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SEVENTH MEETING OF THE PARTIES
TO THE MONTREAL PROTOCOL ON
SUBSTANCES THAT DEPLETE THE
OZONE LAYER
Vienna, 5-7 December 1995

PROCEEDINGS OF THE INTERNATIONAL WORKSHOP ON THE OZONE TREATIES AND THEIR INFLUENCE ON THE BUILDING OF INTERNATIONAL ENVIRONMENTAL REGIMES

Vienna, 4 December 1995

INTRODUCTION

The International Workshop on the Ozone Treaties and their Influence on the Building of International Environmental Regimes was held on 4 December 1995 at the Austria Center Vienna as part of the celebrations to mark the tenth anniversary of the conclusion of the Vienna Convention for the Protection of the Ozone Layer. The event was organized and hosted by the Government of Austria.

Professor Winfried Lang, Ambassador and Permanent Representative of Austria to the United Nations in Geneva, acted as Coordinator and General Rapporteur for the Workshop.

The programme of the Workshop is annexed to the present proceedings.

OPENING ADDRESSES

1. Opening addresses were heard from Ms. Elizabeth Dowdeswell, Executive Director of the United Nations Environment Programme, and Mr. K. Madhava Sarma, Coordinator of the Ozone Secretariat.

2. In her address, Ms. Dowdeswell said that the events connected with the tenth anniversary of the Vienna Convention symbolized a breath of hope for the survival of life upon Earth. Future historians would view the ozone treaties as the beginning of a long global swing to sustainable development. The achievements of the ozone treaties had to be evaluated in terms of the process that they had set in motion as a prelude to several other agreements. Taken together, the two instruments had accelerated the evolution of the concept of sustainable development, proved the importance of the precautionary approach, led to the establishment of international institutional frameworks to address global environmental issues, and influenced the adoption of the principle of differentiated obligations.

3. The debate on the ozone layer had not, however, ebbed and there were still numerous challenges in implementation: industry faced the challenge of shifting to less damaging substances; developing countries faced the challenge of quickly gaining experience in identifying, financing and implementing phase-out projects; and negotiators were faced with real problems of maintaining cooperation and confidence among nations. With the political backlash against the protection effort, the increasing cost of control measures, the steady growth in the complexity of obligations under the Protocol, and the wide divergence of effectiveness of national programmes, difficulties in the implementation of the ozone treaties were bound to grow. What had been achieved through the ozone treaties would prove a Pyrrhic victory unless they led irreversibly and without interruption to the complete elimination of ozone-depleting substances.

4. Mr. Sarma said that the ozone treaties were acclaimed as a model for solving environmental problems. They represented the first attempt to phase out some versatile and profitable chemicals throughout the world in a short time. For the first time, chemicals had been found to be a threat to the entire life on Earth and not merely to those that used them; for the first time, all Parties had agreed to phase out certain chemicals completely; and, for the first time, a highly detailed financial mechanism had been incorporated into an international instrument to enable compliance by the poorer countries. It was also the first time that alternative technologies were disseminated, together with the funds necessary to introduce them. Finally, it was also the first time that an international agreement was proved to be working, through objective scientific observations.

PANEL I: THE VIENNA CONVENTION AND THE DEVELOPMENT OF THE OZONE REGIME

5. Dr. Tolba said that the adoption of the Vienna Convention in 1985 marked three major achievements in the development of the ozone regime. First, the community of nations had decided to take advance action against a distant threat and not to wait for incontrovertible proof of cause and effect, which

might come too late to avoid irreparable harm. Second, the Convention had led to an increase in scientific research, whose findings in turn accelerated the negotiation process. The third achievement was a formal request by the Conference of Plenipotentiaries that adopted the Convention that UNEP continue to work on a protocol on substances that deplete the ozone layer.

6. Dr. Tolba noted that a constellation of key ingredients had been important to the success of the negotiations which led to the signing of the Montreal Protocol in 1987: a core group of countries with a similar objective, the strong role of science and technology and their integration in the negotiation process, a willingness to compromise and to move forward slowly, and the presence of strong personalities at the negotiating table. Several other characteristics marked the negotiations, including a movement by States away from rigid positions on absolute State sovereignty, and the application of the principle of common but differentiated responsibility to confront environmental problems.

7. Dr. Tolba enumerated a number of important lessons which emerged from the negotiations:

(a) The mobilization of the public was a sine qua non in environmental negotiations;

(b) The United Nations body sponsoring the process, in moving away from the traditional neutral stance of the United Nations Secretariat, could have a significant impact;

(c) Informal consultations were an important means of facilitating the formal negotiation process; and

(d) Environmental issues were interconnected, and should be addressed holistically.

8. Because the legal obligations established under the Vienna Convention and Montreal Protocol were preventive rather than remedial measures, those two instruments constituted the first international agreements that applied the principle of precautionary measures. Because of their prospective nature, it was necessary that these obligations be set out within a framework which had the necessary flexibility to adapt to new discoveries and future assessments of all aspects of ozone depletion.

9. In summary, Dr. Tolba concluded that the success of the ozone regime could be attributed to its flexible character, which would ensure the efficacy of the regime well into the future, its political acceptability, and the solid cooperation that developed in the course of the negotiation process among Governments, industry and non-governmental organizations.

10. Ambassador Benedick emphasized the paramount role of science and scientists in the development of the ozone regime. He believed that the most significant contribution of the Vienna Convention to history was the unprecedented degree of global scientific attention to the ozone issue which it stimulated and without which the world would have remained unaware of the

threat to the ozone layer until it was too late for remedial action. Agreement on data, analyses and ranges of uncertainty among scientists from countries that had widely differing negotiating positions eventually proved critical to achieving a political solution. In effect, a community of researchers from many nations, dedicated to scientific objectivity, had developed through their collaborative work a strong commitment to protecting the planet's ozone layer that transcended narrow national interests.

11. Another unique aspect pointed out by Ambassador Benedick was the role of private industry. He gave a number of examples of instances where industry had served as a driving force in the development of the ozone regime. He noted that one American trade association, the Alliance for Responsible CFC Policy, had announced prior to the beginning of negotiations on the Protocol that it would accept international regulation of CFCs, and when scientists finally came up with evidence unequivocally linking CFCs with ozone depletion, it was an industry, DuPont, acting before any national Government, that called for international action and announced a unilateral phase-out of those chemicals before the end of the century. Against that background, the Montreal Protocol was deliberately designed to mobilize market forces to stimulate the search for alternatives to CFCs and halons. By providing producers of controlled substances with the certainty that their sales would decline, the Protocol made research into substitutes economically feasible, thereby unleashing the creative energies of the private sector. At the same time, the Protocol negotiators had to seek a balance in determining the severity of controls; if the treaty were too soft on industry, there would be greater risks to the ozone layer, but if controls were unrealistic, they could delay the overall process of structural change.

12. Finally, Dr. Benedick warned that powerful reactionary forces, grounded in ideology or shortsighted economic interests, existed everywhere. He cautioned for the need for vigilance in keeping the facts before the public, the media, and the policy makers. If efforts were made to build a sound scientific understanding of an environmental issue, the chances were good that the resulting policies would gain the acceptance of responsible industry and other interested parties, and would withstand the test of time.

PANEL II: SCIENTIFIC UNCERTAINTY AND THE OZONE REGIME

13. Dr. Bojkov opened his comments with a reminder that the general consensus reached by hundreds of scientists on the state of the ozone layer followed on more than 35 years of continuous observation by the Global Ozone Observing System of the Global Atmosphere Watch. He set out a number of scientific conclusions on the current state of the ozone layer, which highlighted the urgency of this environmental challenge.

14. He said that, except over the range 20 degrees South to 20 degrees North, ozone levels had continued to decrease. That decrease was twice as marked in the winter-spring season than during the summer season. During the past 15 years, global ozone decline had been 5 per cent. In the extra-tropics, it had been between 6.5 per cent in the north and 9.5 per cent in the south. The integrated global ozone loss for the past 25 years had been approximately 10 per cent.

15. Dr. Bojkov informed the Workshop participants that, during the austral spring, the ozone "hole" had exceeded 20 million square kilometres during each of the previous seven years (1989-1995). He said the ozone loss had been approximately 50 per cent during late September and early October, and within a few days had reached 70 per cent of the pre-ozone hole averages. In the 1995 austral spring, the ozone-hole event had appeared earlier and had lasted for the longest period ever on record.

16. Dr. Bojkov explained that ozone loss was both latitudinally and longitudinally asymmetrical. Record low ozone levels (approximately 20-35 per cent) had also been observed over Northern mid-latitudes in 1993 and 1995 during periods with low stratospheric temperatures and in the presence of chlorine oxide, a by-product of manufactured chlorofluorocarbons.

17. According to Dr. Bojkov, the main ozone decline was in the lower stratosphere (below 23 kilometres), estimated at close to 10 per cent per decade over Northern mid-latitudes. Tropospheric ozone had more than doubled in Northern mid-latitudes since the last century. That had led to an augmentation by approximately 20 per cent of the radiative forcing by all other greenhouse gases.

18. In addition, stratospheric bromine-loading had increased and would continue to do so in the coming years.

19. He closed his presentation informing participants that greater ozone losses at polar and mid-latitudes were expected as long as the atmospheric chlorine-loading continued to be greater than 3ppt. The ozone losses would not end, he said, until the chlorine loading fell back to its pre-ozone-hole values of approximately 2ppt, anticipated to occur around the middle of the twenty-first century.

20. Dr. Albritton pointed out that it was almost 20 years ago that it was first hypothesized that human activities could lead to the depletion of the stratospheric ozone layer, our shield against solar ultraviolet radiation. Since then, scientific research had focused on understanding the nature and make-up of the ozone layer and its relationship with humankind. Based on that evolving understanding, world leaders had made decisions and taken steps to protect stratospheric ozone.

21. Past decades of solid research had provided a firm footing for future research and, in turn, policy-making. Dr. Albritton pointed out that during the next 3-5 years, the following scientific issues would have priority:

(a) The search for ozone-friendly alternatives, with a focus on the environmental effects of fluorocarbons and hydrofluorocarbons, halon substitutes, since that sector was difficult from a technical point of view, and the fate of secondary compounds of the substitutes;

(b) The effectiveness of documentation, especially the relationship of atmospheric chlorine and bromine levels to the releases reported by the Parties;

(c) How science could avoid the surprises as detected in the case of the ozone hole, in order to increase predictability, including:

(i) Why were the trends in ozone decline larger than predicted using models?

(ii) The effects of a long, cold Arctic winter. The Arctic was not as cold as the Antarctic, and a greater variability in ozone depletion had to be expected there. One out of every seven years, however, the climate there behaved similarly to that in the Antarctic;

(iii) The influence of major volcanic eruptions.

22. Dr. Albritton also pointed out that other issues had to be taken into account, such as:

(a) The influence of aircraft emissions on ozone layer depletion;

(b) Stratospheric cooling as a result of concentration changes of trace gases, mainly carbon dioxide and ozone.

23. Attention had also to be paid to the interrelatedness of ozone-layer depletion and greenhouse warming. Taking into account that fluorocarbon substitutes had a high greenhouse warming potential, there would be a need for dialogue with the Framework Convention on Climate Change.

24. Dr. Albritton noted that the historic agreements of the Montreal Protocol, a process initiated with such foresight 10 years ago in Vienna, had provided a hopeful picture for the long term. The ozone layer was expected to slowly recover over a period of 50-70 years. The scientific community would be called upon to document that recovery and to continue to assist industry's efforts to find suitable alternatives to the use of ozone-depleting chemicals.

25. At the same time, the period of greatest vulnerability for the ozone layer lay in the decade just ahead, when the amounts of human-made chlorine and bromine in the stratosphere would be at their highest levels. During this critical time, he concluded, the continued strengthening of scientific understanding in key areas would minimize the chances that the ozone layer would produce any unexpected developments that might have serious implications for the well-being of humankind.

PANEL III: IMPLEMENTATION CONTROL, NON-COMPLIANCE PROCEDURE AND DISPUTE SETTLEMENT IN THE OZONE REGIME

26. Mr. Szell noted that it was essential for the credibility of multilateral environmental agreements, as well as for the achievement of the environmental good they are designed to bring about, that the obligations established therein be observed and that such compliance could be demonstrated. Until the adoption of the Montreal Protocol, multilateral environment agreements

had offered only three implementation supervision devices: the principle of good faith, as proclaimed in Article 26 of the Vienna Convention on the Law of Treaties; and settlement of disputes by means of a procedure like the one laid down in Article 11 of the Vienna Convention for the Protection of the Ozone Layer; and peer pressure at successive Conferences of the Parties provoked by, amongst other things, the information presented by Parties in respect of themselves under the convention's reporting requirements.

27. While those devices were probably sufficient for supervising the observance of treaties of mild substance, such as the Vienna Convention, for normative treaties like the Montreal Protocol these control devices had a limited, albeit useful, role to play. A new and additional mechanism was required as, under the Montreal Protocol, Parties would need assurance that the costly economic steps they were required to take to meet their obligations would be matched by equally conscientious observance of their obligations by all other Parties. In the case of the Montreal Protocol, Article 8, in stipulating a non-compliance regime, provided means of filling this gap and giving the necessary assurance. Although the Parties had missed the original deadline to establish the mechanism, the regime finally devised benefited overall from its long gestation period, which enabled it to become more detailed and precise and, furthermore, permitted it to fully accomodate the major changes to the original Protocol's scope and content as introduced in London and Copenhagen.

28. Mr. Szell continued that traditional control strategies were either too weak to have a real impact or too strong to be appropriate. What was needed was not a regime that resembled a judicial process, but one that was non-confrontational, conciliatory and cooperative, and which would encourage Parties in breach of their obligations to achieve full compliance. Such a regime should be based on the recognition that non-compliance was frequently the consequence, not of malice or greed, but rather of technical, administrative or economic difficulties.

29. The Implementation Committee of the Montreal Protocol had been established as a response to that need, said Mr. Szell, who then elaborated on the functions and tasks of the Committee. He underlined that the Committee had no formal decision-making power, but reported to the Meeting of the Parties, and had always been very careful not to exceed the scope of its mandate or the expectations of the Parties. Parties had also been cautious about allowing the regime to develop an adversarial flavour; in fact, there had been as yet no reference by one Party against another. Mr. Szell concluded by saying that the Implementation Committee had proved itself to be effective, already producing improvements in the observance of the Protocol's obligations.

30. Ms. Rummel-Bulska said that the non-compliance procedure under the Montreal Protocol not only allowed and encouraged Parties to assist each other in the implementation of the control measures agreed by them but also, to a certain extent, prevented them from referring cases of breaches of the Protocol directly to the settlement of disputes procedure provided for in the Vienna Convention. The main element that had led to the regime being considered as a model for other environmental treaties was mainly its

preventive character and the readiness to assist rather than to sanction a Party considered not in compliance. Hence, many post-Montreal Protocol agreements in the field of the environment were turning to the Montreal system to ensure compliance and effective implementation of treaties rather than using traditional regimes of dispute settlement.

31. She said that the assistance approach, even if it were considered too soft and unnecessarily negotiable, was still particularly suitable for achieving the goals of environmental treaties and also allowed the parties to a treaty to work toward what could be called a "global capacity-building process for implementation and effectiveness of environmental regimes". However, in cases of breaches resulting from malice and greed rather than insufficient administrative or technical capacity, the lack of decision-making power on the part of the compliance committee might be seen as a serious handicap.

32. Turning to the compliance regime being considered under the Basel Convention, she recalled that the Conference of the Parties at its third meeting, in September 1995, had mandated an expert group to study all issues relating to the establishment of a mechanism for monitoring implementation of, and compliance with, the Convention. She further said that the parties tended toward the assumption that non-compliance might be due to practical difficulties, not intent

33. Ms. Rummel-Bulska finally noted that, contrary to the ozone regime, breaches of the Basel Convention would usually affect two or three countries and not an area of the global commons, and would in practice lead to assessable damages and possible liability claims. Therefore, the study on the Basel Convention compliance system might be linked to the liability and compensation provisions being developed under the Convention.

PANEL IV: THE ROLE AND IMPORTANCE OF IMPLEMENTATION MONITORING AND NON-COMPLIANCE PROCEDURES IN INTERNATIONAL ENVIRONMENTAL REGIMES

34. Mr. David Viktor said that one of the most important innovations of the Montreal Protocol was its procedure for handling non-compliance, which defined how suspected cases of non-compliance should be raised and disposed. Lessons could be drawn that were applicable to the design of non-compliance procedures in other international environmental regimes.

35. The history underscored the benefit of employing a standing committee that could operate and build experience long before it must handle its first difficult cases of non-compliance. The Implementation Committee had addressed (relatively simple) non-compliance issues for four years before it faced its first formal submission of non-compliance in 1995. Further, the Committee had made its largest contribution to the overall effectiveness of the ozone regime when it had tackled compliance problems related to specific Parties, rather than engaging in general discussions. Finally, flexibility in its formal mandate had allowed the Committee to avoid the most politically sensitive and divisive issues during its formative years.

36. When viewing the Committee as part of a system of institutions that provided credible technical advice, enabled rapid adjustment of the Protocol's commitments over time, gathered and disseminated information about implementation, assisted countries in paying the cost of implementation, and managed problems of non-compliance as they arose, the following broader lessons emerged. The first was that the non-compliance procedure depended critically on the supply of information about national performance and the ability to compare that information with international standards. Gathering such information had been relatively easy in the ozone regime but would be much more difficult, yet still essential, in the nascent legal regimes to protect the climate and biodiversity. Second, there was some wisdom in going beyond the traditional shape of international environmental agreements, many of which had high compliance but low effectiveness. Where non-compliance procedures operated, it might be useful to negotiate agreements that yielded lower formal compliance and thus more extensive application of non-compliance procedures. On balance, overall effectiveness of the legal regime would probably increase. The third lesson was the need to integrate the non-compliance procedure even more deeply into the ozone regime's system of institutions so that the Implementation Committee could draw upon a larger supply of sticks and carrots. Notably, greater involvement of non-governmental organizations in non-compliance procedures might be useful since they could help enforce international rules as domestic pressure groups. Also, there could be a much closer connection between the Committee and the Multilateral Fund. Indeed, when the Committee dealt with its first problems of non-compliance in developing countries later in the current decade, a tight link to the Fund would be essential to put together packages that brought those countries into compliance.

37. Mr. Schally shared the opinion that a standing body was important, but it was also essential that it should be limited in size and certainly not open-ended. Personal continuity was important, for it formed the basis on which trust could be built. He did not believe that the Committee should be a quasi-judicial body. What was required was a cooperative approach. Although the mandate had to be strict, the approach had to be flexible, while avoiding customized procedures and targets.

38. Mr. Schally's approach, as current President of the Implementation Committee, was to look for the reasons behind non-compliance to find solutions rather than to resolve disputes. He stressed the role of confidentiality in the Committee's procedures and, in this connection, counselled against the involvement, at this early stage of the Committee's existence, of non-governmental organizations in its work. In conclusion, he questioned whether non-compliance procedures for other multilateral environmental agreements should be directed towards country specific commitments. Such tendencies pursued by countries setting their own targets for reasons beyond the development of non-compliance mechanisms would undoubtedly change the structure of such future multilateral environmental agreements.

Discussion

39. In the ensuing discussion, one participant said that the secretariat of the United Nations Framework Convention on Climate Change was also reviewing the possibility of setting up a multilateral consultative process for the resolution of questions regarding implementation. It was still too early to say whether it would take the form of a standing committee. Further meetings were planned to decide the direction to be taken and what legal status such a process would have.

40. Several participants expressed concern as to whether a system providing for non-legally binding commitments would continue to be effective, since countries would be free, if need be, to renege on their commitments. Others asked how effective was the threat of a trade ban, and what loopholes were there. It was generally felt that it was too early to pronounce on the work of the Implementation Committee. One participant was of the opinion that continued personal participation might not be a permanent feature of the Committee and that perhaps a committee of experts to advise countries might be an alternative.

41. On the question of carrots and sticks, the Panel pointed out that Article 4, on trade measures vis-à-vis non-Parties, had been drafted to avoid the triangular circumvention of trade, whereby a country would transfer its production to non-Parties and subsequently could reimport controlled products. The Panel pointed out that the Montreal Protocol dealt with a single sector and it was, therefore, easy to set targets and time-tables. The North Sea Agreement was given as an example in which legal-binding commitments had not worked. The Panel stressed the importance of cross-linkages with other regimes and the experts working in those areas. It was pointed out that although the non-compliance procedure had to be completely transparent, the Montreal Protocol did differ from human rights instruments which benefited from the maximum involvement of non-governmental organizations. It was also stressed that no exemptions were possible and that the Implementation Committee ran a tightly supervised programme to achieve compliance.

CLOSURE OF THE WORKSHOP

42. Professor Winfried Lang, the Coordinator and General Rapporteur of the Workshop, expressed his gratitude to the panelists for their stimulating comments on the ozone regime in particular, and environmental regimes in general, and thanked all the participants for their interest. He reiterated the need, expressed by panelists and participants alike in the course of the workshop, for a close dialogue between scientists, policy- and law-makers. This need had, he said, been recognized in 1985, again in 1987, and had indeed contributed to an ongoing process of which this workshop was a part. While there was much reason to be hopeful about the achievements of the ozone regime to date, the dramatic reality of the damage already inflicted upon the ozone layer, so clearly set out in the presentation by the panelists representing science could not be overlooked. The challenge of the future was, he concluded, to ensure the continued viability, and reliability, of the ozone regime.

Annex I

"The Ozone Treaties and their Influence on the Building of Environmental Regimes"

Workshop on
the Occasion of the 10th Anniversary of
the Vienna Convention for the Protection of the Ozone Layer
Austria Centre Vienna, 4 December 1995

PROGRAMME

9.00 a.m.	Opening Addresses	
		Ms. Elizabeth Dowdeswell, Executive Director, UNEP
		Mr. K.M. Sarma, Coordinator, Ozone-Secretariat
9.20 a.m.	Panel 1	"The Vienna Convention and the Development of the Ozone Regime
		Dr. Mostafa Tolba, International Centre for Environment and Development, Cairo, Egypt
		Ambassador R. Benedick, World Wide Fund for Nature, Washington D.C.
10.30 a.m.	Panel 2	"Scientific Uncertainty and the Ozone Regime"
		Dr. Rumen Bojkov, World Meteorological Organization
		Dr. Daniel L. Albritton, Co-Chairman, Scientific Assessment Panel of the Montreal Protocol
11.30 a.m.	Panel 3	"Implementation Control, Non-Compliance Procedure and Dispute Settlement in the Ozone Regime"
		Mr. Patrick Szell, Department of the Environment, London
		Dr. Iwona Rummel-Bulska, Coordinator, Basel Convention Secretariat
2.30 p.m.	Panel 4	"The Role and Importance of Implementation Monitoring and Non-Compliance Procedures in International Environmental Regimes"
		Mr. David Victor, International Institute for Applied Systems Analysis, Laxenburg, Austria
		Mr. Hugo Maria Schally, President, Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol

Coordinator and General Rapporteur: Prof. Winfried Lang, Ambassador, Permanent Representative of Austria, Geneva

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