



United Nations  
Environment  
– Programme



Distr.  
GENERAL

UNEP/OzL.Conv.5/2  
14 September 1999

ORIGINAL: ENGLISH

CONFERENCE OF THE PARTIES TO THE  
VIENNA CONVENTION FOR THE  
PROTECTION OF THE OZONE  
LAYER

Fifth meeting

Beijing, 29 November-3 December 1999

**REPORT OF THE EXECUTIVE DIRECTOR TO THE FIFTH MEETING OF THE  
CONFERENCE OF THE PARTIES TO THE VIENNA CONVENTION  
FOR THE PROTECTION OF THE OZONE LAYER**

**INTRODUCTION**

1. The present report reviews the status of implementation of the Vienna Convention for the Protection of the Ozone Layer and the actions taken to implement the decisions of the fourth meeting of the Conference of the Parties to the Vienna Convention, held in San José, Costa Rica on 25 and 27 November 1996. It also summarizes the issues that will be before the fifth meeting of the Conference of the Parties, to be held in Beijing from 29 November to 3 December 1999.

**I. STATUS OF THE IMPLEMENTATION OF THE DECISIONS OF THE FOURTH  
MEETING OF THE CONFERENCE OF THE PARTIES TO THE VIENNA  
CONVENTION FOR THE PROTECTION OF THE OZONE LAYER**

2. A report on the status of the implementation of the six decisions of the fourth meeting of the Conference of the Parties is annexed to the present report. As a result of the implementation of the provisions of the Convention and of the decisions of the Conferences of the Parties, the fifth meeting of the Conference of the Parties will have, *inter alia*, the following matters before it to consider and take decisions thereon.

K9910684 290999

/...

For reasons of economy, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies.

## **II. ISSUES BEFORE THE FIFTH MEETING OF THE CONFERENCE OF THE PARTIES**

### **A. Status of ratification of the Vienna Convention, the Montreal Protocol and the Amendments to the Protocol**

3. The Ninth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, held from 15 to 17 September 1997, adopted further adjustments and the Amendment to the Protocol. The adjustments entered into force on 5 June 1998. The Amendment will enter into force on 10 November 1999.

4. The meeting of the Conference of the Parties may wish to note the impending entry into force of the Montreal Amendment and to urge all States that have not yet done so to accede to the Vienna Convention, the Montreal Protocol and the Amendments to the Protocol as soon as possible.

### **B. Reports of the three assessment panels**

5. The Scientific, Environmental Effects and Technology and Economic Assessment Panels and the Technical Options Committees submitted their reports.

6. The meeting of the Conference of the Parties may wish to note and acknowledge the contribution of the three Panels.

### **C. Recommendations of the fourth meeting of the Ozone Research Managers**

7. The fourth meeting of the Ozone Research Managers was held in Geneva from 28 to 30 April 1999. It was attended by 58 scientists, experts and managers from 50 Parties to the Vienna Convention. The United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) jointly organized this meeting. Representatives of the countries presented their national reports of ongoing and planned ozone research and monitoring activities. The report of the meeting is being sent out to all Parties as the WMO/UNEP Report of the Fourth Meeting of the Ozone Research Managers, WMO Global Ozone Research and Monitoring Project, Report No. 45.

8. The meeting discussed the current status of the Global Ozone Observing System (GO<sub>3</sub>OS) on the monitoring of ozone and UV-B and aspects of atmospheric ozone science and environmental effects of ozone depletion including the main conclusions of the 1998 assessments of the Scientific and Environmental Effects Assessment Panels and the Network for the Detection of Stratospheric Change (NDSC).

9. The meeting made recommendations on systematic measurements, process studies and the impacts of the enhanced ozone depletion and ultraviolet doses.

10. The meeting reported that ten new total ozone stations, nearly half of them in the tropical belt, had been established during the past three years, and that there had also been some improvement in the extent of measurements of ozone profiles, particularly in Northern Europe and in three new locations in the tropics (Indonesia, Kenya, Suriname). The meeting observed that total ozone instruments at many stations in the former USSR had not received essential calibrations for more than five years and the quality of observations in such an important region as Siberia had deteriorated. It was also reported that the Global Ozone Monitoring Experiment (GOME) instrument had been in orbit since April 1995 and was providing supplementary operational data in addition to the available SBUV/2, TOMS (on Earth Probe since August 1996) and TOVS sensors.

11. The meeting was of the view that the systematic measurements of total ozone and its vertical distribution carried out within the framework of the WMO Global Atmosphere Watch - Global Ozone Observing System (GO<sub>3</sub>OS), by satellites and some stations equipped with high technology instruments such as under the Network for the Detection of Stratospheric Change (NDSC), should continue without interruption.

12. The meeting felt that accurate and extensive ground-based measurements of total ozone have to be available during the next decades in order to determine whether or not atmospheric ozone amounts are responding to the controls of the Montreal Protocol. These measurements are strongly synergetic with satellite-based total ozone measurements. There have been many cases where the world's ground-based network has been extended and the quality of measurements improved, but there are many other situations where national networks or individual stations may not be able to maintain the required quality due to lack of resources, personnel, infrastructure or calibration. A significant effort by the Parties to the Vienna Convention is needed to ensure that this potential deterioration does not occur.

13. The meeting noted the success achieved in the measurement of vertical distribution of ozone and recommended the continuation of the whole network (ozone sounding, Umkehr, lidar and microwave).

14. The meeting observed that uninterrupted observations of total column ozone and its vertical distribution made with high precision and accuracy, as well as high temporal and spatial resolution using a combination of intercalibrated space - and ground-based instruments were an essential component of a successful research and monitoring strategy for stratospheric ozone. The meeting expressed great concern about the serious possibility of discontinuations in the long-term, trend quality SAGE and TOMS measurement records for ozone profile and total column, respectively.

15. The meeting noted the complementary nature of the Network for Detection of Stratospheric Change (NDSC) and the Global Atmosphere Watch (GAW) stations and strongly suggested that GAW and NDSC would mutually benefit through increased collaboration and interaction. However, as was the case throughout the monitoring community, continued operation of these stations at full capacity, or in some cases their continued operation at all, was dependent upon obtaining long-term national funding and in some cases external funds as well.

16. The meeting recommended that stations should start submitting in near-real-time preliminary data from sondes and total ozone to the Norwegian Institute for Air Research and the University of Thessaloniki respectively, not just during the winter months but throughout the whole year.

17. The meeting also recommended the submission of quality controlled data on total ozone and its vertical distribution within two months to the WMO-World Ozone Data Centre (WMO-WO<sub>3</sub>UDC) in Toronto, Canada.

18. The meeting emphasized that recent modelling and observational evidence had indicated that climate change processes impacted global ozone levels and might delay the recovery of polar ozone levels. The meeting strongly encouraged a closer cooperation between modelling and measurement groups to ensure that appropriate measurements were made to meet the needs of the modelling community. Detailed model documentation should be made available to the measurement community to enable them to investigate sources of potential differences between measurements and model predictions. Further recommendations were made which may be found in the report of the meeting.

19. The meeting reiterated that the cooling of the stratosphere due to climate change could even lead to enhanced ozone depletion and ultraviolet doses and delay in the ozone recovery. These ultraviolet changes could have impacts on forests, agriculture, human health, aquatic ecosystems, materials and on tropospheric chemistry and on climate. The meeting recommended several activities relating to the systematic measurements of solar ultraviolet radiation for studying those potential impacts.

#### **D. Financial statements and budgets for the trust funds of the Vienna Convention and the Montreal Protocol**

20. The financial report on the Trust Fund for the Vienna Convention for 1998 was circulated in document UNEP/OzL.Conv.5/5 and those for the Montreal Protocol for the years 1996 and 1997 were circulated under documents UNEP/OzL.Pro.9/5 and UNEP/OzL.Pro.10/5. The approved budgets for 1999 and 2000 and proposed budgets for 2001, 2002 and 2003 were circulated as document UNEP/OzL.Conv.5/4. The financial report on the Trust Fund for the Montreal Protocol for 1998 is set out in document UNEP/OzL.Pro.11/4 and the approved budgets for 1999 and 2000 and proposed budget for 2001 are set out in document UNEP/OzL.Pro.11/5.

21. The Conference of the Parties to the Vienna Convention, at its fifth meeting, and the Eleventh Meeting of the Parties to the Montreal Protocol may wish to take note of the financial reports and approve the proposed budgets of the two trust funds for 2001, 2002 and 2003.

## **Annex**

### **ACTION TAKEN ON THE DECISIONS OF THE FOURTH MEETING OF THE CONFERENCE OF THE PARTIES TO THE VIENNA CONVENTION**

1. The present annex summarizes the actions taken on the decisions which were adopted by the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer at its fourth meeting, held in San José, Costa Rica, on 25 and 27 November 1996 (see UNEP/OzL.Conv.4/6, paras. 15-16). The Secretariat reported to the first meeting of the Bureau of the fourth meeting of the Conference of the Parties to the Vienna Convention, held in Geneva on 30 April 1999, and will update its report to the second meeting of the Bureau in Beijing on 27 November 1999 on this matter.

#### **Decision IV/1. Adjustments and amendments to the Montreal Protocol**

2. The status of ratification of the Vienna Convention, the Montreal Protocol and its Amendments as of 31 August 1999 was as follows: Vienna Convention 171 Parties; Montreal Protocol 170 Parties; London Amendment 136 Parties; Copenhagen Amendment 99 Parties and Montreal Amendment 24 Parties.

3. At the Ninth Meeting of the Parties to the Montreal Protocol, held in Montreal from 15 to 17 September 1997, the Parties to the Montreal Protocol adopted further adjustments relating to control measures for substances in Annex A, Annex B and Annex E. The adjustments entered into force on 5 June 1998. The Parties to the Montreal Protocol also adopted the Montreal Amendment to the Montreal Protocol, which was communicated to all Parties by the Secretary-General of the United Nations, acting in his capacity as Depositary of the Protocol, in Depositary Notification C.N.468.1997.TREATIES-4/1, in the six United Nations official languages, on 5 December 1997.

4. According to article 3, paragraph 1, of the Montreal Amendment, the Amendment will enter into force on 10 November 1999. To date it has been ratified by: Australia, Bolivia, Canada, Chile, Djibouti, Germany, Grenada, Guyana, Hungary, Jordan, Luxembourg, New Zealand, Norway, Panama, Republic of Korea, Saint Kitts and Nevis, Saint Lucia, Senegal, Solomon Islands, Spain, Sri Lanka, Sweden, the Former Yugoslav Republic of Macedonia and Trinidad and Tobago. The Secretariat has reminded all Parties of the urgent need to ratify this Amendment.

#### **Decision IV/2. Reports of the three assessment panels**

5. The Scientific, Environmental Effects and Technology and Economic Assessment Panels and the Technical Options Committees submitted their reports in October 1998 and these were communicated to all the Governments. The *Synthesis of the Reports of the Scientific, Environmental Effects, and Technology and Economic Assessment Panels of the Montreal Protocol: A Decade of Assessments for Decision Makers Regarding the Protection of the Ozone Layer 1988-1999*, is available on the web at <http://www.unep.org/ozone> and it has been communicated to all the Governments.

### **Decision IV/3. Recommendations of the Third Meeting of the Ozone Research Managers**

6. The Secretariat interacted with Argentina, Chile and New Zealand in order to maintain and develop further the monitoring and archiving of measurements of stratospheric and tropospheric ozone, including vertical profiles and other trace species and aerosols, and to pursue the development and implementation of new observational capacities, such as aircraft and satellite-based measurements. The Secretariat also interacted with the following organizations: World Meteorological Organization (WMO), the United States National Aeronautics and Space Administration (NASA), the United States National Oceanic and Atmospheric Administration (NOAA), European Commission, Network for Detection of Stratospheric Change (NDSC), Stratospheric Processes and their Role in Climate (SPARC), International Council of Scientific Unions (ICSU), International Geosphere-Biosphere Programme (IGBP) and International Global Atmospheric Chemistry (IGAC), among others.

7. The Secretariat sent a letter to all Parties to the Vienna Convention on 5 March 1999 requesting information on the activities carried out by the countries in the regions to implement decisions IV/3 and IV/4 adopted by the fourth meeting of the Conference of the Parties to the Vienna Convention. It also requested information through the Energy and the OzonAction Programme of the Technology, Industry and Economics Division of UNEP and the UNEP Regional Offices for Africa, Asia and Pacific, Europe, Latin America and the Caribbean and West Asia.

8. In response to that request, the UNEP Regional Office for Latin America and the Caribbean (ROLAC) and the Regional Office for West Asia (ROWA) interacted with the countries in their regions, some of which sent reports on the activities carried out in implementation of decisions IV/3 and IV/4. These countries were: Belize, Brazil, Chile, Dominica, Dominican Republic, El Salvador, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, Uruguay and Bahrain, Kuwait, Lebanon, Qatar and Syrian Arab Republic, respectively.

9. The following countries reported directly to the Secretariat: Australia, Austria, Estonia, Fiji, Germany, Hungary, Japan, Kenya, Malaysia, Malta, Poland, Romania, Slovakia, Slovenia, Sri Lanka, Uganda and United Arab Emirates.

10. Additionally the following Parties presented their national reports to the fourth meeting of the Ozone Research Managers, held in Geneva from 28 to 30 April 1999: Algeria, Argentina, Armenia, Australia, Belarus, Belgium, Bulgaria, Canada, China, Colombia, Croatia, Cuba, Czech Republic, Denmark, Egypt, European Commission, Finland, Georgia, Germany, Greece, India, Indonesia, Islamic Republic of Iran, Italy, Japan, Kazakhstan, Kenya, Malaysia, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Slovakia, South Africa, Spain, Switzerland, Thailand, Turkmenistan, Ukraine, United States, United Kingdom of Great Britain and Northern Ireland, Uzbekistan and Viet Nam.

11. The national reports and the reports on decisions IV/3 and IV/4 are contained in the WMO/UNEP, Report of the fourth meeting of the Ozone Research Managers, WMO Global Ozone Research and Monitoring Project, Report No. 45.

12. The Secretariat, in consultation with the United States National Aeronautics and Space Administration (NASA), the European Commission, the Indian Space Research Organization (ISRO) and others, has reviewed documents in order to step up investigations on stratospheric ozone and ultraviolet radiation.

13. The Montreal Protocol's Scientific Assessment Panel, together with the Intergovernmental Panel on Climate Change (IPCC) and in close coordination with the International Civil Aviation Organization (ICAO) produced the IPCC special report on Aviation and the Global Atmosphere. A joint session of IPCC working groups I and III met in San José, Costa Rica from 12 to 14 April 1999 to discuss the report and approved the Summary for Policy Makers, while IPCC, at its fifteenth session held from 15 to 18 April 1999, adopted the conclusions of the joint session of working groups I and III.

14. The World Meteorological Organization (WMO) reported to the first meeting of the Bureau that work on coordinated and compatible UV-B measurements and their archiving was still going on. Progress had been achieved over the past three years in ensuring uniformity in the calculation of indices to measure the UV-B radiation. Further, WMO was coordinating the work of several groups which had put forward recommendations on the uniformity of calibrations.

15. Training activities had been carried out by WMO in 30 different countries, involving three to four observers in each country, as well as high-level training in 12 different countries. Bilateral training was available and three countries already had training centres.

16. With regard to the current status of the Global Ozone Observing System (GO<sub>3</sub>OS) and the monitoring of UV-B, WMO reported that there was need to improve the quality of reporting.

#### **Decision IV/4. Fund matters**

17. To date, the only project approved by the Global Environment Facility (GEF) to support the monitoring of ozone and UV-B radiation and related research in developing countries has been the 1993 project for Southern Cone ozone-depleting substances and greenhouse gas monitoring.

18. On 24 February 1999, the Secretariat wrote to the GEF Secretariat requesting information on activities of projects supported by GEF in order to implement this decision. In response, the GEF Secretariat stated that, to date, there had been no requests for GEF support in response to Decision IV/4. By way of explanation for this lack of requests, the GEF Secretariat also stated that:

(a) Eligibility of any project proposals to the GEF was determined by its Operation Policy framework. The scope of GEF operations was clarified in the GEF Operational Strategy approved by the GEF Council in 1995. The strategy provided that financing be driven by the interests of participating countries. These were to be expressed in project proposals conforming with GEF operational goals and principles;

(b) The operational goal of the GEF in the ozone focal area was outlined in chapter five of the strategy. This was to provide short-term support for the phase-out of ozone depleting substances controlled by the Montreal Protocol in GEF recipient countries that were not eligible under the Financial Mechanism of the Protocol;

(c) Operational principles for GEF financing of targeted research had been approved in 1997. They had specified the role of targeted research in GEF operations as follows: Targeted research was goal-oriented research that supported the GEF operational strategy by providing information, knowledge and tools that improved the quality and effectiveness of the developments and implementation of GEF projects and programmes. The role of GEF in the field of research was not directed towards a better understanding of the global environment *per se*, but focused on generating knowledge aimed at improving the effectiveness of the GEF core activity.

/...

19. The acting President of the Bureau sent a letter to the GEF Secretariat expressing concern at the lack of support for the monitoring of ozone and UV-B radiation and related research in developing countries.

20. Canada, through Environment Canada, has actively supported the implementation of decision IV/4 to expand the Ozone Global Watch System to the tropics and the southern hemisphere. Environment Canada has participated in the network meetings of the Latin American and Caribbean region on various occasions and made presentations on UV-B radiation and its implications to human health and the environment. A number of countries of the Caribbean Ozone Network jointly submitted an official application for the instalment of two UV-B radiation monitoring stations in the Caribbean (Barbados) and in Central America (Costa Rica) through Canadian assistance. The Canadian International Development Agency (CIDA) is seeking ways to finance the project.

21. Finland is promoting a proposal to be submitted to the Ibero-American Bank for improving the observation capabilities in South America.

#### **Decision IV/5. Budget and financial matters**

22. The contributions to the Trust Fund for the Vienna Convention for the Protection of the Ozone Layer for the period 1996-1998 were as follows:

<b>Year</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Amounts due	\$826,338	\$361,089	\$382,341
Amounts received by 31 December of the respective year	\$546,857	\$203,638	\$183,540
Expenditures of that year	\$766,288	\$206,795	\$185,369

23. Unpaid contributions for prior years as at 31 August 1999 totalled \$266,213. For 1999, of the \$1,207,988 due to the Trust Fund for the Vienna Convention, \$502,676 had been received. In paragraph 5 of decision IV/5, all Parties were urged to pay their outstanding contributions on time and in full. An updated status of contributions for 1998 and 1999 will be presented at the fifth meeting of the Conference of the Parties.

#### **Decision IV/6. Fifth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer**

24. The fifth meeting of the Conference of the Parties to the Vienna Convention will be held in conjunction with the Eleventh Meeting of the Parties to the Montreal Protocol, Beijing, from 29 November to 3 December 1999.

-----