.Asm.I/Inf.3.

A panel of experts delivered a detailed report exploring the technological capability for substituting ozone-depleting gases.[39] The report was, in fact, prepared by representatives of the major companies involved in both the production of ozone-depleting substances and the development of substitutes. Thus, the panel's exposition of the technological capability issue implied also industry's acceptance of the report's proposed strategies.

Similarly, as one of the first steps in its work on nitrogen oxides (NO_x), the Executive Body for the Geneva Convention decided to prepare an inventory of control technologies.[40] This inventory formed an important basis for negotiations on a NOx Protocol within the political Working Group on Nitrogen Oxides.[41] The same is also true of current work on a future protocol on volatile organic compounds (VOCs).[42] Yet, the inventory also has direct legal implications as it provides the basis for a technical annex to the Protocol. Thus, joint assessment of the technological capability for internationally coordinated action forms an integral part of the law-making process in both international regimes.

In more abstract terms, the purpose of this technical dimension of the law-making process within international environmental regimes is to build consensus primarily on the assessment of knowledge. As a body of knowledge common to all participants gradually builds up, actors come to "trust" calculations based upon models and rely upon inventories of control technologies developed within the regime. In the end, actors interpret (and expect others to interpret) events and occurrences in a similar way.[43] The body of technical knowledge concerned gives rise to what may be called "cognitive expectations," i.e., expectations based on knowledge. Thus the fact that the Antarctic ozone hole is regularly reviewed within the regime on the protection of the ozone layer[44] implies that scientifically observed changes will have to be measured against the existing shared body of knowledge built up within that regime. Only this procedure will produce commonly accepted interpretations or adjustments of technical knowledge.

[39] For an overview of the panel's participation, see UNEP/OzL.Pro.1/5, Annex V.

[40] At its first session in 1983, the Executive Body had already entrusted the Working Party on Air Pollution Problems with drawing up an inventory of control technologies. *See* ECE/EB.AIR/1, Annex IV. The Working Party is formally related to the ECE, not the structure established under the Convention. However, it discharges technical work for the Executive Body and reports directly to it. The establishment of a new technical working group has been suggested within the Executive Body, which would internalize the work done up to now in the Working Party on Air Pollution Problems.

[41] *See* Report of the Third Session, EB.AIR/WG.3/6, paragraphs 28–39.

[42] Apart from consultations among designated governmental experts on VOC emissions from stationary sources, a Task Force on Emissions of Volatile Organic Compounds (VOC) from Stationary Sources was established. Results are expected to enter the future protocol as a technical annex. *See* EB.AIR/WG.4/8, paragraphs 21–27. The protocol should be ready for adoption at the next meeting of the Executive Body, late in 1991.

[43] A regime comprising a body of common knowledge may be considered a "social system." *See* N. Luhmann, *Soziale Systeme. Grundriss einer allgemeinen Theorie* (1988). According to this approach, social systems are not composed of actors (*i.e.*, delegates or delegations), but rather units of communication.

[44] For regimes concerned with other issue-areas, such information will be largely irrelevant and most probably will not be considered at all.

B. Shaping Normative Expectations: The Political Dimension

Agreements on scientific evidence and technological capability for internationally coordinated action set the bases for political choices[45] about the regime's priorities,[46] policies and strategies. International environmental regimes facilitate the process, in particular, by providing a permanent forum of discussion[47] that lowers considerably the threshold for putting new issues on the agenda[48] and encourages negotiations on a specific instrument.

It is important to note that, while discussion may proceed within, as well as outside, the regime's structure, authoritative decisions can only be taken within the regime itself. This fact has an important impact on international law-making since the decision-making process within the regime becomes the focal point of a whole range of bilateral and multilateral diplomatic activities. The negotiation process that eventually led to the adoption of the SO_2 Protocol illustrates this relationship.

At the first session of the Executive Body (June 1983), a number of states proposed the adoption of an instrument on SO_2 (as well as NO_x) emissions.[49] During that meeting, several countries unilaterally declared their intention to reduce SO_2 emissions by at least 30% by 1993 at the latest.[50] Even though the declarations were made at the official session of the Executive Body, these statements were hardly more than inputs of individual countries into the communicative process involving the regime on long-range transboundary air pollution.

The purpose of these declarations is obvious: they reinforced the demand for modifying the legal status of transboundary SO_2 emissions within the regime and, at the same time, suggested a particular approach for an international regulation of the problem.[51] Since the proposal was unsuccessful, the "30% Club"

[45] From the principles codifying the broad overall goals of a regime alone, specific prescriptions cannot be derived. *See* Krasner, *supra* note 17 at 187; Kohler-Koch, "Zur Empirie und Theorie internationaler Regime" in B. Kohler-Koch, ed., *Regime in den internationalen Beziehungen* 17, at 40 (1989). On the normative ambiguity of rules, see L. Chen, *An Introduction to Contemporary International Law* 13 (1989).

[46] *See* the Ministerial Declaration of the Second World Climate Conference (Geneva, 7 November 1990), in particular, paragraphs 5, 7, 12, 16, 20 and 25, for a clear juxtaposition of conflicting environmental and economic goals.

[47] In this regard, the function of international regimes approximates that of international organizations. Yet, it must not be forgotten that the issue-areas organized by international regimes are usually narrowly defined and, to a certain extent, connections with conflicting issues are therefore precluded.

[48] For example, the initiatives concerning international regulation to reduce SO_2 and NO_x emissions (launched at the first session of the Executive Body under the Geneva Convention) failed. Yet, the proposals on SO_2 and NO_x succeeded at the second and third sessions, respectively, with the establishment of working groups preparing specific protocols. *See* ECE/EB.AIR/4, paragraph 19 and ECE/EB.AIR/7, paragraph 31.

[49] *See* EB.AIR/1, paragraphs 16-17.

[50] *See* ECE/EB.AIR/1, paragraph 25 (Decision A(I)). Remarkably, the Soviet Union joined this group of countries. *See* Vygen, "Urging for a Firm Clean-Air Policy Across National Borders," 11 *EPL*, 34, 35 (1983).

[51] This is a flat-rate reduction (and not, for example, a regulation by use) by a specific margin (30%) until a particular date (1993).

endeavored to organize broader support for the second meeting of the Executive Body. First, the "30% Club" picked up support at a ministerial conference in Ottawa in March 1984 when a number of interested Western countries formally adopted a joint declaration whose sole purpose was to exert influence on the discussion process within the regime.[52] Second, the other countries in the regime were invited to attend a further conference in June 1984, with the aim of expanding the "30% Club."[53] On that occasion, a number of Eastern European countries joined the "30% Club," thus providing the opportunity for the adoption of a binding protocol within the structure of the regime.[54] Against this backdrop, the Executive Body established a working group to prepare a protocol on SO_2 emissions at its second session in September 1984.[55]

The evolution of the ozone layer regime provides another illustration of the function of international environmental regimes as focal points of a broad, legally significant communication process. In March 1989, the Council of Environmental Ministers of the European Community proclaimed a phase-out of ozone-depleting CFCs by the end of the century. This decision had been adopted in response to pressure emanating from a series of international conferences on the protection of the ozone layer.[56] In March of that year, the British government held a ministerial level[57] global conference on "Saving the Ozone Layer" which sought to broaden the support for a rapid revision of the Montreal Protocol in favor of an early phase-out of CFCs. In May 1989, the First Meeting

[52] *See* paragraph 4 of the Declaration: "The Signatories call upon the other Parties to the Convention to join them, *within the framework of the Convention*, in implementing reductions of national annual sulphur emissions or of their transboundary fluxes by at least thirty per cent by 1993 . . ." (emphasis added). Declaration reprinted in 12 *EPL* 86 (1984).

[53] Conference on the Causes and Prevention of Damage to Forests and Waters by Air Pollution in Europe (Munich 1984). The preamble of the later Protocol expressly refers to the Munich Conference, emphasizing the direct relationship of this Conference (which proceeded outside that regime) and the SO_2 Protocol (adopted within that regime).

[54] Parties agreed to request "that at its second meeting, the Executive Body as a matter of highest priority adopts a proposal for a specific agreement on the reduction of annual national sulphur emissions or their transboundary fluxes by 1993 at the latest." *See* operative paragraph II of the Munich Declaration. Summary Records of the Munich Conference. This is particularly remarkable, since a number of regime countries had not joined the "30% Club" and possibly would have stayed out of the proposed instrument. Both the Ottawa and the Munich Declarations also refer to action within the regime with regard to NO_x emissions.

[55] The Protocol was adopted by consensus at the Executive Body's third session. *See* ECE/EB.AIR/7, paragraph 17. Since not every regime country signed the instrument, its adoption by consensus is rather significant with respect to the regime's law-making process. Besides the Protocol, a resolution reflecting the position of these other states was adopted. *See* ECE/EB.AIR/7, Annex II.

[56] On the decision-making process within the European Community, see Jachtenfuchs, "The European Community and the Protection of the Ozone Layer," 28 *Journal of Common Market Studies* 261, at 271 (1990). During negotiations of the Montreal Protocol, the European Community had been a major stumbling block. *See* Lang, "Diplomatie zwischen Ökonomie and Ökologie," 43 *Europa-Archiv* 105 (1988).

[57] The conference was attended by delegations from about 123 countries, of which 80 were represented at the ministerial level.

of the Parties to the Protocol agreed on a phase-out of CFCs by the year 2000[58] and decided to launch negotiations immediately thereafter.[59]

In general terms, the political dimension of the regime process is concerned primarily with shaping consensus on behavior. Much like the emergence of common technical knowledge, a body of commonly accepted normative prescriptions, or common "normative expectations," will gradually build up within the regime. However, unlike their cognitive counterparts, normative expectations are generally resistant to change even in the face of contrafactual occurrences.[60] If an actor does not behave according to common normative expectations, this fact alone will not induce a change of the relevant prescriptions and related expectations. If a country does not reach the 30% reduction goal stipulated in the SO_2 Protocol in time, the prescription nevertheless remains in force. While mechanisms for stabilizing norms against unintended change are developed,[61] this does not, of course, preclude intentional modification.

Given these differences, what is the relationship of the two distinct bodies of expectations developed within the limits of the regime? First, normative prescriptions governing a given issue-area are based on cognitive expectations among actors as a group. If these expectations undergo change, the related normative expectations have to be modified accordingly and prescriptions have to be adapted. The continuing adaptation of the normative framework of the international regime on the protection of the ozone layer to rapidly changing knowledge regarding the elements of both necessity and capacity[62] exemplifies the dynamics of the regime. Likewise, an updated technical annex to the NO_x Protocol[63] containing guidelines and technical target dates, which is currently being prepared, is expected to generate normative expectations even without modification of the Protocol itself.[64] Frequently, instruments stipulate periodic review of adopted strategies and measures in light of scientific findings and technological progress.[65] Hence, any change in relevant knowledge almost automatically entails a demand for adaptation of related prescriptions.

[58] *See* Helsinki-Declaration, OzL.Pro.1/5, Appendix I. The Declaration is not part of the legal framework of the regime and the conference of parties (in its official capacity as an authorized decision-making entity) only took note of it. *See* Decision 15. Yet, while not considered legally binding, the Declaration is broadly significant since it was supported by many countries participating as observers which would not be bound by the regime's decisions.

[59] Helsinki, May 1989. *See* UNEP/OzL.Pro.1/5. The Second Meeting adopted a comprehensive package of adjustments and amendments. *See* UNEP/OzL.Pro.2/3.

[60] On the distinction between "cognitive" and "normative" expectations, see N. Luhmann, *Rechtssoziologie* 40–53 (1983).

[61] *See infra* section 3.

[62] *See* Gehring, "Das internationale Regime zum Schutz der Ozonschicht," 45 *Europa-Archiv* 703 (1990).

[63] *See* decision of the Executive Body (1989) requesting that the Working Party on Air Pollution Problems begin preparing an update, ECE/EB.AIR/20, paragraph 44.

[64] By accepting the "basic obligations" of the NO_x Protocol (Article 2, paragraphs 2a–c), states committed themselves to develop emission standards in accord with the guidelines in the technical annex to the Protocol.

[65] *See* Article 6 of the Montreal Protocol and Article 5 of the NO_x Protocol.

Second, normative prescriptions may be intended to directly affect research and development concerning pollution reduction strategies. They may indicate to addressees (e.g., a particular industry or a group of contracting states) the projected future development of a regime's body of normative prescriptions. For example, the resolution adopted by the Second Meeting of the Parties to the Montreal Protocol on the use of particular substitutes for traditional CFCs was intended to send "strong signals" to industry regarding the careful use of harmful, but still uncontrolled, substitutes as well as the development of less problematic substances.[66] Similarly, the NO_x Protocol (in addition to the targeted freeze on NO_x emissions) contains a clause on the development of the "critical load" approach[67] which sets forth a scientifically supported basis for international regulation beyond the rather simple but nevertheless effective flat-rate reduction approach. If adopted,[68] it may, in turn, be expected to be a model for future instruments negotiated within the regime. Hence, some normative prescriptions are intended to actively induce changes in knowledge entailing subsequent modifications of prescriptions.

Frequent changes in international environmental law cannot be considered an undesired disturbance of an otherwise stable body of law. On the contrary, change and development of law is desirable, and a continuing process that adapts normative prescriptions to changing conditions is deliberately institutionalized. It opens up the possibility for a step-by-step approach to the elaboration of a sectoral legal system.[69] For example, the recently adopted revision of the Montreal Protocol contains obligations to reconsider or define target dates for three groups of controlled substances in 1992[70] and the NO_x Protocol, which considers the freeze on emissions as simply "a first step," obliges contracting parties to begin negotiations on further steps no later than six months after the instrument's entry into force, and to adopt measures by 1 January 1996.[71]

[66] *See* UNEP/OzL.Pro 2/3, paragraph 51, and Annex VII on the use of "other halons" and partially halogenated CFCs. In this regard, it is an attempt to envisage legal rules *prior to* technological developments; on the relationship between these two elements, see Rudolf, "Technological Development and Codification of International Law", *Le droit international à l'heure de sa codification. Etudes en l'honneur de Roberto Ago* 433 (1987).

[67] Article 1, paragraph 7 of the NO_x Protocol defines "critical load" as "a quantitative estimate of the exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge."

[68] Considerable effort is currently being devoted to the elaboration of this approach. *See* the recent progress reports of the Working Group on Abatement Strategies, EB.AIR/WG.5/8 and ECE/EB.AIR/R.53, as well as of the Task Force on Mapping, EB.AIR/WG.5/R.12.

[69] On institutional developments promoting flexibility of international environmental legal instruments, see P. Sand, *Lessons Learned in Global Environmental Governance* (1990).

[70] *See* UNEP/OzL.Pro.2/3, Annex I, Article 2A, paragraph 6 (originally controlled CFCs); Article 2B, paragraph 4 (consideration of essential uses of controlled halons); Annex II, Article 2E, paragraph 5 (methyl chloroform).

[71] *See* NO_x Protocol, Article 2, paragraphs 1 and 3.

III. DYNAMIC LEGAL SYSTEMS

A. The Legal Structure

International environmental regimes discussed in the present paper are based on formal multilateral conventions. Fundamental obligations are codified in formal protocols and/or annexes to these conventions. Usually, a regime's formal legal structure consists of a relatively stable framework convention with a high threshold for amendments, and protocols and/or annexes featuring a simplified amendment procedure.[72] To ease the adaptation of this structure as necessary, a number of techniques are used. For example, provision is occasionally made for amendments of the formal legal structure to enter into force for countries that fail to give timely notice of their objection.[73] Similarly, decisions to adjust control measures regarding substances controlled by the Montreal Protocol become binding on all parties to the Protocol when approved by a two-thirds majority.[74] These steps tend to speed up the process of adapting legal obligations to changing cognitive expectations considerably. Nevertheless, the regulation of important aspects of the normative structure of international regimes must occur outside this body of formal treaty law.

First, diplomatic conferences are, all too often, not in a position to deal with all relevant questions relating to an adopted instrument. Relatively minor, but nevertheless important, issues are frequently excluded from an agreed "package deal" on the understanding that negotiations thereon will immediately ensue. For example, upon the adoption of the Montreal Protocol, a resolution of the diplomatic conference requested that the Executive Director of UNEP convene a working group to prepare a report clarifying data reporting requirements.[75] Based on this report,[76] the First Meeting of the Parties to the Montreal Protocol adopted decisions on the confidentiality of data and on the clarification of definitions and terms.[77] These "clarifications" are, in fact, interpretations of more gen-

[72] *See* the report of the first session of the working group on the Vienna Convention, which considers a "flexible approach . . . necessary in order to allow the accommodation of scientific knowledge and policy alternatives as they become available," UNEP/WG.69/10, paragraph 10.

[73] *See* Barcelona Convention (Article 16). *See also* the procedure of the Paris Convention (Article 18, paragraph 4) on the amendment of annexes. On procedures for a speedy revision of specific instruments, see Bosselmann, "Die Festsetzung und Bindungswirkung internationaler technischer Regeln und Standards zum Schutz der Umwelt," 5 *Umwelt-und Planungsrecht* 272 (1985).

[74] *See* Article 2, paragraph 9(c) and (d) of the Montreal Protocol. While these clauses may be surprising, institutional flexibility was obtained in exchange for a more moderate provision in substance. *See* European Community proposals, UNEP/WG.172/2, at 15.

[75] *See* Resolution 3 of the Final Act of the Conference of Plenipotentiaries on the Protocol on Chlorofluorocarbons to the Vienna Convention for the Protection of the Ozone Layer, 26 *ILM* 1549 (1987).

[76] *See* Report of the Working Group, UNEP/WG.Data.2/3/Rev.2, paragraphs 16–21.

[77] *See* Decisions II.11 and II.12.A–F in Report of the Meeting, UNEP/OzL.Pro.1/5. For example, the term "developing country" is defined with far-reaching implications regarding obligatory commitments. The formal basis for these interpretations is contained in Article 11, paragraph 4(d) of the Protocol.

eral treaty obligations. They were adopted by consensus and thus have become part of the normative expectations built up within the regime.

Second, authoritative interpretations by the permanent conferences of international regimes may close unintended gaps left open in prior negotiations. At the request of the Soviet Union,[78] the Montreal Protocol, under certain conditions, permits an increase of production beyond 1986 levels. At its first meeting, the conference "decided" by consensus that such a production increase may not be used for export to non-parties of the Protocol.[79] The Executive Body for the Geneva Convention bridged a gap in the SO_2-Protocol in a similar fashion, i.e., by way of interpretation. Contracting parties undertake to reduce SO_2 emissions by at least 30% by 1993 at the latest. The Protocol, however, does not address the period after 1993. Therefore, the Executive Body "noted a common understanding among the Parties"[80] that an increase in such emissions after 1993 would be inconsistent with the Protocol.

Third, a permanent conference of parties might choose to circumvent, or even ignore, certain provisions of the relevant framework convention. At the Second Meeting of the Parties to the Montreal Protocol, states adopted a comprehensive "Amendment" to the Protocol.[81] Formally, amendments to protocols enter into force after "at least two-thirds of the parties of the protocol concerned" have submitted their instruments of ratification, acceptance or approval.[82] Yet, the 1990 Amendment requires only 20 such instruments to enter into force, i.e., of only one-third of the parties.[83] While the intention not to delay the Amendment's entry into force may be understandable,[84] the approach is not sanctioned by the language of the Convention.[85] Thus, states may have tacitly amended the relevant provision of the Convention however ambiguous the formal legal foundation of this step may be.[86]

[78] *See* P. Sand, *supra* note 69 at 6.

[79] *See* Decision II.12G UNEP/OzL.Pro.1/5, at 19, on the clarification of Article 2, paragraph 6. The Decision had been prepared by the working group on data reporting. *See* UNEP/WG.Data2/2, paragraph 23.

[80] *See* report of the seventh session of the Executive Body, ECE/EB.AIR/20, paragraph 22.

[81] *See* Decision II/2, UNEP/OzL.Pro.2/3.

[82] *See* Article 9, paragraph 5. Since the Protocol does not contain a provision on amendment procedures, the rules of the Vienna Convention apply. Decision II/2 expressly refers to the procedure of Article 9, paragraph 4 of the Convention.

[83] *See* Article 2 of the Amendment. Immediately prior to the Second Meeting, the Secretary noted that 58 states plus the European Community had submitted their instruments. *See* UNEP/OzL.Pro.2/2/Add.1.

[84] The conference of the parties to the Protocol recommended to the conference of the parties to the Convention an amendment of the amendment procedure for Protocols contained in Article 9 of the Convention. *See* Decision II/16, UNEP/OzL.Pro.2/3, at 18.

[85] According to Article 41 of the Vienna Convention of the Law of Treaties, two or more parties to a multilateral treaty may modify its provisions in their bilateral relationship as long as this is not precluded by the treaty. But this may be difficult to apply here since modification is intended to concern *all* contracting parties. *See* Ott, "The New Montreal Protocol: A Small Step for the Protection of the Ozone Layer, A Big Step for International Law and Relations" (forthcoming).

[86] It was disputed, however, whether such a "pragmatic approach" was appropriate. *See* report of the working group, UNEP/OzL.Pro.WGIII(1)/3, paragraph 15. In the Draft Amendment (Annex II, at 26), the number of instruments required for the entry into force remained in square brackets.

Fourth, equally significant is the procedure by which States at the First Meeting of the Parties to the Montreal Protocol adopted the "Ozone Depleting Potential"(OPD) figure for one of the controlled halons. Since Annex A to the Protocol called for this figure "to be determined," discussion arose on the question of whether the figure had to be inserted by way of an amendment to the Annex or whether a mere interpretation sufficed. The latter approach was chosen for the sake of simplicity.[87] Hence, the First Meeting of the Parties decided "to accept the value for the Ozone Depleting Potential (ODP) for halon 2402 as 6,0" and to request that the Secretariat inform the depository that the parties agreed to accept this figure by consensus and that, accordingly, the depository should insert this figure to replace the words "to be determined" in Annex A to the Montreal Protocol.[88] Given the circumstances of this particular issue, a mere interpretation did not suffice. Instead, the depository had to modify the text of the annex by inserting the agreed-upon figure. Yet this was done neither according to the ordinary amendment procedure as provided for in the Vienna Convention, nor any specific provision of the Protocol: its sole basis was the consensus among the parties to the Protocol.

Fifth, and even more surprising, is that by a simple decision the Second Meeting of the Parties to the Montreal Protocol established an Interim Multilateral Fund to support ozone-friendly technology in developing countries.[89] Neither the framework convention nor the Protocol contains a specific legal basis for such a far-reaching step[90] which places comparatively heavy financial obligations on member states. It is obvious that negotiators did not consider this issue at the time the Protocol was adopted in 1987.[91] The decision, which entered into force immediately, involves a financial commitment of up to US$240 million for the first three-year period (1991–1993). The contracting parties agreed to contribute to the fund in accordance with the United Nations assessment scale. Contributions thus must be considered virtually "mandatory," even though language of this kind was avoided. Politically, an early establishment of the funding mechanism was desirable to induce developing countries to join the Protocol and accept its obligations. The fact remains, however, that establishment of a multimillion dollar fund simply by a decision of an intergovernmental body is an internationally unprecedented event.

[87] *See* Report of the Preparatory Group, UNEP/WG.Data.2/3/ Rev.2., Annex II, paragraph 6.

[88] *See* Decision II.9 of UNEP/OzL.Pro.1/5, at 16.

[89] *See* Decision II/8A (Financial Mechanism), and Appendix IV (Terms of Reference of the Interim Multilateral Fund), UNEP/OzL.Pro.2/3.

[90] Note, however, the residual clause of Article 11, paragraph 4(j) of the Protocol, empowering the conference to "consider and undertake any additional action that might be required for the achievement of the purposes of this Protocol," in connection with Article 5, paragraph 3, requiring the parties to "facilitate . . . the provision of subsidies, aids, credits. . . ."

[91] The Interim Multilateral Fund was, therefore, established by a regular decision on substantive matters which, under Article 40 of the Rules of Procedure (see UNEP/OzL.Pro.1/5, Annex 1), requires a mere two-thirds majority. On the legal basis and procedural implications of this decision, see Ott, *supra* note 85.

All these decisions remain below the level of formal treaty law. On the one hand, interpretations of a given treaty adopted by the consensus of contracting states would appear to be unproblematic;[92] on the other hand, circumvention of applicable provisions of the relevant framework convention and the establishment of a multi-million dollar multilateral fund by decisions of the conference of the parties might be viewed as presenting a more difficult issue.[93] However, the effectiveness of all these decisions, indeed, of virtually all substantive decisions adopted so far within the two international environmental regimes discussed, rests on consensus among the parties.[94] Regardless of any possible uncertainty about the legal basis and formal legal effects of these decisions, they have become part of the normative structures of the international regimes concerned; consensual decisions will not be challenged on formal grounds because negotiations bring participating states[95] to the point at which they are able and willing to accept the decisions. Thus, formal soundness may be sacrificed in exchange for pragmatic and swift decision-making by consensus. In short, the normative structure of a regime reflects varying degrees of formal law,[96] or, in other words, is only partially reflected in instruments that rise to the level of international treaty law proper.

B. The Judicial Function

An essential component of any legal system, including sectoral legal systems, is the mechanism for dispute settlement. Disputes have both an individual and a group aspect. On the individual side,[97] parties directly involved in a given conflict may be primarily concerned with settling their respective substantive claims without much regard for the normative implications for the regime as a whole. They will, at first, attempt to reach an acceptable settlement whether by negotiation, conciliation, third-party arbitration or court litigation. While the dispute settlement clause of the Vienna Convention on the Protection of the Ozone

[92] Interpretations based on consensus enter the body of formal law. *See* Article 30 of the Vienna Convention on the Law of Treaties. *See also* Schachter, "The Nature and Process of Legal Development International Society," in R. MacDonald and D. Johnston, eds., *The Structure and Process of International Law* 745, at 789–790 (1983).

[93] The text of these decisions does not refer to their legal basis and their formal legal status. On the formal legal implications of such instruments, see Frowein, "Internal and External Effects of Resolutions by International Organizations," 49 *ZaöRV* 778, and Schachter, *supra* note 92, at 790–792.

[94] *See* Lang, "Luft and Ozon – Schutzobjekte des Völkerrechts," 46 *ZaöRV* 261, at 266 (1986).

[95] It will be left open whether participating state actors are, in fact, acting "governments" or are better understood as functional administrative units of governments (in this case, environmental units). For an approach considering functional bureaucracies as quasi-autonomous actors in many issue-areas, see R. Keohane and J. Nye, *Power and Interdependence, World Politics in Transition* (1977).

[96] This development led to the decision by the Second Meeting of the Parties to the Montreal Protocol to prepare a handbook reflecting the entire normative structure of the regime. The handbook is to contain relevant versions of the Protocol and "the decisions of the Parties that relate to its interpretation and other material relevant to its operation." *See* Decision II/7, UNEP/OzL.Pro.2/3.

[97] On the individual aspects of disputes, see Bilder, "An Overview of International Dispute Settlement," 1 *Emory J. Int'l Dispute Resolution* 1 (1986).

Layer, which also applies to the Montreal Protocol, offers almost all of these options,[98] many countries favored compulsory dispute-settlement.[99] There is, however, little prospect that states will ever use the third-party dispute settlement option[100] because states are generally reluctant to submit disputes to impartial third-party institutions. Thus, for a number of reasons, negotiations remain the most important way to settle disputes in the contemporary international legal order.[101]

There is another, more principled factor that discourages submission of disputes on the interpretation or application of norms that are part of the normative structure of dynamic international regimes to third-party adjudication: disputes submitted either to the International Court of Justice or to an arbitration commission have to be settled in accordance with recognized rules of international law.[102] Yet, the body of normative expectations commonly accepted within the regime extends well beyond formally accepted international law. Hence, because the basis for judicial decision-making is separated, to a certain extent, from the body of normative expectations governing the particular issue-area, third-party adjudication could generate new problems.

In any event, every dispute about an individual actor's compliance with the norms of a legal system also has a collective aspect because the parties, as a group, will primarily be interested in protecting the stability of the legal regime. In particular, the group will seek to protect basic normative expectations against incidental or unintended modifications threatened by disputes among individual parties. Thus, when international environmental cooperation is located within a sectoral legal system, non-cooperation or non-compliance with normative expectations by an individual actor automatically rises to the level of a dispute between that offender and the other parties as a group.

This "group aspect" calls for a different procedure for dispute settlement. The relevant provision of the Montreal Protocol makes abundantly clear that its concern is not disputes between two (or a small number of) parties, but rather disputes pitting a single party against the other parties as a group. Thus, the parties are requested to "consider and approve procedures and institutional mechanisms

[98] According to Article 11, states shall negotiate; they may refer to third part mediation; they may declare their acceptance of arbitration or submission of a dispute to the International Court of Justice; and, finally, one of the parties involved is entitled to request the creation of a conciliation commission, whose award has only a recommendatory status.

[99] Sixteen mostly Western countries officially regretted the refusal to support compulsory dispute settlement by one party, namely, the United States. *See* Declaration attached to the Final Act, UNEP, Vienna Convention for the Protection of the Ozone Layer, Final Act, 1985, at 35.

[100] *See* P. Sand, *supra* note 69 at 21–22.

[101] *See* Bilder, "International Dispute Settlement and the Role of International Adjudication," 1 *Emory J. Int'l Dispute Resolution* 131, at 137 (1987).

[102] Arbitration under the Vienna Convention shall be "in accordance with international law, as well as the provisions of this Convention and any protocols concerned," according to Article 5 of the Arbitration Procedure, adopted at the First Meeting of the Parties to the Convention. *See* UNEP/OzL.Conv.1/5, Annex II.

for determining non-compliance with the provisions of this Protocol and for treatment of Parties found to be in non-compliance."[103]

According to the "non-compliance procedure,"[104] adopted on an interim basis at the Second Meeting of the Parties, a complaint has to be addressed by one or more parties to the Secretariat of the Protocol. After giving the alleged offender an opportunity to reply, the Secretariat will transfer the submission to a five-party Implementation Committee. This committee will then consider the complaint and report to the meeting of parties.[105] In following this procedure, conflict between individual parties will be avoided from the beginning. The Secretariat, an institution jointly established by the parties, will formally submit the complaint and the conference of parties, acting in its capacity as the highest decision-making body of the regime, will eventually decide on possible action.[106] Nevertheless, the procedure contains an element of compulsion, because it may be triggered without the consent of the offending party.

While disputes submitted to arbitration are to be settled in accordance with international law, submissions to the non-compliance procedure are to be considered "with a view to securing an amicable resolution of the matter on the basis of respect for the provisions of the Protocol."[107] No reference is made to provisions of international law outside the regime's normative structure. On the contrary, amicable resolution of the conflicts, and respect for the provisions of the Montreal Protocol, are the sole criteria for findings of the Implementation Committee. To be sure, this does not imply that the basic rules of international law will be widely disregarded. Rather, it liberates the Committee from the limits established by formal international law, provided that the two above-mentioned criteria are fulfilled. In short, the Committee will be able to ignore certain rules of international law whose application might not be considered desirable,[108] and it may draw upon the body of normative expectations developed within the regime regardless of the formal legal status of any particular rule.

Upon the committee's submission of a report, the conference of parties' decision-

[103] Montreal Protocol, Article 8.

[104] *See* Decision II/5, and Annex III, UNEP/OzL.Pro.2/3. The procedure had been prepared by a working group. *See* report UNEP/OzL.Pro.LG.1/3. Originally, it had been proposed to include a revision of Article 8 of the Montreal Protocol into the compound Amendment and to attach the non-compliance procedure as an annex to the Protocol. *see* 19 *EPL* 147 (1989).

[105] This procedure extensivelly follows the dispute-settlement mechanism of GATT, except that GATT committees are established for a particular case and members function in a personal capacity. On the GATT mechanism, see Plank, "An Unofficial Description of How a GATT Panel Works and Does Not," 4 *J. Int'l Arbitration* No. 4, 53 (1987).

[106] No agreement has yet been reached on the possible consequences of a party's breach of an obligation.

[107] Paragraph 6 of the non-compliance procedure, UNEP/OzL.Pro.2/3, Annex III.

[108] For example, one might think of the rules on state responsibility and liability for possible damage resulting from non-compliance. On this question, see Gehring and Jachtenfuchs, "Haftung für grenzüberschreitende Umweltschäden: Allegemeine Regelung des internationalen Umwelthaftungsrechts," 13 *ZUPUR* 233 (1990).

making relies on similar criteria and "may, taking into consideration the circumstances of the case, decide upon and call for steps to bring about full compliance with the Protocol . . ., and to further the Protocol's objectives."[109] Again, enforcement of the law is not the task of the conference. Instead, the conference of the parties seeks to bring about compliance with the Protocol in light of the circumstances of the case. Instead of sanctions, assistance and support might be more appropriate depending upon the context. Moreover, the conference is not obliged to decide, and it may choose not to respond at all. In short, the conference remains master of the process and retains all the options as it is not restricted to the strict application of formal law.

In adopting the non-compliance procedure, the conference of parties has established an internal quasi-judicial mechanism.[110] Disputes may be settled within the sectoral system, without reference to institutions outside the regime,[111] through utilization of the regime's permanent communicative process and collective appraisal by an audience that has participated in the development of the body of norms governing the issue-area. It may be assumed that future disputes will be settled along the lines of this procedure.[112]

Compared to the sophisticated apparatus of the ozone protection regime, the regime on long-range transboundary air pollution is far less elaborate. The Geneva Convention does not contain detailed provisions on dispute settlement.[113] But let us assume a contracting party to the SO_2 Protocol does not meet its obligation to reduce emissions by 30% in 1993. In that case, third-party settlement of the conflict involving the application of international law proper is unlikely to occur. The offending country will not risk being found in violation of international law or being held liable for damages.

The group of parties making up the Executive Body will, however, have to address the issue in one way or another. A conflict between individual countries is, therefore, almost automatically converted into a situation in which the offender faces the entire community of parties. Similar to the dispute settlement process within the framework of the Montreal Protocol, the Executive Body may not feel obliged to apply international law strictly. It might instead choose from a

[109] Paragraph 7 of the non-compliance procedure, UNEP/OzL.Pro.2/3/Annex III.

[110] Since decision-making will be made with the general purpose of stabilizing the rules of the regime against unintended change, it will have to proceed generally according to these rules; it must, therefore, be considered legal, as opposed to political, decision-making. On the difference, see Higgins, "Policy Considerations and the International Judicial Process," 17 *ICLQ* 58 (1968).

[111] In deciding complaints, the conference of parties will also discharge the law-declaring function for the sectoral legal system which otherwise is entrusted to courts. *See* Bilder, *supra* note 101 at 150; and Meyer, "The Ad Hoc Chambers: Perspectives of the Parties and the Court," 27 *AVR* 413, at 436–437 (1989).

[112] Note that the non-compliance procedure formally applies only to obligations contained in the Montreal Protocol. Theoretically, the procedure contained in Article 11 of the Vienna Convention also remains applicable.

[113] Article 13 refers only to negotiations as a means of dispute settlement.

range of responses that fall short of the application of formal law.[114] In short, any norm of the sectoral system, regardless of its formal legal status, might come into play. As is the case with the Montreal Protocol, the Executive Body will remain master of this dispute settlement process. Thus, despite the differences in the development of institutionalized procedures, non-compliance cases can be expected to be handled very similarly in both regimes: the communicative processes of international environmental regimes internalize the judicial function. The regimes provide for internal dispute settlement mechanisms that may or may not be formalized,[115] but which, on all accounts, must be considered highly satisfactory.

The conference of parties is undoubtedly the most appropriate forum to decide disputes involving claims seeking to modify the normative structure of a sectoral legal system. Not only will the conference of parties seek to shape consensus on the conflict issue, but once consensus has emerged, it tends to modify or confirm authoritatively, as the case may be, the normative structure of the regime. Further, the conference of parties may be in a better position to settle disputes about the interpretation and application of law. While third-party institutions will have to base their decision upon formal legal principles,[116] the parties as a group will decide by shaping consensus on the interpretation of norms in light of the factual circumstances. Such a consensus interpretation may imply a change in normative expectations. Even so, it will reinforce the stability of the sectoral legal system as a whole.[117]

IV. CONCLUSION

International environmental regimes constitute a particular type of institution, distinct from both multilateral treaties and international organizations. Like treaties, they comprise a specific normative framework of prescriptions that are particularly suitable to organizing internationally coordinated behavior within a

[114] The Executive Body might grant the offending country a grace period, possibly even offering active support for a rapid implementation of the obligation. It might choose to accept, or only to take note of, the reasons given by the offending country; or it might simply ignore the offense. Any of these strategies would be consistent with stabilizing the rule subsequent to an incident of non-compliance. *See* Luhmann, *supra* note 60 at 53–64, on the stabilization of norms against unintended change.

[115] An international regime considered as a communicative system in which "law" is administered has certain similarities with "autopoietic" legal systems. On the application of systems theory to domestic legal systems, see G. Teubner, ed., *Autopoietic Law: A New Approach to Law and Society* (1988), particularly, Luhmann, "The Unity of the Legal System," at 12. *See also* G. Teubner, *Recht als autopoietisches System* (1989).

[116] *See* Bilder, *supra* note 101 at 158–159, noting that adjudication (*i.e.*, the decision of cases according to existing law) is usually conservative.

[117] *See* Schachter's remark, *supra* note 92 at 782: "It may be noted that the treaty-regimes, taken as a group, are characterized by a relatively high degree of compliance. This is attributable in part to the fact that they provide for institutional decisions by a representative organ or an executive body. Such institutional decisions tend to limit the sphere of auto-interpretation by the states of their obligations."

limited issue-area. Like international organizations, they provide a permanent mechanism for changing these normative prescriptions.

International environmental regimes contribute to shaping consensus among actors regarding their common assessment of technical knowledge concerning not only the necessity of, but also the capacity for, internationally coordinated action. Consequently, a commonly elaborated and widely accepted body of technical knowledge relevant to the adoption of normative prescriptions gradually emerges. Actors develop common cognitive expectations of what action is necessary and what action is possible within the issue-area at a given time. These expectations are subject to constant modification in light of scientific and technological change. While this adaptation is essential and desirable in order to organize international co-operation effectively within the international regime, it leads to frequent changes of prescriptions.

Moreover, the regularly scheduled meetings of international environmental regimes provide a forum for continuous discussion and negotiation. At any time, new initiatives concerning legal prescriptions may be tabled. At any time, the existing legal structure may be challenged. Participating governments are regularly confronted with pending projects. The periodic reconvening of the conference of parties facilitates step-by-step approaches; since compromises may be reconsidered and adopted, instruments may envisage future "second steps." The normative structure of an international regime tends, therefore, to be subject to frequent revision even without changes in technical knowledge. However, the two aspects – the permanent development of technical knowledge and the frequent changes in normative prescriptions – are mutually reinforcing: the pace of legal change accelerates.

As a consequence, formal legal instruments do not at any time entirely reflect the body of commonly agreed-upon normative expectations. While it is important to remember that international environmental regimes of the type discussed here are not based on "soft law,"[118] even some of their important norms possess less than formal legal status. Within the sectoral legal system that the international regime represents, norms are not, however, distinguished in terms of their formal legal status. Rather, both categories of norms, because they are based on consensus, or (in rare cases) on near-consensus, are considered as entailing the same legally significant expectations.

This pragmatism is reinforced by the fact that the judicial function (i.e., the interpretation of general norms in light of a specific context, the settlement of disputes and response to non-compliance) is not discharged by institutions located outsdie the regime's structure. For a number of reasons, international regimes tend to internalize the judicial function either according to formalized procedures or consistent with the general consensus-shaping process of the regime. Internalization of the judicial function involves a transformation of dis-

[118] On soft environmental law, as developed in the framework of UNEP or OECD, see Lang, "Die Verrechtlichung des internationalen Umweltschutzes," 22 *AVR* 283 (1984) and P. Sand, *supra* note 69 at 16–17.

putes, located at the individual level, into incidents of non-compliance with the commonly agreed-upon body of normative expectations located at the collective level. This internalization of the judicial function is a natural consequence of the consensus-shaping discussion process within regimes.

In sum, international environmental regimes go far beyond treaty law as such. For a defined issue-area, they are international institutions comprising both an accepted body of normative prescriptions and an organized process for the making and application of these prescriptions. Given the successful integration of these two elements, international regimes turn out to be comparatively autonomous sectoral legal systems.