External Affairs and International Trade Canada
Affaires extérieures et Commerce extérieur Canada

UNCLASSIFIED

CANADA AND THE GLOBAL ENVIRONMENT

A REFERENCE BOOK

(SELECTION OF DECLARATIONS, AGREEMENTS AND POLICY STATEMENTS CONCERNING THE GLOBAL ENVIRONMENT)

APRIL 1990

INTRODUCTION

Environmental questions and the challenges they pose have become priority issues for many countries. Internationally, the environment is at the top of the multilateral agenda. Canada is an active participant on the international environment scene.

A growing number of international meetings are producing declarations on the global environment. In addition, there is a growing body of international agreements dealing with various components of the subject.

The Department of External Affairs and International Trade has compiled this reference book for individuals interested in Canada's work on environmental issues and who wish access to basic documentation.

The book is divided into three sections. Major international declarations and policy statements are presented in the first section. The second contains a selection of multilateral agreements of importance. The final chapter comprises several recent Canadian speeches and statements on environment.

A second volume containing bilateral agreements and other source material is planned.

TABLE OF CONTENTS

I - INTERNATIONAL DECLARATIONS AND POLICY STATEMENTS
(In reverse chronological order, as of January 1, 1990)

(10) June 27-30, 1988
* Toronto
Conference Statement: The Changing Atmosphere-Implications for Global Security

* These documents were not prepared with official Canadian Government involvement or do not represent Canadian Government policy.

II - SELECTED MULTILATERAL ENVIRONMENTAL AGREEMENTS
(In reverse chronological order, as of January 1, 1990)

TAB

(11) + March 22, 1989
Basel, Switzerland
Basel Convention on the Control of Transboundary Movements of
Hazardous Wastes and Their Disposal

(12) October 31, 1988
Sofia
Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes

(13) September 16, 1987
Montreal, Quebec
Montreal Protocol on Substances that Deplete the Ozone Layer

(14) July 8, 1985
Helsinki
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

(15) March 22, 1985
Vienna, Austria
Vienna Convention for the Protection of the Ozone Layer

(16) November 13, 1979
Geneva
Convention on Long-Range Transboundary Air Pollution

\+ This agreement is not yet ratified by Canada.

III- RECENT CANADIAN SPEECHES AND STATEMENTS ON THE ENVIRONMENT
(In reverse chronological order, as of January 1, 1990)

TAB

(17) November 24, 1989
Leningrad, USSR
The Right Honourable Brian Mulroney, Prime Minister of Canada
Arctic and Antarctic Institute

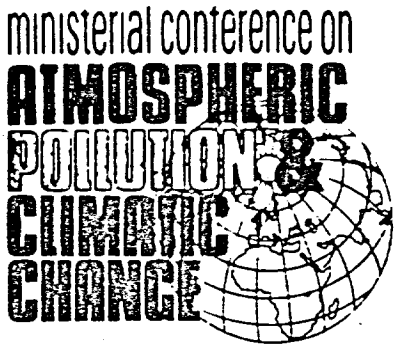
(18) October 23, 1989
New York, United Nations General Assembly
The Honourable Lucien Bouchard, Minister of Environment
International Economic and Development Issues: 1992 Conference on Environment and Development

(19) October 5, 1989
Longueuil, Quebec
The Honourable Lucien Bouchard, Minister of Environment
The Environment and Sustainable Development: Charting the Course for the Future

(20) May 17, 1989
Winnipeg, Manitoba
The Right Honourable Joe Clark, Secretary of State for External Affairs
"Sustainable Development: Moving Towards Concrete Steps for International Action"
Environment and the Economy: Partners for the Future - A Conference on Sustainable Development

(21) May 15, 1989
Nairobi, Kenya
The Honourable Monique Landry, Minister for External Relations and International Development
The 15th Session of the United Nations Environment Programme Governing Council

(22) May 4, 1989
Washington D.C.
The Right Honourable Brian Mulroney, Prime Minister of Canada
International Environment Bureau Award



THE NOORDWIJK DECLARATION ON ATMOSPHERIC POLLUTION AND CLIMATIC CHANGE

(1) The composition of the earth's atmosphere is being seriously altered at an unprecedented rate due to human activity. Based on our current understanding, society is being threatened by man-made changes to the global climate.

(2) While there are still uncertainties regarding the magnitude, timing and regional effects of climate change due to human activity, there is a growing consensus in the scientific community that significant climate change and instability are most likely over the next century.
Predictions available today indicate potentially severe economic and social dislocations for future generations.
Assuming these predictions, delay in action may endanger the future of the planet as we know it.

(3) Fortunately, there is a growing awareness among the world population and their political leaders that action is needed. The basic principle of ecologically sustainable development has gained wide currency following the report of the World Commission on Environment and Development. This principle should be fundamental to efforts to tackle the problem of climate change and atmospheric pollution. The protection of the ozone layer is being addressed by the 1985 Vienna Convention on the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. Further strengthening of control measures contained in the Protocol was called for at the London Conference on Saving the Ozone Layer in March 1989 and the first meeting of the parties to the Montreal Protocol at Helsinki in May 1989. A decision will be taken by the second meeting of the contracting parties to be held in London in 1990. The process aims at phasing out the production and consumption of chlorofluorocarbons (CFCs) controlled under the Montreal Protocol by the year 2000 by the developed countries. They should also phase out other controlled substances which deplete the ozone layer as soon as feasible. Developing countries should also phase out these substances as soon as possible after their technology and resource needs are met.

(4) Global warming is being addressed by the Intergovernmental Panel on Climate Change (IPCC), which was established by UNEP and WMO, and recognized by UN General Assembly Resolution 43/53 on Protection of global climate for present and future generations of mankind. The Hague Declaration of March 1989 put forward

challenging ideas for international co-operation, and legal and institutional measures. The 15th session of the UNEP Governing Council and the XLI session of the WMO Executive Council in 1989 requested their executive heads to begin preparations for negotiations on a framework convention on climate; these negotiations should be initiated as soon as possible after the interim report of the IPCC is adopted. This interim report will be reviewed at the Second World Climate Conference in November 1990. The 1989 Economic Summit agreed that a framework convention on climate change setting out general principles was urgently required and that specific protocols containing concrete commitments could be fitted into the framework as scientific evidence requires and permits. The Economic Summit also strongly advocated common efforts to limit emissions of carbon dioxide and other greenhouse gases. The July 1988 declaration of the states, parties to the Warsaw Treaty, and the meeting of non-aligned countries in Belgrade in September 1989 also addressed the issue of climate change. The Tokyo Conference on Global Environment and Human Response Towards Sustainable Development was held in September 1989. The Langkawi Declaration on Environment issued by the Commonwealth Heads of Governments in October 1989 stated the need to take new action to address the serious deterioration in the environment, including climate change. Given this base it is now time for governments of all countries to commit themselves to the IPCC, to strengthen and to extend the process of addressing climate change.

(5) Measures to limit climate change will have other significant benefits such as reducing acidification, protecting the ozone layer, preserving biodiversity and other natural resources, preventing mean sea-level change and promoting sustainable development.

(6) The Conference recognizes the principle of the sovereign right of States to manage their natural resources independently. The Conference also reaffirms that global environmental problems have to be approached through international co-operation. Solving the external debt problem of developing countries, and establishing fair economic and commercial relationships between industrialized and developing countries would assist developing countries in creating appropriate conditions to protect the environment.

(7) Climate change is a common concern of mankind. All countries should now, according to their capabilities and the means at their disposal, initiate actions and develop and maintain effective and operational strategies to control, limit or reduce emissions of greenhouse gases. As a first step, they should take those actions which are beneficial in their own right. Industrialized countries, in view of their contribution to the increase of greenhouse gas concentrations, and in view of their capabilities, have specific responsibilities of different kinds: i) they should set an example by initiating domestic action, ii) they should support, financially and otherwise, the action by countries to which the protection of the atmosphere and adjustment to climate change would prove to be an excessive burden and iii) they should reduce emissions of greenhouse gases, also taking into account the need of the developing countries to

have sustainable development. Developing countries establishing industrial facilities for the first time have a unique opportunity to include up-to-date technologies for controlling the emissions of greenhouse gases.

(8) For the long term safeguarding of our planet and maintaining its ecological balance, joint effort and action should aim at limiting or reducing emissions and increasing sinks for greenhouse gases to a level consistent with the natural capacity of the planet. Such a level should be reached within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and permit economic activity to develop in a sustainable and environmentally sound manner. Stabilizing the atmospheric concentrations of greenhouse gases is an imperative goal. The IPCC will need to report on the best scientific knowledge as to the options for containing climate change within tolerable limits. Some currently available estimates indicate that this could require a reduction of global anthropogenic greenhouse gas emissions by more than 50 per cent. These estimates should be the subject of further examination by the IPCC.

(9) While striving to preserve the global environment, it is important to work at the same time to ensure stable development of the world economy, in line with the concept of "sustainable development". Effort and action should include: i) the phasing-out of CFCs controlled by the Montreal Protocol, which are responsible for about one fifth of projected global warming, by national action and international co-operation in the context of the Montreal Protocol. This includes financial assistance and transfer of technology and information. In this connection, it is important that the substitutes for CFCs also should not contribute significantly to the global warming problem, ii) action especially by industrialized countries to limit or reduce CO_2-emissions, iii) action to reduce deforestation, prevent soil erosion and desertification; increase afforestation, and sound forest management in the temperate as well as the tropical zones, iv) action to limit or reduce the emissions of all greenhouse gases other than CO_2 and their precursors and to increase the sinks for such substances and v) intensified efforts for technological breakthroughs, for example with regards to renewable energy and removal and re-utilization of CO_2.

(10) The conference recommends that appropriate fora, including the IPCC, consider the necessity and efficiency of the introduction of the concept of CO_2-equivalence. This would provide a single parameter to describe the radiative effects of the various greenhouse gases, including CFCs. Such a concept, after taking into account other environmental considerations, creates a basis for negotiations in response measures for different greenhouse gases in the most cost-effective manner. The Conference further recommends the development of common definitions and the harmonization of methods to calculate CO_2-emissions.

(11) All countries should increase co-operation in developing new, environmentally sound technologies, to improve existing technologies and increasingly to use these technologies in order

to limit climate change or adapt to it. Maximum use should be made of existing international organizations, institutions and mechanisms, governmental and non-governmental, for technology co-operation with and transfer to interested countries, especially developing countries. Factors that impede effective transfer of appropriate technologies should be identified and measures implemented to overcome these impediments.

(12) Progress in reducing atmospheric pollution depends not only on technical and economic issues but also on attitudinal and conceptual changes. All countries, especially industrialized countries, should recognize the need to make their socio-economic activities and life-styles environmentally sound. Improved dissemination of information and better training of personnel is needed, both at the national and international level. Public awareness programmes, including school curricula, should include the issue of climate change and its connection with the way individuals use energy and other natural resources. Wider public awareness can be supported by increased scientific evidence arising from systematic research and monitoring activities. The Conference calls upon the non-govenmental organizations to participate, in co-operation with international, regional and national authorities, in the efforts that are needed to respond to the problems of global warming, more specifically in the field of education and awareness building.

(13) Many countries, especially developing countries will require assistance in identifying the causes of anthropogenic climate change, in establishing its extent and effect and also in responding to it. They will need help in acquiring, using, developing and maintaining technologies that are appropriate to their industrial, energy, transport, forestry and agricultural infrastructure. Industrialized countries will take steps to facilitate the transfer to developing countries of technologies to limit the global climate change through financial assistance and other mechanisms to overcome the incremental costs of acquiring and using these technologies. Furthermore, the capabilities of these countries should be increased so that they can develop appropriate technologies themselves. In this context the concept of assured access to appropriate technologies in relation to proprietory rights needs to be explored.

Given this stage of development of the issue of climate change, the Conference more specifically:

CARBON DIOXIDE (CO_2)

- (14) *Urges* all countries to take steps individually and collectively, to promote better energy conservation and efficiency and the use of environmentally sound energy sources, practices and technologies with no or minimum environmentally damaging characteristics. These policies should be reflected in short and long term energy policies and be pursued by all relevant sectors, including industry and transport, taking into account the need of developing countries for an adaptation period in order to enable them to meet their technological and other developmental needs. One direct means of allowing markets to incorporate the risk of climate change could be to ensure that the prices of all

fuels reflect their full social, long run marginal and environmental costs and benefits.

- (15) *Agrees* that it is timely to investigate quantitative emission targets to limit or reduce CO_2 emissions and encourages the IPCC, in their interim report due in 1990, to include an analysis of target options.

- (16) *Recognizes* the need to stabilize, while ensuring stable development of the world economy, CO_2 emissions and emissions of other greenhouse gases not controlled by the Montreal Protocol. Industrialized nations agree that such stabilization should be achieved by them as soon as possible, at levels to be considered by the IPCC and the Second World Climate Conference of November 1990. In the view of many industrialized nations such stabilization of CO_2 emissions should be achieved as a first step at the latest by the year 2000.
Urges all industrialized countries to support the process of IPCC through the investigation of the feasibility of achieving targets to limit or reduce CO_2 emissions including e.g. a 20 per cent reduction of CO_2 emission levels by the year 2005 as recommended by the scientific World Conference on the Changing Atmosphere in Toronto 1988.
Urges all industrialized countries to intensify their efforts in this respect, while ensuring sustainable development and taking into account the specific circumstances of individual countries.

- (17) *Agrees* that industrialized countries with, as yet, relatively low energy requirements, which can reasonably be expected to grow in step with their development, may have targets that accommodate that development.

- (18) *Calls* on the IPCC to present the analysis and conclusions referred to above to the Second World Climate Conference in November 1990.

- (19) *Agrees* that developing countries endeavour to meet future targets for CO_2-emissions and sinks, with due regard to their development requirements and within the limits of their financial and technical capabilities. International co-operation, whenever available, would be a contributing factor for greater action. New processes or industries to be introduced should, as far as possible, incorporate technologies which are more energy-efficient and produce less pollution than present technologies.

- (20) *Agrees* that developing countries will need to be assisted financially and technically, including assistance with training, i.a. by strengthening relevant mechanisms to ensure that they will be in a position to manage, develop, and conserve their forest resources in a sustainable and environmentally sound manner. This will also contribute to combatting erosion and desertification. Recognition by the market of the total value of forests, including non-wood values, is a precondition for developing countries' being able to successfully use such financial and technical

assistance for sustainable forest management.

- (21) *Agrees* to pursue a global balance between deforestation on the one hand and sound forest management and afforestation on the other. A world net forest growth of 12 million hectares a year in the beginning of next century should be considered as a provisional aim.
Requests the IPCC to consider the feasibility of achieving this aim. To this end; the world deforestation rate should be slowed inter alia through the suppression of acid rain and other pollutants and of fires and through the reduction of pressures on biota. Sound forest management practices should be encouraged and at the same time vigorous forestry programmes should be developed in both temperate and tropical zones; biological diversity should be maintained; strategies addressing climate change issues through forest management and afforestation should be integrated with strategies addressing the sustainability of other forest based values resulting in full multiple-use plans where appropriate, but with due consideration of the people living in or dependent on forest land.
Welcomes the work of the Tropical Forestry Action Plan and the International Timber Trade Organisation in pursuit of these goals.

CHLOROFLUOROCARBONS (CFCs)

- (22) *Welcomes* the commitment of the industrialized countries to amend the Montreal Protocol and to phase out the production and consumption of controlled chlorofluorocarbons by the year 2000, and of other controlled ozone depleting substances as soon as feasible.
Urges all countries to become Parties to the Vienna Convention for the Protection of the Ozone Layer and to the Montreal Protocol. To facilitate this broad participation suitable amendments of the Montreal Protocol should be considered urgently by the Parties to the Protocol.
Urges industrialized countries to use financial and other means to assist developing countries in phasing out their production and consumption of controlled substances as soon as possible, by providing them with sufficient means to enable them to meet their target date. The development of alternative technologies and products in developing countries should be promoted.

OTHER GREENHOUSE GASES

- (23) *Recommends* that the development and implementation of specific means of limiting the atmospheric concentrations of greenhouse gases other than CO_2 and CFCs should be energetically pursued, taking into consideration the special situation of developing countries.

MINISTERIAL MEETING

- (24) *Recognizes* the need to convene a Ministerial Conference to review the interim report of the IPCC. The conference endorses the plan of the organization by WMO, UNEP, UNESCO and ICSU of such a meeting as part of the Second World Climate Conference in November 1990.

FUNDING

- (25) *Recommends* that existing institutions for development and financial assistance including the Multilateral Development Banks, Bilateral Assistance Programmes, the relevant United Nations organisations and specialized agencies, and scientific and technological organisations should give greater attention to climate change issues within their environmental and other relevant programmes by providing expanded funding including concessional funding. In addition, regional and subregional co-operation should be reinforced and funded so as to address and implement the required action at that level.

- (26) *Recommends* that additional resources should, over time, be mobilized to help developing countries take the necessary measures to address climate change and that are compatible with their development requirements.
  Further *recommends* that the scope of resources needed must be assessed. Such assessments should include inter alia country studies and the capabilities of existing institutions and mechanisms to meet the financing needs identified, similar to the approaches developed under the Montreal Protocol.
  Further consideration should be given to the need for funding facilities including a clearinghouse mechanism and a possible new international fund and their relationship to existing funding mechanisms, both multilateral and bilateral. Such funding should be related to the implementation of a future climate convention and associated protocols. In the meantime the donor community is urged to provide assistance to developing countries to support actions addressing climate change.

- (27) *Recommends* that, initially, international funding be directed towards
  (i) funding of a CFC phase-out in developing countries in the context of the Montreal Protocol;
  (ii) promoting efficient use of energy, including appropriate end use technologies, increasing the use of non-fossil fuels and switching to energy sources with lower greenhouse gas emissions, and the use of renewable energy sources;
  (iii) increased financial support for forest protection and forest management improvement, for example through the Tropical Forestry Action Plan (TFAP), the Plan of Action to Combat Desertification, the International Tropical Timber Organization (ITTO) and other relevant international organizations;
  (iv) assisting developing countries in planning how to address problems posed by climate change;
  (v) supporting developing countries to enable their participation in the IPCC process and the other international meetings on this subject;
  (vi) conducting research and monitoring;
  (vii) arranging for technology transfer to and technology development in developing countries;
  (viii) promoting public awareness, education and institutional and manpower development.

The use of financial resources could subsequently be extended inter alia to major energy sources with little or no environmentally damaging characteristics and for steps to reduce other global man-made emissions of greenhouse gases.

RESEARCH AND MONITORING

- (28) *Urges* all countries and relevant organizations to increase their climate change research and monitoring activities and to provide for adequate data bases on emissions. *Also urges* states to co-operate in, and provide increasing support for, international co-ordination of these activities building on international programmes such as the World Climate Programme and the International Geosphere Biosphere Programme, and on the present roles of the UNEP, WMO, ICSU, IEA, UNESCO, IOC, IGBP and other competent international organizations and bodies. The enhancement and strenghtening of operational aspects of their work should be examined.
  Recommends that more research should be carried out by 1992 into the sources and sinks of the greenhouse gases other than CO_2 and CFCs, like methane (CH_4), nitrous oxide (N_2O) and tropospheric ozone (O_3), including further research on the effect of the ocean on the concentration of radiatively active gases in the atmosphere.

CLIMATE CHANGE CONVENTION

- (29) 1. *Urges* all countries to join and intensify the ongoing work within UNEP and WMO through the IPCC with respect to the compilation of elements for a framework convention on climate change so that negotiations upon it can start as soon as possible after the adoption of the interim report of the IPCC.
  2. *Recommends* that such convention will be framed in such a way as to gain the adherence of the largest possible number and most suitably balanced spread of countries.
  3. *Agrees* that to this end the framework convention and associated protocols should commit the parties inter alia to:
     - enhancement of research and systematic observation of climate, aimed at detecting and monitoring climate variations and change;
     - action to deal with greenhouse gas emissions and the effects of global warming;
     - address the particular financial needs of the developing countries in the access to and transfer of technology; and
     - strengthen sustainable forest management.
  4. *Agrees* further that in developing the framework convention on climate change special attention should be given to ensuring that provision is made for appropriate decision making procedures and powers.
  5. *Urges* all involved or to be involved in the negotiations to do their utmost to conclude these negotiations to ensure adoption of the convention as early as 1991 if possible and no later than at

the Conference of the United Nations on Environment and Development in 1992.

6. *Considers* that in the preparation of the framework convention and protocols the relevant aspects of the Vienna Convention on the Protection of the Ozone Layer should be taken into account, as well as innovative approaches as may be required by the complex character of the problem.

- (30) *Recommends* that this declaration and the supporting papers be conveyed to the IPCC at the conclusion of this Conference for further consideration and action.

THE LANGKAWI DECLARATION ON ENVIRONMENT

We, the Heads of Government of the Commonwealth, representing a quarter of the world's population and a broad cross-section of global interests, are deeply concerned at the serious deterioration in the environment and the threat this poses to the well-being of present and future generations. Any delay in taking action to halt this progressive deterioration will result in permanent and irreversible damage.

2. The current threat to the environment, which is a common concern of all mankind, stems essentially from past neglect in managing the natural environment and resources. The environment has been degraded by decades of industrial and other forms of pollution, including unsafe disposal of toxic wastes, the burning of fossil fuels, nuclear testing and non-sustainable practices in agriculture, fishery and forestry.

3. The main environmental problems facing the world are the 'greenhouse effect' (which may lead to severe climatic changes that could induce floods, droughts and rising sea levels), the depletion of the ozone layer, acid rain, marine pollution, land degradation and the extinction of numerous animal and plant species. Some developing countries also face distinct environmental problems arising from poverty and population pressure. In addition, some islands and low-lying areas of other countries, are threatened by the prospect of rising sea level.

4. Many environmental problems transcend national boundaries and interests, necessitating a co-ordinated global effort. This is particularly true in areas outside national jurisdiction, and where there is transboundary pollution on land and in the oceans, atmosphere and outer space.

5. The need to protect the environment should be viewed in a balanced perspective and due emphasis be accorded to promoting economic growth and sustainable development, including eradication of poverty, meeting basic needs, and enhancing the quality of life. The responsibility for ensuring a better environment should be equitably shared and the ability of developing countries to respond be taken into account.

6. To achieve sustainable development, economic growth is a compelling necessity. Sustainable development implies the incorporation of environmental concerns into economic

planning and policies. Environmental concerns should not be used to introduce a new form of conditionality in aid and development financing, nor as a pretext for creating unjustified barriers to trade.

7. The success of global and national environmental programmes requires mutually reinforcing strategies and the participation and commitment of all levels of society - government, individuals and organisations, industry and the scientific community.

8. Recognising that our shared environment binds all countries to a common future, we, the Heads of Government of the Commonwealth, resolved to act collectively and individually, commit ourselves to the following programme of action:

- advance policies and programmes which help achieve sustainable development, including the development of new and better techniques in integrating the environmental dimension in economic decision-making;

- strengthen and support the development of international funding mechanisms and appropriate decision-making procedures to respond to environmental protection needs which will include assisting developing countries to obtain access to and transfer of needed environmental technologies and which should take account of proposals for an international environment fund/Planet Protection Fund;

- support the work of the UNEP/WMO Inter-governmental Panel on Climate Change (IPCC);

- call for the early conclusion of an international convention to protect and conserve the global climate and, in this context, applaud the efforts of member governments to advance the negotiation of a framework convention under UN auspices;

- support the findings and recommendations of the Commonwealth Expert Group's Report on Climate Change as a basis for achievable action to develop strategies for adapting to climate change and for reducing greenhouse gas emissions, as well as making an important contribution to the work of the IPCC;

- support measures to improve energy conservation and energy efficiency;

- promote the reduction and eventual phase-out of substances depleting the ozone layer;

- promote afforestation and agricultural practices in developed and developing countries to arrest the increase in atmospheric carbon dioxide and halt the deterioration of land and water resources;

- strengthen efforts by developing countries in sustainable forest management and their manufacture and export of higher value-added forest products and, in this regard, support the activities of the International Tropical Timber Organisation and the Food and Agriculture Organisation's Tropical Forestry Action Plan, as well as take note of the recommendations of the 13th Commonwealth Forestry Conference;

- support activities related to the conservation of biological diversity and genetic resources, including the the conservation of significant areas of virgin forest and other protected natural habitats;

- support low-lying and island countries in their efforts to protect themselves and their vulnerable natural marine ecosystems from the effects of sea level rise;

- discourage and restrict non-sustainable fishing practices and seek to ban tangle net and pelagic drift net fishing;

- support efforts to prevent marine pollution including curbing ocean dumping of toxic wastes;

- strengthen international action to ensure the safe management and disposal of hazardous wastes and to reduce transboundary movements, particularly to prevent dumping in developing countries;

- participate in relevant international agreements relating to the environment and promote new and innovative instruments which will attract widespread support for protecting the global environment; and

- strengthen national, regional and international institutions responsible for environmental protection as well as the promotion of active programmes on environmental education to heighten public awareness and support.

9. We, the Heads of Government of the Commonwealth, resolve to take immediate and positive actions on the basis of the above programme. In this regard, we pledge our full support for the convening of the 1992 UN Conference on Environment and Development.

10. We call on the international community to join us in the endeavour.

Issued by Commonwealth Heads of Government at Langkawi, Malaysia.

Langkawi
21 October 1989

COMMONWEALTH HEADS OF GOVERNMENT MEETING

KUALA LUMPUR

October 18-24, 1989

COMMUNIQUE

Environment and Climatic Change

91. Heads of Government issued the Langkawi Declaration on Environment providing for a Programme of Action.

92. They discussed the subject of climate change on the basis of the Commonwealth Expert Group's Report. They asked the Secretary-General to identify a group of experts on the environment who could monitor and evaluate developments concerning climate change, taking account of the work of the Intergovernmental Panel on Climate Change, and deal with other environmental issues as needs arise.

93. Heads of Government noted with appreciation the generous offer from the President of Guyana to set aside part of Guyana's Amazonian tropical forest for a pilot project under Commonwealth auspices to study utilisation of the forest on a sustainable basis and the conservation of species. They asked the Secretary-General to organise a high level exploratory mission to pursue the offer with the Guyanese authorities.

94. Heads of Government welcomed the invitation from the Prime Minister of Australia to developing Commonwealth countries to participate in a technical assistance programme to provide training for assessing the effects of climate change on rural land productivity. They looked forward to a positive response to the letter which the Australian Prime Minister would be writing to all Heads of Government and thanked Australia for its willingness to fund the participation of trainees in this programme.

95. Heads of Government also welcomed the announcement that, to mark the Fortieth Anniversary of the modern Commonwealth, Canada will offer 40 scholarships a year for five years as an additional contribution to the CFTC. In recognition of the adoption of the Langkawi Declaration, Canada suggested that these scholarships could most appropriately be dedicated to environmental studies.

96. Heads of Government noted the positive role which NGOs (including the Commonwealth Human Ecology Council) and others could play in maintaining and increasing awareness of environmental issues, in particular climate change. They encouraged the development and strengthening of consultative arrangements between NGOs and governments to help in clarifying environmental issues.

97. Heads of Government asked the Secretariat to strengthen its ability to assist governments, on request, in the environmental field through policy development work, and through CFTC technical assistance, so as to give effect to the Programme of Action of the Langkawi Declaration. They requested the Managing Director of the CFTC to report to the next Commonwealth Senior Officials Meeting on the extent of support which can be offered through the CFTC to programmes which address environmental concerns.

BEOGRAD '89
ninth non - aligned summit

NINTH CONFERENCE OF HEADS OF STATE OR
GOVERNMENT OF NON-ALIGNED COUNTRIES

NAC 9/EC/Doc. 8/Rev. 3
7 September 1989
Original: English

ENVIRONMENT

The Heads of State or Government :

- Were greatly concerned at the continuing deterioration in the state of the environment. These trends if allowed to continue unchecked could disrupt the global ecological balance and jeopardise the earth's life-sustaining qualities. In a few decades the world could be facing an ecological catastrophe;

- Noted that the physical and social aspects of the deterioration of the environment are increasingly evident in developing countries; they confirmed that such trends were a consequence of the widening gap in development levels between the North and the South, that poverty and the degradation of the environment are closely related. Environmental protection in developing countries had to be viewed as an integral part of the development and could not be considered in isolation from it;

- Stressed the need of the international community to consider with utmost seriousness the degradation of the global life-support systems, primarily the process of water and air pollution, depletion of the ozone layer, soil degradation, desertification and deforestation. The pressures brought to bear on these global systems by the prevalent patterns of production and consumption especially in the developed countries as well as the global energy system make the current global trends unsustainable. If concerted measures were not taken to check these processes, in a few decades the world would be faced with unforeseeable consequences. In this context they noted with concern a growing tendency towards external impositions and increased conditionalities on the part of some developed countries in dealing with environmental issues;

- Noted that international cooperation in the field of environmental protection called for a global multilateral approach so that all aspects be considered while retaining the development priorities of developing countries and respecting the principle of proportionality in shares and responsibilities with due respect to the sovereign right of every country over its natural resources;

The Heads of State or Government:

1. Expressed the readiness of non-aligned countries to intensify and promote international cooperation in the area of environment in order to prevent the disruption of the global ecological balance;

2. Emphasized the need to agree on a concept of sustainable development with a view to promoting effective international cooperation in environmental protection; the concept should necessarily include the meeting of basic needs of all people on our planet, stable economic growth, especially a speedier development of developing countries, as well as improving the quality of life;

3. Urged the adoption of environmentally-sound development strategies and underlined that the definition of such strategies, including the exploitation of a country's natural resources, were the sovereign right of every country;

4. Stressed that the developed countries, which bear the primary responsibility for damage to the environment, must also bear the primary responsibility for global environmental protection which includes the provision of additional resources for developing countries;

5. Underlined that international measures to control the use of environmentally damaging substances should be aimed at redressing the existing asymmetry in world consumption and production levels. Regulatory regimes which seek to subject production and consumption of certain substances to international control limits must be accompanied by supportive measures to facilitate the adjustment by developing countries to new standards. These measures must in particular include net additional financial resources and access to and transfer of alternative clean technologies. In this context they recommended that the creation of a special international fund to promote international cooperation in the field of environment to finance research and development of alternative technologies and to bring these technologies within easy reach of developing countries should seriously be considered;

6. Called for the adoption of effective international measures, including conventions and other relevant legal instruments, to prohibit the dumping of toxic and other hazardous wastes in the territories of other countries. They pledged to maximise the benefits from the Dump Watch already established by the Movement to facilitate wide dissemination of information on the activities of, and clandestine routes traversed by, merchants of toxic and other hazardous wastes. They also proposed that the developed countries should, in the meantime, adopt rigorous administrative measures and legislation to ban the export of toxic and other hazardous wastes to the territories of other, especially developing countries;

7. Noted with serious concern that changing global climate patterns threaten present and future generations with severe economic and social consequences and emphasized that necessary and timely action should be taken to deal with climate changes and their consequences within a global framework. In this context they called for preparation and adoption of an international convention on the protection and conservation of global the climate on an urgent basis;

8. Called on all countries to refrain from activities which would endanger the quality of the marine environment and ecological conditions. In this regard, they welcomed the measures taken under the auspices of the United Nations Environment Programme (UNEP) and called on all countries with experience in this field to assist UNEP, regional environmental agencies and individual countries in their efforts to protect the world's seas and waterways;

9. Urged all countries, relevant UN bodies and agencies and non-governmental organizations to continue providing and increasing assistance to countries, especially in Africa, affected by desertification, deforestation, soil erosion, and to help them in their struggle against these phenomena and their harmful consequences;

10. Called on developed countries and relevant international organizations to establish new and strengthen existing mechanisms and funds for stimulating the transfer to developing countries of "clean" technologies and technologies for environmental protection and improvement, and to earmark additional financial resources for environmental cooperation on concessional terms;

11. Welcomed the proposal for convening of the Second United Nations Conference on Environment and Development in 1992, as an important opportunity to address environmental and development issues in an integrated manner and supported the offer of Brasil to host it. They also expressed the importance of coordination among non-aligned and other developing countries prior to the Conference. For that purpose they recommended the convening of a special ministerial meeting of non-aligned and other developing countries at an appropriate time before the Conference.

SUMMIT OF THE ARCH

ECONOMIC DECLARATION, 16 JULY 1989

ENVIRONMENT

33) There is growing awareness throughout the world of the necessity to preserve better the global ecological balance. This includes serious threats to the atmosphere, which could lead to future climate changes. We note with great concern the growing pollution of air, lakes, rivers, oceans and seas; acid rain, dangerous substances; and the rapid desertification and deforestation. Such environmental degradation endangers species and undermines the well-being of individuals and societies.

Decisive action is urgently needed to understand and protect the earth's ecological balance. We will work together to achieve the common goals of preserving a healthy and balanced global environment in order to meet shared economic and social objectives and to carry out obligations to future generations.

34) We urge all countries to give further impetus to scientific research on environmental issues, to develop necessary technologies and to make clear evaluations of the economic costs and benefits of environmental policies.

The persisting uncertainty on some of these issues should not unduly delay our action.

In this connection, we ask all countries to combine their efforts in order to improve observation and monitoring on a global scale.

35) We believe that international cooperation also needs to be enhanced in the field of technology and technology transfer in order to reduce pollution or provide alternative solutions.

36) We believe that industry has a crucial role in preventing pollution at source, in waste minimization, in energy conservation, and in the design and marketing of cost-effective clean technologies. The agricultural sector must also contribute to tackling problems such as water pollution, soil erosion and desertification.

37) Environmental protection is integral to issues such as trade, development, energy, transport, agriculture and economic planning. Therefore, environmental considerations must be taken into account in economic decision-making. In fact good economic policies and good environmental policies are mutually reinforcing.

In order to achieve sustainable development, we shall ensure the compatibility of economic growth and development with the protection of the environment. Environmental protection and related investment should contribute to economic growth. In this respect, intensified efforts for technological breakthrough are important to reconcile economic growth and environmental policies.

Clear assessments of the costs, benefits and resource implications of environmental protection should help governments to take the necessary decisions on the mix of price signals (e.g., taxes or expenditures) and regulatory actions, reflecting where possible the full value of natural resources.

We encourage the World Bank and regional development banks to integrate environmental considerations into their activities. International organizations such as the OECD and the United Nations and its affiliated organizations, will be asked to develop further techniques of analysis which would help governments assess appropriate economic measures to promote the quality of the environment. We ask the OECD, within the context of its work on integrating environment and economic decision-making, to examine how selected environmental indicators could be developed. We expect the 1992 UN Conference on Environment and Development to give additional momentum to the protection of the global environment.

38) To help developing countries deal with past damage and to encourage them to take environmentally desirable action, economic incentives may include the use of aid mechanisms and specific transfer of technology. In special cases, ODA debt forgiveness and debt for nature swaps can play a useful role in environmental protection.

We also emphasize the necessity to take into account the interests and needs of developing countries in sustaining the growth of their economies and the financial and technological requirements to meet environmental challenges.

39) The depletion of the stratospheric ozone layer is alarming and calls for prompt action.

We welcome the HELSINKI conclusions related, among other issues, to the complete abandonment of the production and consumption of chloro-fluorocarbons covered by the MONTREAL protocol as soon as possible and not later than the end of the century. Specific attention must also be given to those ozone-depleting substances not covered by the Montreal protocol. We shall promote the development and use of suitable substitute substances and technologies. More emphasis should be placed on projects that provide alternatives to chloro-fluorocarbons.

40) We strongly advocate common efforts to limit emissions of carbon dioxide and other greenhouse gases, which threaten to induce climate change, endangering the environment and ultimately the economy. We strongly support the work undertaken by the Intergovernmental Panel on Climate Change, on this issue.

We need to strengthen the worldwide network of observatories for greenhouse gases and support the World Meteorological Organisation initiative to establish a global climatological reference network to detect climate changes

41) We agree that increasing energy efficiency could make a substantial contribution to these goals. We urge international organizations concerned to encourage measures, including economic measures, to improve energy conservation and, more broadly, efficiency in the use of energy of all kinds and to promote relevant techniques and technologies.

We are committed to maintaining the highest safety standards for nuclear power plants and to strengthening international cooperation in safe operation of power plants and waste management, and we recognize that nuclear power also plays an important role in limiting output of greenhouse gases.

42) Deforestation also damages the atmosphere and must be reversed. We call for the adoption of sustainable forest management practices, with a view to preserving the scale of world forests. The relevant international organizations will be asked to complete reports on the state of the world's forests by 1990.

43) Preserving the tropical forests is an urgent need for the world as a whole. While recognizing the sovereign rights of developing countries to make use of their natural resources, we encourage, through a sustainable use of tropical forests, the protection of all the species therein and the traditional rights to land and other resources of local communities. We welcome the German initiative in this field as a basis for progress.

To this end, we give strong support to rapid implementation of the Tropical Forest Action Plan which was adopted in 1986 in the framework of the Food and Agricultural Organization. We appeal to both consumer and producer countries, which are united in the International Tropical Timber Organization, to join their efforts to ensure better conservation of the forests. We express our readiness to assist the efforts of nations with tropical forests through financial and technical cooperation, and in international organizations.

44) Temperate forests, lakes and rivers must be protected against the effects of acid pollutants such as sulphur dioxide and nitrogen oxides. It is necessary to pursue actively the bilateral and multilateral efforts to this end.

45) The increasing complexity of the issues related to the protection of the atmosphere calls for innovative solutions. New instruments may be contemplated. We believe that the conclusion of a framework or umbrella convention on climate change to set out general principles or guidelines is urgently required to mobilize and rationalize the efforts made by the international community. We welcome the work under way by the United Nations Environment Program, in cooperation with the World Meteorological Organization, drawing on the work of the Intergovernmental Panel on Climate Change and the results of other international meetings. Specific protocols containing concrete commitments could be fitted into the framework as scientific evidence requires and permits.

46) We condemn indiscriminate use of oceans as dumping grounds for polluting waste. There is a particular problem with the deterioration of coastal waters. To ensure the sustainable management of the marine environment, we recognize the importance of international cooperation in preserving it and conserving the living resources of the sea. We call for relevant bodies of the United Nations to prepare a report on the state of the world's oceans.

We express our concern that national, regional and global capabilities to contain and alleviate the consequences of maritime oil spills be improved. We urge all countries to make better use of the latest monitoring and clean-up technologies. We ask all countries to adhere to and implement fully the international conventions for the prevention of oil pollution of the oceans. We also ask the International Maritime Organization to put forward proposals for further preventive action.

47) We are committed to ensuring full implementation of existing rules for the environment. In this respect, we note with interest the initiative of the Italian government to host in 1990 a forum on international law for the environment with scholars, scientific experts and officials, to consider the need for a digest of existing rules and to give in-depth consideration to the legal aspects of environment at the international level.

48) We advocate that existing environment institutions be strengthened within the United Nations system. In particular, the United Nations Environment Program urgently requires strengthening and increased financial support. Some of us have agreed that the establishment within the United Nations of a new institution may also be worth considering.

49) We have taken note of the report of the sixth conference on bioethics held in Brussels which examined the elaboration of a universal code of environmental ethics based upon the concept of the "human stewardship of nature".

50) It is a matter of international concern that Bangladesh, one of the poorest and most densely populated countries in the world, is periodically devastated by catastrophic floods.

We stress the urgent need for effective, coordinated action by the international community, in support of the Government of Bangladesh, in order to find solutions to this major problem which are technically, financially, economically and environmentally sound. In that spirit, and taking account of help already given, we take note of the different studies concerning flood alleviation, initiated by France, Japan, the US and the United Nations Development Program, which have been reviewed by experts from all our countries. We welcome the World Bank's agreement, following those studies, to coordinate the efforts of the international community so that a sound basis for achieving a real improvement in alleviating the effects of flood can be established. We also welcome the agreement of the World Bank to chair, by the end of the year, a meeting to be held in the United Kingdom by invitation of the Bangladesh Government, of the countries willing to take an active part in such a program.

51) We give political support to projects such as the joint project to set up an observatory of the Saharan areas, which answers the need to monitor the development of that rapidly deteriorating, fragile, arid region, in order to protect it more effectively.

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ECONOMIC COMMISSION FOR AFRICA/
UNITED NATIONS ENVIRONMENT PROGRAMME

REPORT OF
THE FIRST AFRICAN REGIONAL CONFERENCE ON ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Kampala, Uganda, 12-16 June 1989

THE KAMPALA DECLARATION ON SUSTAINABLE DEVELOPMENT IN AFRICA

Adopted by the First African Regional
Conference on Environment and Sustainable Development

Kampala, Uganda, 12-16 June 1989

ACHIEVING SUSTAINABLE DEVELOPMENT

We, the Ministers of Environment, of Planning and of Education as well as the representatives of youth, women and non-governmental organizations from 35 African countries, meeting in Kampala from 12 - 16 June 1989,

Conscious of the vital importance of environmental conservation and management of our economic and social development and the survival of the present and future generations in our countries;

Confirming that economic development which leads to the degradation of our environment and the depletion of our natural resources is simply not sustainable;

Convinced that development which is not sustainable should no longer be called development;

Recognizing that sustainable development is a priority for Africa which requires political commitment and mobilization of our natural resources as well as effective subregional, regional and global co-operation.

Resolve to achieve sustainable development within and among our countries in Africa.

RENEWED POLITICAL COMMITMENT AND POLICY CHANGE

1. Our countries are already confronted by many problems of environmental pollution and depletion of natural resources resulting from our own national as well as international policies and pressures. This cumulative environmental degradation, in combination with our increased external indebtedness, declining terms of trade and other adverse international economic conditions, has already undermined our capacity and potential to meet the needs of our people today and of our children tomorrow.

2. We therefore resolve to speed up the process of change and innovation towards development policies and practices that are environmentally sound, economically sustainable and socially acceptable.

3. We undertake to integrate environmental concerns into all existing and future economic and sectoral policies to ensure that they protect and improve the environment and natural resource base on which the health and welfare of our people depend. We must also begin to implement new sustainable development programmes that increase our possibilities for meeting the pressing needs of our people today without compromising the prospects of future generations.

4. We therefore resolve to ensure that institutions charged with the responsibilities of environmental resource management have the required legal statutes, administrative authority and supportive mechanisms for co-ordination to fulfill those responsibilities, and to building new institutions where required.

5. We further resolve to develop African strategies and technologies for production, preservation, storage, distribution and consumption which will stimulate sustainable economic growth and secure livelihoods in the rural areas where the majority of our populations live. We should at the same time adopt common strategies concerning imported technologies which could adversely affect our environment.

6. In the context of reviving economic growth with greater equity and meeting the essential needs for food, water, energy and jobs for our people, we resolve to take immediate action on the following priority issues and goals for achieving sustainable development in our countries and continent.

- Managing demographic change and pressures
- Achieving food self-sufficiency and food security
- Ensuring efficient and equitable use of water resources
- securing greater energy self-sufficiency
- Optimizing industrial production
- Maintaining species and ecosystems
- Preventing and reversing desertification.

MAKING THE TRANSITION TO SUSTAINABLE DEVELOPMENT

7. To move from the present and often destructive processes of development towards sustainable development will require a transition period of years to decades. The duration and success of that transition will depend on a strong and continuous political commitment at the highest levels within and among our countries, on the active role of an informed, involved public and on pragmatic programmes of national action and subregional and regional co-operation.

8. We have therefore endorsed "Priorities for Immediate Action" for the seven priority issues and goals for moving towards sustainable development in Africa. We resolve from today to begin to implement them immediately within and among our own countries.

9. We call upon the international community to support our efforts in the spirit of true partnership among States in providing for our common future.

10. On our part we undertake to immediately replicate the Kampala Conference on Sustainable Development at the national and subregional levels so as to internalise and integrate the Agenda for Action with national and subregional strategies and policies and to follow-up periodically on the implementation of the Agenda for Action. We request the Executive Secretary of ECA and the Executive Director of UNEP, with the co-operation of other relevant international, regional and subregional organizations, to assist us in every way possible in ensuring the follow-up at the national and subregional levels.

Done at Kampala, 16 June 1989.

OECD MINISTERIAL MEETING

May 31 - June 1, 1989

COMMUNIQUE

Moving Ahead from the Achievements of the 1980s

4. viii Improve the protection and management of the environment, particularly through the better integration of economic and environmental decision-making, to ensure sustainable development for current and future generations.

Environment

29. Continuing environmental deterioration will threaten the achievement of sustainable economic development and an improved quality of life for all. It is therefore essential that all countries actively participate in confronting the range of environmental problems, including those of a global nature. The OECD countries bear a special responsibility in this respect. The recent series of high-level conferences and meetings make an important contribution to the process of international cooperation.

30. Given the magnitude, urgency and potential economic, social and ecological implications of environmental problems, all relevant national, regional and international organisations will have to be mobilised in the most effective and efficient way. The OECD will cooperate fully in this process and, building upon the work on environmental problems it has carried out over twenty years, will focus on those aspects where, by nature of its membership and structure, it can make a particular contribution.

31. Ministers reaffirmed the critical importance of integrating more systematically and effectively environment and economic decision-making, as a means of contributing to sustainable economic development. Taking advantage of its capacity in the field of economic analysis, the OECD will work to place environmental decision-making on firm analytical ground with respect to costs, benefits and resource implications of environmental proposals and initiatives, selection among policy options and, where appropriate, to develop methods to ensure that environmental considerations become an integral part of economic policy-making. Particular attention will be paid to breaking new ground in such areas as: integrating environmental considerations into economic growth models; analysing environment-trade relationships; determining how price and other mechanisms can be used to achieve environmental objectives; assessing the economic costs and benefits of possible responses, including technologies, to cope with atmospheric, climatic, marine and other global environmental problems (in coordination with the work carried out in other competent bodies); and elaborating in economic terms the 'sustainable development' concept.

32. In this respect intensified efforts for technological breakthrough are important to reconcile economic growth and environmental protection. The OECD will examine incentives and barriers to the innovation and diffusion of environmental technologies. It will also promote expanded information exchange on technological options.

33. Industry also has a central role in confronting the environmental challenges of the 1990s, especially in incorporating environmental concerns into their economic decisions. The OECD will continue to stimulate and support closer cooperation between governments and industry to meet these challenges. Progress is beginning to be made in fields such as waste minimisation, industrial processes that conserve energy and raw materials, the design and marketing of cost-effective 'clean technologies', and the development of an economically viable pollution control and environmental management industry. There will be an expanded effort to analyse the economic dimensions of these activities and trends and promote information exchange on technological innovation and options. The OECD-BIAC Conference on "Environmental Problems and Industrial Policies in the 1990s" planned for October is an example of this. The agricultural sector also has a central role to play in correcting environmental problems, such as soil erosion and water pollution.

34. Close co-operation, involving the IEA and the NEA, on the crucial relationship between environment and energy will continue. Integrated policies which further energy security, environmental protection and economic growth are required. In view of increasing evidence of the risk of global warming and climate change and the necessity to respond to this issue, Ministers call for vigilant, serious and realistic assessment on a global basis of what energy policies can contribute to meeting these challenges, and of their economic and social impacts. Member governments should contribute in their energy policies to the solution of international and domestic environmental problems. As identified by IEA Ministers, they pledge to pursue in their respective energy policies greatly improved energy efficiency and conservation, new technologies and, where national decisions so contemplate, the use of nuclear power with maintained and improved safety in construction, operation and waste disposal. The transport sector also has a particular significance for the environment. The OECD is actively participating in the preparations for an ECMT Ministerial meeting on transport and the environment, which will be held in November 1989.

35. Ministers agree that cooperation with developing countries is essential for the solution of global environmental problems. The OECD will evaluate relevant policy experience in Member countries. On the basis of this information the Organisation will seek to coordinate policies among Member countries with a view to promoting mechanisms for technology transfer to developing countries; the balancing of long-term environmental costs and benefits against near-term economic growth objectives; the design of innovative approaches by development assistance institutions to environmental protection and natural resources management; and the integration of environmental considerations into development programmes, taking into account the legitimate interests and needs of developing countries in sustaining the growth of their economies and the financial and technological requirements to meet environmental challenges. Ministers encourage the development of appropriate environmental appraisal procedures for specific developmental projects and programmes financed directly or indirectly by Member governments. They recognise that public awareness of the environmental impact of potential projects is essential.

FRANCOPHONE SUMMIT

RESOLUTION ON THE ENVIRONMENT

Adopted in Dakar, 23 May 1989

The Heads of State, Government and Delegations of countries which use French as a common language,

CONCERNED

over the environmental crisis that the world is presently experiencing and that is manifesting itself on a global scale through various phenomena, including deterioration of the ozone layer, atmospheric warming, deforestation, desertification, soil exhaustion, water and atmospheric pollution, toxic wastes, poaching, acid rain and the transfer of hazardous wastes to developing countries;

CONVINCED

that the growth of all countries, notably the developing ones, can be guaranteed only by economic development based on policies of environmental protection and conservation;

RECOGNIZING

that all the world's countries must observe the existing standards and principles, and also that new principles of international law must be defined in this area;

OBSERVING

the significant progress achieved in international cooperation on environmental questions, particularly the conclusions of the Vienna Convention on protection of the ozone layer and of the Montreal Protocol on substances that deplete the ozone layer as well as the creation of the Intergovernmental Panel on Climate Change, and the Ottawa Meeting of legal and policy experts on the protection of the atmosphere;

NOTING

that the Heads of State and Government assembled at The Hague on March 11, 1989, affirmed the vital, urgent and global need for solutions to these problems by the adoption of innovative principles of international law relating to both the decision-making process and to development assistance and the development, within the framework of the United Nations, of new institutional authority, either by strengthening existing institutions, or by creating a new institution;

AGREE

- that the preservation of life on our planet in its various forms is the responsibility of all nations and all peoples;

- that all the participants in the development process should place priority on measures conducive to economic development which respects the environment;

- that the atmosphere and the oceans are common resources of inestimable value which must be managed and protected with the greatest possible care from all forms of abuse;

- that the existing international institutions in the United Nations system responsible for environmental questions and for protection of the climate and of the biosphere must be reinforced;

- that efforts must be pursued to completely eliminate controlled chlorofluorocarbons (CFCs) by 1999 at the latest;

- that there is a need to draft and implement an energy strategy which would facilitate the mastery and large-scale utilization of non-polluting renewable energy forms, notably solar energy;

- that human activities which contribute to deforestation, desertification and the destruction of arable lands must receive special attention, and that policies must be devised to restore the damaged regions.

SUPPORT

the concept of sustainable development, as defined by the World Commission on Environment and Development, to affirm the interdependence of the economy and the environment,

ARE PLEASED

to note that a United Nations Conference on environment and development will be held in 1992,

INVITE

all governments to endorse the Declaration of The Hague on the Environment,

CONSIDER

that in order to ensure implementation of the principles set forth in the Declaration of The Hague, negotiations must start as soon as possible to find solutions to the problems related to global warming, by emphasizing the need for a convention on the protection of global climate, drawing as appropriate on the work undertaken at the Ottawa Meeting and other work underway in this area,

ENCOURAGE

all States to adhere to the Montreal Protocol on substances that deplete the ozone layer,

HAVE DECIDED

to convene a Conference on Francophone Ministers of the Environment.

DÉCLARATION DE LA HAYE

Le droit de vivre est à la base de tous les autres. Sa garantie est un devoir absolu pour les responsables de tous les États du monde.

Les conditions mêmes de la vie sur notre planète sont aujourd'hui menacées par les atteintes graves dont l'atmosphère terrestre est l'objet.

Des études scientifiques faisant autorité ont mis en évidence l'existence et l'ampleur de dangers considérables tenant notamment au réchauffement de l'atmosphère et à la détérioration de la couche d'ozone. L'action entreprise pour résoudre ce dernier problème s'inscrit dans le cadre de la Convention de Vienne pour la protection de la couche d'ozone (1985) et du Protocole de Montréal (1987), tandis que la solution du premier problème a été confiée au Groupe Intergouvernemental sur l'Évolution du Climat, institué par le PNUE et l'OMM et qui vient de commencer ses travaux. De plus, l'Assemblée générale des Nations Unies a adopté en 1988 la Résolution 43/53 sur la Protection du Climat du Globe, qui reconnaît l'évolution du climat comme une préoccupation de l'humanité.

Les conséquences de ces phénomènes paraissent, en l'état actuel des connaissances scientifiques, susceptibles de porter atteinte aux systèmes écologiques et aux intérêts les plus vitaux de l'humanité tout entière.

Comme le problème est planétaire, sa solution ne peut être conçue qu'au niveau mondial. Compte tenu de la nature des dangers, les remèdes à y apporter relèvent non seulement du devoir fondamental de protéger l'écosystème terrestre, mais aussi du droit de l'homme à jouir dans la dignité d'un environnement viable et, par conséquent, du devoir de la communauté des nations à l'égard des générations présentes et futures de tout mettre en œuvre pour préserver la qualité de l'atmosphère.

C'est pourquoi nous considérons, face à un problème dont la solution présente la triple caractéristique d'être vitale, urgente et mondiale, que nous nous trouvons dans une situation qui requiert non seulement la mise en œuvre des principes existants mais aussi une approche nouvelle, par l'élaboration de nouveaux principes de droit international, notamment de mécanismes de décision et d'exécution nouveaux et plus efficaces.

Des mesures de régulation, de soutien et d'adaptation s'imposent, qui prennent en compte la participation et la contribution potentielle de pays ayant atteint des niveaux de développement différents. La plus grande partie des émissions qui affectent l'atmosphère à l'heure actuelle est due aux nations industrialisées. C'est également dans ces nations que les possibilités de changement sont les plus grandes, et ce sont elles aussi qui disposent des ressources les plus grandes pour traiter efficacement le problème.

La communauté internationale, et spécialement les nations industrialisées, ont des obligations particulières d'assistance à l'égard des pays en développement qui seraient très sévèrement affectés par des

DECLARATION OF THE HAGUE

The right to live is the right from which all other rights stem. Guaranteeing this right is the paramount duty of those in charge of all States throughout the world.

Today, the very conditions of life on our planet are threatened by the severe attacks to which the earth's atmosphere is subjected.

Authoritative scientific studies have shown the existence and scope of considerable dangers linked in particular to the warming of the atmosphere and to the deterioration of the ozone layer. The latter has already led to action, under the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol, while the former is being addressed by the Intergovernmental Panel on Climatic Change established by UNEP and WMO, which has just begun its work. In addition the UN General Assembly adopted Resolution 43/53 on the Protection of the Global Climate in 1988, recognizing climate change as a common concern of mankind.

According to present scientific knowledge, the consequences of these phenomena may well jeopardize ecological systems as well as the most vital interests of mankind at large.

Because the problem is planet-wide in scope, solutions can only be devised on a global level. Because of the nature of the dangers involved, remedies to be sought involve not only the fundamental duty to preserve the ecosystem, but also the right to live in dignity in a viable global environment, and the consequent duty of the community of nations vis-à-vis present and future generations to do all that can be done to preserve the quality of the atmosphere.

Therefore we consider that, faced with a problem the solution to which has three salient features, namely that it is vital, urgent and global, we are in a situation that calls not only for implementation of existing principles but also for a new approach, through the development of new principles of international law including new and more effective decision-making and enforcement mechanisms.

What is needed here are regulatory, supportive and adjustment measures that take into account the participation and potential contribution of countries which have reached different levels of development. Most of the emissions that affect the atmosphere at present originate in the industrialized nations. And it is in these same nations that the room for change is greatest, and these nations are also those which have the greatest resources to deal with this problem effectively.

The international community and especially the industrialized nations have special obligations to assist developing countries which will be very negatively affected by changes in the atmosphere although the

changements de l'atmosphère lors même que beaucoup d'entre eux n'en seraient que très faiblement responsables aujourd'hui.

Les institutions financières et les organismes d'aide au développement, internationaux et nationaux, doivent coordonner leurs activités pour promouvoir un développement durable.

Dans le respect des obligations internationales de chaque État, les signataires reconnaissent et s'engagent à promouvoir les principes suivants:
a) Le principe du développement, dans le cadre des Nations Unies, d'une nouvelle autorité institutionnelle, soit par le renforcement d'institutions existantes, soit par la création d'une institution nouvelle, qui, dans la perspective de la préservation de l'atmosphère, sera chargée de lutter contre le réchauffement, en recourant à toutes procédures de décision efficaces même si, dans certains cas, un accord unanime n'a pu être atteint;

b) Le principe selon lequel cette autorité institutionnelle procédera ou fera procéder aux études nécessaires, pourra accéder sur demande aux informations idoines, assurera la diffusion et l'échange des connaissances scientifiques et technologiques — ce qui implique de promouvoir l'accès aux technologies nécessaires, développera des instruments et définira des normes favorisant ou garantissant la protection de l'atmosphère et contrôlera le respect de ces normes;
c) Le principe de mesures appropriées destinées à promouvoir l'application effective et le respect des décisions de la nouvelle autorité institutionnelle, décisions qui relèveront du contrôle de la Cour internationale de Justice;
d) Le principe selon lequel les pays sur lesquels les décisions prises en vue de protéger l'atmosphère feraient peser une contrainte anormale ou particulière, eu égard notamment à leur niveau de développement et à leur responsabilité effective dans la détérioration de l'atmosphère, recevront une aide juste et équitable à titre de compensation. Des mécanismes devront être mis en place à cette fin;
e) La négociation des instruments juridiques nécessaires pour donner une assise institutionnelle et financière, qui soit efficace et cohérente, aux principes énoncés plus haut.

Les Chefs d'État et de Gouvernement, ou leurs représentants, qui ont exprimé leur adhésion à la présente Déclaration en y apposant leur signature, affirment leur volonté de promouvoir les principes ainsi définis, et ce:
- en développant leur initiative au sein de l'Organisation des Nations Unies et en coordination et collaboration étroites avec les institutions existantes créées sous les auspices des Nations Unies;
- en invitant tous les États du monde et les organisations internationales ayant compétence en la matière à participer, en prenant en compte les études du GIEC, à l'élaboration des conventions-cadres et autres instruments juridiques nécessaires à la création de l'autorité institutionnelle et à mettre en œuvre les autres principes énoncés ci-dessus en vue de protéger l'atmosphère et de lutter contre la modification du climat, en particulier le réchauffement:

responsibility of many of them for the process may only be marginal today.

Financial institutions and development agencies, be they international or domestic, must coordinate their activities in order to promote sustainable development.

Without prejudice to the international obligations of each State, the signatories acknowledge and will promote the following principles:
(a) The principle of developing, within the framework of the United Nations, new institutional authority, either by strengthening existing institutions or by creating a new institution, which, in the context of the preservation of the earth's atmosphere, shall be responsible for combating any further global warming of the atmosphere and shall involve such decision-making procedures as may be effective even if, on occasion, unanimous agreement has not been achieved;
(b) The principle that this institutional authority undertake or commission the necessary studies, be granted appropriate information upon request, ensure the circulation and exchange of scientific and technological information – including facilitation of access to the technology needed –, develop instruments and define standards to enhance or guarantee the protection of the atmosphere and monitor compliance herewith;
(c) The principle of appropriate measures to promote the effective implementation of and compliance with the decisions of the new institutional authority, decisions which will be subject to control by the International Court of Justice;
(d) The principle that countries to which decisions taken to protect the atmosphere shall prove to be an abnormal or special burden, in view, inter alia, of the level of their development and actual responsibility for the deterioration of the atmosphere, shall receive fair and equitable assistance to compensate them for bearing such burden. To this end mechanisms will have to be developed;
(e) The negotiation of the necessary legal instruments to provide an effective and coherent foundation, institutionally and financially, for the aforementioned principles.

The Heads of State and Government or their representatives, who have expressed their endorsement of this Declaration by placing their signatures under it, stress their resolve to promote the principles thus defined by:
- furthering the development of their initiative within the United Nations and in close coordination and collaboration with existing agencies set up under the auspices of the United Nations;
- inviting all States of the world and the international organisations competent in this field to join in developing, taking into account studies by the IPCC, the framework conventions and other legal instruments necessary to establish institutional authority and to implement the other principles stated above to protect the atmosphere and to counter climate change, particularly global warming;

– en exhortant tous les États du monde et les organisations internationales ayant compétence en la matière à signer et à ratifier les conventions sur la protection de la nature et de l'environnement;
– en appelant tous les États du monde à souscrire à la présente Déclaration.

L'original de cette Déclaration, rédigée en français et en anglais, sera remis au Gouvernement du Royaume des Pays-Bas, qui le conservera dans ses archives. Chacun des États participants recevra du Gouvernement du Royaume des Pays-Bas une copie conforme de cette Déclaration.

Le Premier Ministre des Pays-Bas est prié de transmettre cette Déclaration, qui n'est pas recevable pour être enregistrée au titre de l'article 102 de la Charte des Nations Unies, à tous les membres des Nations Unies.

Fait à La Haye, le 11 mars 1989.

– urging all States of the world and the international organisations competent in this field to sign and ratify conventions relating to the protection of nature and the environment;
– calling upon all States of the world to endorse the present declaration.

The original of this Declaration, drawn up in French and English, will be transmitted to the Government of the Kingdom of the Netherlands, which will retain it in its archives. Each of the participating States will receive from the Government of the Kingdom of the Netherlands a true copy of this Declaration.

The Prime Minister of the Netherlands is requested to transmit the text of this Declaration, which is not eligible for registration under Article 102 of the Charter of the United Nations, to all members of the United Nations.

The Hague, 11 March 1989

Helmuth Kohl
Chancelier de la République Fédérale d'Allemagne
Chancellor of the Federal Republic of Germany

Félix Houphouët-Boigny
Président de la République de Côte d'Ivoire
President of the Republic of Côte d'Ivoire

Gareth Evans
Ministre des Affaires Étrangères et du Commerce d'Australie
Minister for Foreign Affairs and Trade of Australia

Muhammed Hosni Mubarak
Président de la République Arabe d'Égypte
President of the Arab Republic of Egypt

Paulo Tarso Flecha de Lima
Secrétaire Général des Relations Extérieures de la République Fédérative du Brésil
Secretary General of External Relations of the Federative Republic of Brazil

Felipe González
Premier Ministre d'Espagne
Prime Minister of Spain

Brian Mulroney
Premier Ministre du Canada
Prime Minister of Canada

François Mitterrand
Président de la République Française
President of the French Republic

Miklós Németh
Premier Ministre de la République Populaire Hongroise
Prime Minister of the Hungarian People's Republic

Daniel Toroitich arap Moi
Président de la République du Kenya
President of the Republic of Kenya

P.V. Narasimha Rao
Ministre des Affaires Étrangères de l'Inde
Minister of External Affairs of India

Edward Fenech Adami
Premier Ministre de la République de Malte
Prime Minister of the Republic of Malta

Emil Salim
Ministre d'État pour la Population et l'Environnement de la République d'Indonésie
Minister of State for Population and Environment of the Republic of Indonesia

Gro Harlem Brundtland
Premier Ministre du Royaume de Norvège
Prime Minister of the Kingdom of Norway

Giorgio Ruffolo
Ministre de l'Environnement d'Italie
Minister of Environment of Italy

Geoffrey Palmer
Vice-Ministre Président de Nouvelle-Zélande
Deputy Prime Minister of New Zealand

Masahisa Aoki
Ministre d'État du Japon
Minister of State of Japan

Ruud Lubbers
Premier Ministre du Royaume des Pays-Bas
Prime Minister of the Kingdom of the Netherlands

Hussein Ibn Talal
Roi du Royaume Hachémite de Jordanie
King of the Hashemite Kingdom of Jordan

Abdou Diouf
Président de la République du Sénégal
President of the Republic of Senegal

Ingvar Carlsson
Premier Ministre du Royaume de Suède
Prime Minister of the Kingdom of Sweden

Enrique Colmenares Finol
Ministre de l'Environnement de la République du Venezuela
Minister for Environment of the Republic of Venezuela

Hedi Baccouche
Premier Ministre de la République Tunisienne
Prime Minister of the Tunisian Republic

Robert Gabriel Mugabe
Président de la République du Zimbabwe
President of the Republic of Zimbabwe

PROTECTION OF THE ATMOSPHERE:
INTERNATIONAL MEETING OF
LEGAL AND
POLICY EXPERTS

February 20-22 1989
Ottawa, Ontario, Canada

PROTECTION DE L'ATMOSPHERE:
ASSEMBLEE INTERNATIONALE
D'EXPERTS JURIDIQUES
ET POLITIQUES

Du 20 au 22 février 1989
Ottawa, Ontario, Canada

STATEMENT OF THE MEETING OF LEGAL AND POLICY EXPERTS

February 22, 1989

Canada

STATEMENT OF THE MEETING OF LEGAL AND POLICY EXPERTS

Introduction

In June 1988, Canada hosted an international atmospheric conference in Toronto entitled "The Changing Atmosphere: Implications for Global Security". At the opening of the conference, the Prime Minister, the Right Honourable Brian Mulroney, spoke strongly in favour of a concerted international effort to achieve concrete progress in dealing with this mounting environmental concern. He expressed his hope that the international community could develop, by 1992, an international accord or elements thereof for the protection of the atmosphere. As a step toward this goal, a Meeting of Legal and Policy Experts was held in Ottawa on February 20 to 22, 1989.

The purpose of the Meeting of Experts was:

(a) to develop further the legal and institutional framework for dealing with existing and emerging atmospheric problems and, where possible, to agree on principles that might form the basis of an umbrella framework convention for the protection of the atmosphere and for a convention on climate change;

(b) to identify areas where, for legal, technical or scientific reasons, a consensus may not be achievable and to suggest ways for overcoming such obstacles; and

(c) to develop a series of recommendations for future action, including one to the effect that the report of the meeting and draft principles be forwarded to a qualified multilateral organization for future consideration.

The Meeting of Experts was attended by some 80 legal and policy experts in their personal capacity, from government, non-government (including the World Meteorological Organization and the United Nations Environment Programme), and academic institutions. Participants included a broad spectrum of experts from developed and developing countries and from every continent.

The Meeting of Experts recommended that an international convention or conventions with appropriate protocols are needed as a means to ensure rapid international action to protect the atmosphere and limit the rate of climate change. It also recommended that protocols to limit carbon dioxide and other greenhouse gas concentrations in the atmosphere are urgently required, either within the framework of a Convention on Climate Change or a Convention on the

Protection of the Atmosphere and that negotiation of protocols on priority issues should proceed simultaneously with the development of any such convention. Along with the development of a climate change convention, work on principles for a framework convention on protection of the atmosphere should proceed. The Meeting of Experts expressed the wish that its recommendations for, and observations on, the content of an international agreement or agreements be forwarded as soon as possible for consideration by international fora and meetings competent to carry matters forward in this important area of environmental concern.

A. The following elements should be addressed in any framework "umbrella" convention on protection of the atmosphere:

1. Atmosphere

The following two variants are proposed for the definition of atmosphere:

"Atmosphere" means the resource constituted by the global mass of air surrounding the earth.

"Atmosphere" means all or part of the collection of gases which lie within the limits of the troposphere and stratosphere as defined by the WMO international standard atmosphere.

2. Atmospheric interference

"Atmospheric interference" means any change in the physical or chemical condition of the atmosphere resulting directly or indirectly from human activities and producing effects of such a nature as to appreciably endanger human health, harm living resources, ecosystems and material property, impair amenities or interfere with other legitimate uses of the environment;

"International atmospheric interference" means any atmospheric interference of which not both the origin and the effects are wholly located within the area under the national jurisdiction of one State.

Note: The notion of "atmospheric interference" was found useful as a key to the obligations of the Convention. It should include both the elements of appreciable danger and appreciable harm (or any other adjective such as "significant", "substantial", etc.) depending on the degree of tolerance to harm [threshold] that may be adopted.

When the interference affects the atmosphere globally, qualifying it as "international" seems unnecessary.

3. Common resource of vital interest

Without prejudice to the sovereignty of States over the airspace superjacent to their territory as recognized by international law, and for the purposes of this Convention, the atmosphere, as defined, constitutes a common resource of vital interest to mankind.

4. Obligation to protect and preserve the atmosphere

States have the obligation to protect and preserve the atmosphere.

5. Sovereign right of States to permit human activities and the limits thereto

The sovereign right of States to permit in their territories or under their jurisdiction or control all human activities that they consider appropriate must be compatible (must conform) with their obligations to protect and preserve the atmosphere.

Note: For historical reasons and because it contains a relevant principle of international law, transcription of Principle 21 of the Stockholm Declaration should be included in the preamble.

6. Implementation of the Convention through protocols

The contracting parties shall endeavour to enter into protocols for the implementation of the obligations of this convention with contracting parties and non-contracting parties regarding atmospheric interferences.

7. Measures to prevent, reduce or control

States shall take all appropriate measures to prevent, reduce or control any international atmospheric interference or significant risk thereof arising from activities under their jurisdiction or control. To this end they shall, in accordance with the best practicable means at their disposal and their capabilities, develop and implement policies and strategies and as a part of them control measures taking into account the nature, extent and effects of the

atmospheric interference and the extent to which the atmospheric interference arises from activities under their jurisdiction or control.

8. No transfer of damage or hazards or transformation of one type of atmospheric interference into another interference

In taking measures to prevent, reduce or control international atmospheric interferences, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another area or transform one type of atmospheric interference into another type of international atmospheric or other environmental interference.

Note: Accepted, with the proviso that the text should convey the idea that the rule therein contained cannot be applied rigidly, as is recognized in the commentary of the Report by Professor Lammers.

9. Additional domestic measures

The provisions of the Convention shall in no way affect the right of the Contracting Parties to maintain or adopt additional domestic measures, provided that these measures are not incompatible with the obligations of the Contracting Parties under the Convention.

10. Bilateral, multilateral or regional agreements and arrangements

(1) The Contracting Parties may enter into bilateral, multilateral or regional agreements or arrangements with Contracting Parties and Non-Contracting Parties regarding atmospheric interferences, provided such agreements or arrangements are not incompatible with the object and purposes of this Convention.

(2) The provisions of this Convention shall not affect any agreements or arrangements, referred to in paragraph 1 above, which the Contracting Parties have entered into prior to the entry into force of this Convention for them for the purpose of preventing, reducing or controlling atmospheric interferences, provided the provision of such agreements or arrangements are not incompatible with the object and purposes of this Convention.

11. General obligation to co-operate

States shall co-operate, directly or through competent international organizations, to protect the atmosphere.

12. Policies and Strategies

States shall, in accordance with the means at their disposal and their capabilities, co-operate in the elaboration, formulation, co-ordination or harmonization of policies and strategies including measures to prevent, reduce or control activities under their jurisdiction or control causing or likely to cause atmospheric interferences.

13. Exchange of Information

States shall exchange scientific, technical, socio-economic, commercial and other information relevant for the protection of the atmosphere, and facilitate and encourage the exchange of such information.

Note: The question of the treatment of confidential information will require consideration in the drafting of a conventional provision on this matter.

14. Research and Systematic Observations

(1) States shall, as appropriate, and in accordance with the means at their disposal and their capabilities, undertake, promote and co-operate in the conduct of systematic collection and transmission of data, research and scientific assessments on:

(a) the state of the atmosphere;

(b) activities, practices, processes and substances that may cause international atmospheric interferences;

(c) alternative activities, practices, processes and substances and their socio-economic and environmental implications, aimed at preventing, reducing or controlling international atmospheric interferences;

(d) the nature and extent of the effects of any modifications of the atmosphere on human health, living resources and ecosystems, material property, amenities and other legitimate uses of the environment.

(2) States shall promote the role of appropriate world data centres in ensuring the validation and transmission of observational data.

15. Development and transfer of technology

In order to prevent, reduce and control atmospheric interferences and taking into account in particular the needs of developing countries, States shall co-operate in promoting the development and transfer of relevant technologies and the provision of technical assistance.

16. Prior notice and environmental impact assessment of planned activities

When a State has reasonable grounds for believing that planned activities under its jurisdiction or control may cause an atmospheric interference outside such jurisdiction, it shall:

(a) give timely notice to the competent international organization [and to the other States concerned];

(b) make an assessment of the potential effects of such activities before carrying out or permitting the planned activities;

(c) on its own initiative or upon request of the competent international organization [or of the other States concerned], provide such relevant information as will permit the competent international organization [or the other States concerned] to make an assessment of the probable effects of the planned activities.

Note: Texts between [] are applicable in the context of the protection of the atmosphere but should be deleted for the purposes of an instrument on climate protection.

This principle would be appropriate for a subsidiary instrument, but would require further consideration for inclusion in a framework convention.

17. Consultations

(1) Consultations shall be held, upon request, at an early stage between, on the one hand, the competent international organization and States concerned and, on the other hand, States under whose jurisdiction or control activities which require prior notice are planned.

(2) Consultations shall also be held, upon request, once such activities are being carried out.

18. Emergency situations

(1) When a State becomes aware of an emergency situation or other change of circumstances arising from incidents or activities under its jurisdiction or control and suddenly giving rise to an atmospheric interference or significant risk thereof causing or likely to cause harm in an area under the jurisdiction of another State or in an area beyond the limits of national jurisdiction, it shall immediately take appropriate measures, to control the cause of the emergency situation and immediately notify other States affected or likely to be affected by such an atmospheric interference, as well as the competent international organizations.

(2) It shall provide those States and organizations with such pertinent information as will enable them to minimize the harmful effects of the atmospheric interference and co-operate with them, in order to prevent or minimize the harmful effects of an emergency situation or other change of circumstances referred to in paragraph 1.

(3) States shall develop contingency plans in order to prevent or minimize the harmful effects of such an emergency situation or other change of circumstances referred to in paragraph 1.

Note: This principle would not be suitable for an instrument on climate protection.

19. Liability, compensation or other relief

Contracting Parties shall develop appropriate principles of liability, compensation or other relief under relevant protocols.

Note: In relation to a convention on climate change, certain novel ideas concerning liability and compensation were considered in workshop 3 and recommended for further elaboration.

20. Peaceful settlement of disputes

(1) If a dispute arises concerning the interpretation or application of this Convention, the parties to the dispute shall, at the request of any one of them, consult among themselves as soon as possible with a view to having the dispute resolved by negotiation,

enquiry, mediation, conciliation, arbitration, judicicial settlement, resort to means of peaceful settlement provided for by a competent international organization, or other peaceful means of their own choice.

(2) If the parties to a dispute concerning the interpretation or application of this Convention have not agreed on a means of resolving it within 12 months of the request for consultation pursuant to paragraph 1 above, the dispute shall be referred at the request of any party to the dispute, for settlement in accordance with the procedure determined by the operation of paragraphs 6, 7 and 8 below.

(3) Paragraph 2 above shall similarly apply in the event that the dispute has not been resolved within 18 months after the parties to the dispute agree on a means of resolving the dispute other than through arbitration or settlement of the dispute by the International Court of Justice, unless the parties otherwise agree.

(4) Each Contracting Party, when signing, ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, may declare that it accepts as compulsory one or both of the following means for the settlement of disputes concerning the interpretation or application of this Convention:

(a) submission of the dispute to the International Court of Justice;

(b) submission of the dispute to arbitration in accordance with Annex [X] to this Convention.

(5) A declaration made under paragraph 4 above shall not affect the operation of paragraphs 1, 2 and 3 above;

(6) A Contracting Party that has not made a declaration under paragraph 4 above or in respect of which a declaration is no longer in force, shall be deemed to have accepted submission of the dispute to the International Court of Justice.

(7) If the parties to a dispute have accepted the same means for the settlement of a dispute referred to in paragraph 4 above, the dispute may be submitted only to that procedure, unless the parties otherwise agree.

(8) If the parties to a dispute have not accepted the same means for the settlement of a dispute referred to in paragraph 4 above, or if they have both accepted both means, the dispute may be submitted only to the International Court of Justice, unless the parties otherwise agree.

(9) The provisions of this principle shall apply with respect to any protocol to this Convention except as otherwise provided in the protocol concerned.

21. World Atmospheric Trust Fund

States should consider the possibility of establishing a World Atmosphere Trust Fund. The beneficiaries of the Trust Fund should be developing countries.

22. Co-ordination of existing institutional arrangements

States should consider co-ordinating and integrating the institutional arrangements for the various atmosphere-related regimes, such as the Vienna Ozone Convention and the ECE Convention on Long-range Transboundary Air Pollution, and their protocols.

23. Monitoring

States should consider whether any monitoring system established under the Convention might usefully serve to provide early warning and to integrate and co-ordinate monitoring systems worldwide.

24. Participation in the convention

The Convention and any protocol shall be opened for signature or accession by States and by regional economic organizations. The question of the form of participation of other international organizations in the Convention requires further consideration.

B. In respect of the development of a Convention on climate change, the following considerations and elements should inter alia be taken into account as well as the relevant paragraphs under Section A above.

1. General approach

The format of the Vienna Ozone Convention should be used as guidance in formulating the framework convention on climate change. Utilizing the United Nations and its agencies is the appropriate institutional approach. The

Intergovernmental Panel on Climate Change (IPCC) in particular should be encouraged or requested to concentrate the appropriate scientific and legal efforts.

2. Possible protocols

The following subjects should be considered for possible protocols to a climate change convention:

- CO_2;
- methane;
- CFCs and halons;
- N_2O;
- tropospheric ozone;
- deforestation/reforestation; and
- World Climate Trust Fund.

Further reductions of CFCs and halons should be considered in connection with the context of the Montreal Ozone Protocol. The topics mentioned above might be considered together at times, but the principal approach should be to deal with them separately in order to facilitate progress. The possibility of trade-offs between CO_2 equivalents should also be considered, however, in order to allow flexibility while still achieving overall improvements. The reference to the World Climate Trust Fund should be read in connection with provision 9 below.

3. Monitoring

A climate change convention should include a monitoring provision covering procedures and obligations regarding the collection of appropriate information and utilizing as far as possible existing monitoring activities at the national and international levels. The results of the IPCC's inventory of current monitoring systems should be the basis for developing these provisions. The monitoring function should include not only gathering pertinent information, but also analyzing, interpreting and disseminating that information.

4. Reporting

The climate change convention should require periodic reports by each State in describing in detail its progress, or lack of progress, in meeting the goals and obligations of the convention. These reports should be analyzed by an independent group of appropriately

qualified experts with respect to the requirements in the Convention and then transmitted to the Conference of the Parties. Attention should be given to the possibility of mobilizing public opinion as as means of increasing compliance with the Convention.

5. Conference of the Parties

A Conference of the Parties for the climate change convention shall be established as provided in the following provision, with the addition that the Conference should make liberal use of possibilities of observer status and consultative status with respect to paragraph 5 below.

(1) A Conference of the Parties is hereby established. The first meeting of the Conference of the Parties shall be convened by the Secretariat designated on an interim basis under article [...] not later than one year after entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be determined by the Conference at its first meeting.

(2) Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to them by the Secretariat, it is supported by at least one third of the Parties.

(3) The Conference of the Parties shall by consensus agree upon and adopt rules of procedure and financial rules for itself and for any subsidiary bodies it may establish, as well as financial provisions governing the functioning of the Secretariat.

(4) The Conference of the Parties shall keep under continuous review the implementation of this Convention and, in addition, shall:

(a) establish the form and the intervals for transmitting the information to be submitted in accordance with article [...] and consider such information as well as reports submitted by any subsidiary body;

(b) review the scientific information on climate change;

(c) promote, in accordance with article [...], the harmonization of appropriate policies, strategies and measures for minimizing the release of substances interfering or likely to interfere with the climate, and make recommendations on any other measures relating to this Convention;

(d) adopt, in accordance with article [...], programmes for research, systematic observations, scientific and technological co-operation, the exchange of information and the transfer of technology and knowledge;

(e) consider and adopt, as required, in accordance with articles [...], amendments to this Convention and its annexes;

(f) consider amendments to any protocol, as well as to any annexes thereto, and, if so decided, recommend their adoption to the Parties to the protocol concerned;

(g) consider and adopt, as required, in accordance with article [...], additional annexes to this Convention;

(h) consider and adopt, as required, protocols in accordance with article [...];

(i) establish such subsidiary bodies as are deemed necessary for the implementation of this Convention;

(j) seek, where appropriate, the services of competent international bodies and scientific committees, in scientific research, systematic observations and other activities pertinent to the objectives of this Convention, and make use as appropriate of information from these bodies and committees;

(k) consider and undertake any additional action that may be required for the achievement of the purposes of this Convention.

(5) The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not party to this Convention, may be represented at meetings of the Conference of the Parties by observers. Any body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to the protection of the climate which has informed the Secretariat of its wish to be represented at a

meeting of the Conference of the Parties as an observer may be admitted unless at least one-third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

6. Secretariat

The possibility of establishing a Secretariat for the climate change convention with the functions described in the following provision should be considered in the long-term; in the short-term the IPCC Secretariat, or possibly the UNEP or WMO Secretariat, should be requested to perform also the functions of the Secretariat for the climate change convention.

(1) The functions of the Secretariat shall be:

(a) to review and circulate information in accordance with, inter alia, articles [...];

(b) to prepare and transmit reports based upon information received in accordance with articles [...], as well as upon information derived from meetings of subsidiary bodies established under article [...];

(c) to perform the functions assigned to it by any protocol;

(d) to prepare reports on its activities carried out in implementation of its functions under this Convention and present them to the Conference of the Parties;

(e) to ensure the necessary co-ordination with other relevant international bodies, and in particular to enter into such administrative and contractual arrangements as may be required for the effective discharge of its functions;

(f) to perform such other functions as may be determined by the Conference of the Parties.

(2) The Secretariat functions will be carried out on an interim basis by [...] until the completion of the first ordinary meeting of the Conference of the Parties held pursuant to article [...]. At its first

ordinary meeting, the Conference of the Parties shall designate the Secretariat from amongst those existing competent international organizations which have signified their willingness to carry out the Secretariat functions under this Convention.

7. Experts panel

The Conference of the Parties should establish a panel of independent experts representing different fields related to climate change. Members of the panel should meet as an expert committee to evaluate the reports submitted by States as described in the Reporting provision above, and to transmit those reports, accompanied by their determinations, to the Conference of the Parties, and to assist the Conference of the Parties in all other scientific questions, especially under paragraphs (a), (b), (c) and (d) of the Conference of the Parties article provision above. Representatives of the concerned specialized agencies such as WMO, WHO, FAO and UNESCO, as well as observers of agreed non-governmental organizations, may participate in the meetings of the expert committee.

8. Budget Fund

The climate change convention should include a provision regarding a Budget Fund that would be used to pay for the Secretariat's operation, the monitoring activities (including establishing monitoring stations in developing countries), and encouraging and assisting developing countries to participate in meetings and other activities pursuant to the convention. The Budget Fund should be funded by country assessments based on ability to pay.

9. World Climate Trust Fund

The climate change convention should provide that States shall consider the possibility of establishing a World Climate Trust Fund for use in initiating and supporting all necessary activities to reduce emissions of greenhouse gases and to mitigate effects of climate change. The beneficiaries of that Fund should be developing countries. The Trust Fund should be funded from three possible sources: contributions by countries (voluntary or assessed), "user fees" for activities causing climate change, and fines for violations of the convention.

10. Participation by developing countries

As described in point 8 above, the climate change convention should develop, encourage and facilitate participation by developing countries in activities

relating to the climate change convention and to promote monitoring of human activities and effects related to climate change. In addition, the convention should establish institutional means to make possible participation by developing countries in negotiations leading to a climate change convention or protocols, and to assist in preventing or reducing, mitigating and adapting to climate change. Unilateral national action should also be encouraged. The convention should envision that some of those technology transfers may involve transfers between developing countries and that transfers should be designed in accordance with the absorption and adoption capabilities of the receiving State.

11. Nature of obligations

Formulation of obligations under a framework convention to protect the atmosphere might differ from the specific obligations adopted in conventions dealing with specific atmospheric issues, such as climate change. With regard to a convention on climate change, such obligations should focus in particular on the need to prevent, limit or reduce as far as possible the emissions of gases and human activities having or likely to have an adverse effect on climate.

THE CHANGING ATMOSPHERE:

IMPLICATIONS FOR GLOBAL SECURITY

CONFERENCE STATEMENT

TORONTO, ONTARIO, CANADA

JUNE 27 - 30, 1988

FOREWORD

At the invitation of the Government of Canada, more than 300 world experts – leaders in science, law and the environment; ministers of government; economists; industrialists; policy analysts; and officials from international agencies assembled in Toronto, Ontario, Canada from June 27-30, 1988 to consider the threats posed by the changing global atmosphere and how they might be addressed. They came from 46 countries and quickly arrived at a consensus that the concerns about the effects of atmospheric change – greenhouse gases, ozone-layer depleting substances, toxics, smog and acid rain – are justified and that the time to act on the problems is now. The Conference was the first direct response to the call for action of the UN's World Commission on Environment and Development. It was also the first comprehensive meeting between specialists on the issues at hand and high-level policy-makers. The significance of the event was underscored by the participation of Prime Ministers Mulroney of Canada and Brundtland of Norway, the participation of Ministers McMillan and Masse (Canada), Salim (Indonesia), Nijpels (Netherlands), Cissokho (Senegal), Luttenbarck Batalha (Brazil), Harilla (Morocco), by Senator Wirth (United States) and by ambassadors from Algeria, Canada, The Maldives, and Sweden.

The message from the Toronto Conference was clear. The Earth's atmosphere is being changed at an unprecedented rate, primarily by humanity's ever-expanding energy consumption, and these changes represent a major threat to global health and security. Sound policies must be quickly developed and implemented to provide for the protection of the planet's atmosphere. That message and an agenda for action are embodied in this Statement of the Conference's conclusions and recommendations. The Statement builds on important preceding conferences and workshops, and draws heavily from ideas and discussion of the Conference's 12 Working Groups. Its careful reading is recommended to all decision-makers seeking solutions to the problems of climate change.

I wish to take this opportunity to thank my colleagues on the Conference Statement Committee. These colleagues, who worked long and difficult hours in drafting the Conference Statement and who also served as advisors on Conference planning over the past two years, are J. P. Bruce, G. Goodman, J. Jaeger, G. A. McKay, J. MacNeill, M. Oppenheimer, and P. Usher. Dr. Jaeger also produced the main background paper to the Conference. In addition I must thank the Conference General Chairman, Canada's Ambassador to the United Nations, Stephen Lewis, for his important contributions to the final draft of the Statement.

My thanks also go to the many international experts who wrote the theme papers that provided background to the Conference discussions, to the chairpersons and rapporteurs who so skillfully managed the Working Group sessions, to those who assumed special speaking assignments, and to persons and groups who prepared special reports for Working Group discussions and for general consideration by the Conference. Finally, I extend my deep gratitude to all who participated in the Conference – delegates, observers, media and staff – and thereby contributed to its outstanding success. Their collective efforts constitute a landmark in confronting one of humankind's biggest challenges.

I believe the Conference will prove to have been an important step forward in reconciling environmental, societal and developmental goals. We still have a long way to go. However, I am confident that the Toronto Conference gave us the right agenda and conviction to act. It also provided an opportunity to share our views with world leaders from many disciplines – scientific, social and political.

H. L. Ferguson
Conference Director

THE CHANGING ATMOSPHERE:

IMPLICATIONS FOR GLOBAL SECURITY

CONFERENCE STATEMENT

SUMMARY

Humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to a global nuclear war. The Earth's atmosphere is being changed at an unprecedented rate by pollutants resulting from human activities, inefficient and wasteful fossil fuel use and the effects of rapid population growth in many regions. These changes represent a major threat to international security and are already having harmful consequences over many parts of the globe.

Far-reaching impacts will be caused by global warming and sea-level rise, which are becoming increasingly evident as a result of the continued growth in atmospheric concentrations of carbon dioxide and other greenhouse gases. Other major impacts are occurring from ozone-layer depletion resulting in increased damage from ultra-violet radiation. The best predictions available indicate potentially severe economic and social dislocation for present and future generations, which will worsen international tensions and increase risk of conflicts between and within nations. It is imperative to act now.

These were the major conclusions of the World Conference on The Changing Atmosphere: Implications for Global Security, held in Toronto, Ontario, Canada, June 27-30, 1988. More than 300 scientists and policy makers from 46 countries, United Nations organizations, other international bodies and non-governmental organizations participated in the sessions.

The Conference called upon governments, the United Nations and its specialized agencies, industry, educational institutions, non-governmental organizations and individuals to take specific actions to reduce the impending crisis caused by pollution of the atmosphere. No country can tackle this problem in isolation. International cooperation in the management and monitoring of, and research on, this shared resource is essential.

The Conference called upon governments to work urgently towards an *Action Plan for the Protection of the Atmosphere*. This should include an international framework convention, while encouraging other standard-setting agreements along the way, as well as national legislation to provide for protection of the global atmosphere. The Conference also called upon governments to establish a *World Atmosphere Fund* financed in part by a levy on the fossil fuel consumption of industrialized countries to mobilize a substantial part of the resources needed for these measures.

THE ISSUE

Continuing alteration of the global atmosphere threatens global security, the world economy, and the natural environment through:

- Climate warming, rising sea-level, altered precipitation patterns and changed frequencies of climatic extremes induced by the "heat trap" effects of greenhouse gases;
- Depletion of the ozone layer;
- Long-range transport of toxic chemicals and acidifying substances.

These changes will:

- Imperil human health and well-being;
- Diminish global food security, through increases in soil erosion and greater shifts and uncertainties in agricultural production, particularly for many vulnerable regions;
- Change the distribution and seasonal availability of freshwater resources;
- Increase political instability and the potential for international conflict;
- Jeopardize prospects for sustainable development and the reduction of poverty;
- Accelerate the extinction of animal and plant species upon which human survival depends;
- Alter yield, productivity and biological diversity of natural and managed ecosystems, particularly forests.

If rapid action is not taken now by the countries of the world, these problems will become progressively more serious, more difficult to reverse, and more costly to address.

Scientific Basis for Concern

The Conference calls for urgent work on an *Action Plan for the Protection of the Atmosphere*. This Action Plan, complemented by national action, should address the problems of climate warming, ozone layer depletion, long-range transport of toxic chemicals and acidification.

Climate Warming

1 There has been an observed increase of globally-averaged temperature of 0.5°C in the past century which is consistent with theoretical greenhouse gas predictions. The accelerating increase in concentrations of greenhouse gases in the atmosphere, if continued, will probably result in a rise in the mean surface temperature of the Earth of 1.5 to 4.5°C before the middle of the next century.

2 Marked regional variations in the amount of warming are expected. For example, at high latitudes the warming may be twice the global average. Also, the warming would be accompanied by changes in the amount and distribution of rainfall and in atmospheric and ocean circulation patterns. The natural variability of the atmosphere and climate will continue and be superimposed on the long-term trend, forced by human activities.

3 If current trends continue, the rates and magnitude of climate change in the next century may substantially exceed those experienced over the last 5000 years. Such high rates of change would be sufficiently disruptive that no country would likely benefit *in toto* from climate change.

4 The climate change will continue so long as the greenhouse gases accumulate in the atmosphere.

5 There can be a time lag of the order of decades between the emission of gases into the atmosphere and their full manifestation in atmospheric and biological consequences. Past emissions have already committed planet Earth to a significant warming.

6 Global warming will accelerate the present sea-level rise. This will probably be of the order of 30 cm but could possibly be as much as 1.5 m by the middle of the next century. This could inundate low-lying coastal lands and islands, and reduce coastal water supplies by increased salt water intrusion. Many densely populated deltas and adjacent agricultural lands would be threatened. The frequency of tropical cyclones may increase and storm tracks may change with consequent devastating impacts on coastal areas and islands by floods and storm surges.

7 Deforestation and bad agricultural practices are contributing to desertification and are reducing the biological storage of carbon dioxide, thereby contributing to the increase of this most important greenhouse gas. Deforestation and poor agricultural practices are also contributing additional greenhouse gases such as nitrous oxide and methane.

Ozone Layer Depletion

1 Increased levels of damaging ultra-violet radiation, while the stratospheric ozone shield thins, will cause a significant rise in the occurrence of skin cancer and eye damage, and will be harmful to many biological species. Each 1% decline in ozone is expected to cause a 4 to 6% increase in certain kinds of skin cancer. A particular concern is the possible combined effects on unmanaged ecosystems of both increased ultraviolet radiation and climate changes.

2 Over the last decade, a decline of 3% in the ozone layer has occurred at mid-latitudes in the Southern Hemisphere, possibly accompanying the appearance of the Antarctic ozone hole; although there is more meteorological variability, there are indications that a smaller decline has occurred in the Northern Hemisphere. Changes of the ozone layer will also change the climate and the circulation of the atmosphere.

Acidification

In improving the quality of the air in their cities, many industrialized countries unintentionally sent increasing amounts of pollution across national boundaries in Europe and North America, contributing to the acidification of distant environments. This was manifested by increasing damage to lakes, soils, plants, animals, forests and fisheries. Failure to control automobile pollution in some regions has seriously contributed to the problem. The principal damage agents are oxides of sulphur and nitrogen as well as volatile hydrocarbons. The resulting acids can also corrode buildings and metallic structures causing overall, billions of dollars of damage annually.

The various issues arising from the pollution of Earth's atmosphere by a number of substances are often closely interrelated, both through chemistry and through potential control strategies. For example, chlorofluorocarbons (CFCs) both destroy ozone and are greenhouse gases; conservation of fossil fuels would contribute to addressing both acid rain and climate change problems.

Security: Economic and Social Concerns

As the *UN Report On The Relationship Between Disarmament And Development* states: "The world can either continue to pursue the arms race with characteristic vigour or move consciously and with deliberate speed toward a more stable and balanced social and economic development within a more sustainable international economic and political order. It cannot do both. It must be acknowledged that the arms race and development are in a competitive relationship, particularly in terms of resources, but also in the vital dimension of attitudes and perceptions." The same consideration applies to the vital issue of protecting the global atmospheric commons from the growing peril of climate change and other atmospheric changes. Unanticipated and unplanned change may well become the major non-military threat to international security and the future of the global economy.

There is no concern more fundamental than access to food and water. Currently, levels of global food security are inadequate but even those will be most difficult to maintain into the future, given projected agricultural production levels and population and income growth rates. The climate changes envisaged will aggravate the problem of uncertainty in food security. Climate change is being induced by the prosperous, but its effects are suffered most acutely by the poor. It is imperative for governments and the international community to sustain the agricultural and marine resource base and provide development opportunities for the poor in light of this growing environmental threat to global food security.

The countries of the industrially developed world are the main source of greenhouse gases and therefore bear the main responsibility to the world community for ensuring that measures are implemented to address the issues posed by climate change. At the same time, they must see that the developing nations of the world, whose problems are greatly aggravated by population growth, are assisted in and not inhibited from improving their economies and the living conditions of their citizens. This will necessitate a wide range of measures, including significant additional energy use in those countries and compensating reductions in the industrialized countries. The transition to a sustainable future will require investments in energy efficiency and non-fossil energy sources. In order to ensure that these investments occur, the global community must not only halt the current net transfer of resources from developing countries, but actually reverse it. This reversal should embrace the technologies involved, taking into account the implications for industry.

A coalition of reason is required, in particular, a rapid reduction of both North-South inequalities and East-West tensions, if we are to achieve the understanding and agreements needed to secure a sustainable future for planet Earth and its inhabitants.

It takes a long time to develop an international consensus on complex issues such as these, to negotiate, sign, and ratify international environmental instruments and to begin to implement them. It is therefore imperative that serious negotiations start now.

Legal Aspects

The first steps in developing international law and practices to address pollution of the air have already been taken: in the Trail Smelter arbitration of 1935 and 1938; Principle 21 of the 1972 Declaration of the UN Conference on the Environment; the Economic Commission for Europe (ECE) Convention on Long Range Transboundary Air

Pollution and its Protocol (Helsinki, 1985) for sulphur reductions, Part XII of the Law of the Sea Convention; and the Vienna Convention for Protection of the Ozone Layer and its Montréal Protocol (1987).

These are important first steps and should be actively implemented and respected by all nations. However, there is no overall convention constituting a comprehensive international framework that can address the interrelated problems of the global atmosphere, or that is directed towards the issues of climate change.

A CALL FOR ACTION

The Conference urges immediate action by governments, the United Nations and their specialized agencies, other international bodies, non-governmental organizations, industry, educational institutions and individuals to counter the ongoing degradation of the atmosphere.

An *Action Plan for the Protection of the Atmosphere* needs to be developed, which includes an international framework convention, encourages other standard-setting agreements and national legislation to provide for the protection of the global atmosphere. This must be complemented by implementation of national action plans that address the problems posed by atmospheric change (climate warming, ozone layer depletion, acidification and the long-range transport of toxic chemicals) at their roots.

The following actions are mostly designed to slow and eventually reverse deterioration of the atmosphere. There are also a number of strategies for adapting to changes that must be considered. These are dealt with primarily in the recommendations of the Working Groups.

Actions by Governments and Industry

- *Ratify the Montréal Protocol on Substances that Deplete the Ozone Layer.* The Protocol should be revised in 1990 to ensure nearly complete elimination of the emissions of fully halogenated CFCs by the year 2000. Additional measures to limit other ozone-destroying halocarbons should be considered.

- *Set energy policies to reduce the emissions of CO_2 and other trace gases* in order to reduce the risks of future global warming. Stabilizing the atmospheric concentrations of CO_2 is an imperative goal. It is currently estimated to require reductions of more than 50% from present emission levels. Energy research and development budgets must be massively directed to energy options which would eliminate or greatly reduce CO_2 emissions and to studies undertaken to further refine the target reductions.

- *Reduce CO_2 emissions by approximately 20 percent of 1988 levels by the year 2005 as an initial global goal.* Clearly, the industrialized nations have a responsibility to lead the way, both through their national energy policies and their bilateral and multilateral assistance arrangements. About one-half of this reduction would be sought from energy efficiency and other conservation measures. The other half should be effected by modifications in supplies.

- *Set targets for energy efficiency improvements* that are directly related to reductions in CO_2 and other greenhouse gases. A challenging target would be to achieve the 10 percent energy efficiency improvements by 2005. Improving energy efficiency is not precisely the same as reducing total carbon emissions and the detailed policies will not all be familiar ones. A detailed study of the systems implications of this target should be made. Equally, targets for *energy supply* should also be directly related to reductions in

CO_2 and other greenhouse gases. As with efficiency, a challenging target would again be to achieve the 10 percent energy supply improvements by 2005. A detailed study of the systems implications of this target should also be made. The contributions to achieving this goal will vary from region to region; some countries have already demonstrated a capability for increasing efficiency by more than 2 percent a year for over a decade.

Apart from efficiency measures, the desired reduction will require (i) switching to lower CO_2 emitting fuels, (ii) reviewing strategies for the implementation of renewable energy especially advanced biomass conversion technologies; (iii) revisiting the nuclear power option, which lost credibility because of problems related to nuclear safety, radioactive wastes, and nuclear weapons proliferation. If these problems can be solved, through improved engineering designs and institutional arrangements, nuclear power could have a role to play in lowering CO_2 emissions.

- *Negotiate now on ways to achieve the above-mentioned reductions.*

- *Initiate management systems* in order to encourage, review and approve major new projects for energy efficiency.

- *Vigorously apply existing technologies,* in addition to gains made through reduction of fossil fuel combustion, to reduce (i) emissions of acidifying substances to reach the critical load that the environment can bear; (ii) substances which are precursors of tropospheric ozone; and (iii) other non-CO_2 greenhouse gases.

- *Label products* to allow consumers to judge the extent and nature of the atmospheric contamination that arises from the manufacture and use of the product.

Actions by Member Governments of the United Nations, Non-Governmental Organizations and Relevant International Bodies

- *Initiate the development of a comprehensive global convention* as a framework for protocols on the protection of the atmosphere. The convention should emphasize such key elements as the free international exchange of information and the support of research and monitoring, and should provide a framework for specific protocols for addressing particular issues, taking into account existing international law. This should be vigorously pursued at the International Workshop on Law and Policy to be held in Ottawa early in 1989, the high-level political conference on Climate Change in the Netherlands in the Fall, 1989, the World Energy Conference in Canada in 1989 and the Second World Climate Conference in Geneva, June 1990, with a view to having the principles and components of such a convention ready for consideration at the Inter-governmental Conference on Sustainable Development in 1992. These activities should in no way impede simultaneous national, bilateral and regional actions and agreements to deal with specific problems such as acidification and greenhouse gas emissions.

- *Establish a World Atmosphere Fund,* financed in part by a levy on fossil fuel consumption of industrialized countries, to mobilize a substantial part of the resources needed for implementation of the *Action Plan for the Protection of the Atmosphere.*

- *Support the work of the Inter-governmental Panel on Climate Change* to conduct continuing assessments of scientific results and to initiate government-to-government discussion of responses and strategies.

- *Devote increasing resources to research and monitoring efforts* within the World Climate Programme, the International Geosphere Biosphere Programme and Human Response to Global Change Programme. It is particularly important to understand how climate changes on a regional scale are related to an overall global change of climate. Emphasis should also be placed on better determination of the role of oceans in global heat transport and the flux of greenhouse gases.

- *Increase significantly the funding for research, development and transfer of information on renewable energy,* if necessary by the establishment of additional and bridging programmes; extend technology transfer with particular emphasis on the needs of the developing countries; and upgrade efforts to meet obligations for the development and transfer of technology embodied in existing agreements.

- *Expand funding for more extensive technology transfer and technical cooperation projects in coastal zone protection and management.*

- *Reduce deforestation and increase afforestation* making use of proposals such as those in the World Commission on Environment and Development's (WCED) report, "Our Common Future", including the establishment of a trust fund to provide adequate incentives to enable developing nations to manage their tropical forest resources sustainably.

- *Develop and support technical cooperation projects* to allow developing nations to participate in international mitigation efforts, monitoring, research and analysis related to the changing atmosphere.

- *Ensure that this Conference Statement, the Working Group reports and the full Proceedings of the World Conference, "The Changing Atmosphere: Implications for Global Security"* (to be published in the Fall, 1988) *are made available* to all nations, to the conferences mentioned above, and to other future meetings dealing with related issues.

- *Increase funding to non-governmental organizations* to allow the establishment and improvement of environmental education programmes and public awareness campaigns related to the changing atmosphere. Such programmes would aim at sharpening perception of the issues, and changing public values and behaviour with respect to the environment.

- *Allocate financial support for environmental education* in primary and secondary schools and universities. Consideration should be given to establishing special groups in university departments for addressing the crucial issues of global climate change.

SPECIFIC RECOMMENDATIONS OF WORKING GROUPS

The recommended actions in the Conference Statement are mostly general in nature and common to a number of Conference Working Groups. The specific recommendations of the Working Groups are given in the following section.

ENERGY

1 Targets for energy supply should be directly related to reductions in CO_2 and other greenhouse gases. A challenging target would be to reduce the annual global CO_2 emissions by 20% by the year 2005 through improved energy efficiency, altered energy supply, and energy conservation.

2 Research and demonstration projects should be undertaken to accelerate the development of advanced biomass conversion technologies.

3 Deforestation should be reduced and reforestation accelerated to significantly reduce the atmospheric concentrations of CO_2 and to replenish the primary fuel supply for the majority of the world's population.

4 There is a need to revisit the nuclear power option. If the problems of safety, waste and nuclear arms proliferation can be solved, nuclear power could have a role to play in lowering CO_2 emissions.

5 It is necessary to internalize externalized costs. Policies should be fashioned to achieve broad, complementary social objectives and to minimize total social, economic and environmental costs.

FOOD SECURITY

1 National governments are urged to reduce the contributions of agricultural activities to the concentration of greenhouse gases in the atmosphere. These contributions arise from the destruction of forests, the inefficient use of inorganic nitrogen fertilizers, the increased conversion of land to paddy rice cultivation and the increased number of ruminant animals.

2 National governments should take the prospect of climate change into account in long-term agricultural and food security planning, particularly with respect to food availability to the most vulnerable groups.

3 National governments and international agencies should give increasing emphasis to a wide array of policy measures to reduce the sensitivity of the food supply to climatic variability in order to increase resilience and adaptability to climate change.

4 National governments are urged to increase their efforts to build sub-regional and regional cooperation aimed at achieving food security. International agencies should assist in promoting these regional cooperative efforts.

5 FAO, World Bank, WMO, UNEP, UNDP,CGIAR and other international organizations should encourage research leading to ecologically sound agricultural management systems.

URBANIZATION AND SETTLEMENT

1 Environmental impact statements and land-use management plans should consider future climatic conditions including the local effects of rising sea-level on coastal communities.

2 Urban authorities should undertake risk assessments and develop emergency planning procedures that take into account the effects of climate change, for example, the increased incidence of natural hazards.

3 National governments and the international aid community should develop policies and actions to deal with the likely increased movements of environmental refugees resulting from climate change.

4 Environmental education must be stressed, particularly with respect to the sustainable development of urban areas and human settlements, and should be strongly promoted by local and national authorities and by international bodies such as WMO, UNCHS. UNEP, UNIDO and UNDP.

5 Comprehensive world-wide assessments should be made by national and international organizations of the vulnerability of specific geographic regions and urban areas to the increased risk of higher incidence and spread of infectious diseases due to global climate change, including both vector-borne and communicable diseases. In these areas, assessments should be made of health care infrastructures and of their ability to cope with the projected increased risks of the spread of infectious diseases; and steps should be identified to be taken by local and national authorities and international organizations to improve such capabilities.

6 Assessments should be made of the vulnerability of nuclear facilities, municipal and hazardous waste dumps, and of other waste disposal facilities to the increased hazard of sudden flooding or gradual inundation, and of their potential for the consequent spread of infectious pathogens or toxic chemicals to the surrounding land and sea areas, and appropriate steps should be taken to minimize such risks.

WATER RESOURCES

1 The efficiency of water use and the resilience of existing and planned water resource systems and management processes must be increased to meet the existing climate variability.

2 Existing acid rain conventions must be extended to the global scale and modified to include toxic organic pollutants.

3 Integrated monitoring and research programs are urgently required to improve the methods of assessing the sensitivity of water resource systems, to identify critical regions and river basins where changes in hydrological processes and water demand will cause serious problems, and to understand and model the hydrological, ecological and socio-economic impacts of climate change.

4 To alleviate present and future water problems and to achieve sustainable development, we strongly endorse the global principle of inter-regional and inter-generational equity in all actions. International cooperation, open technology transfer, meaningful public involvement and effective public information programs are essential.

LAND RESOURCES

An international fund should be created specifically for development assistance and research in order to:

1 maintain the terrestrial reservoirs of carbon through the careful management and protection of tropical and temperate forests and their soils, tundra and wetlands that represent major carbon pools.

2 encourage the development of varieties of sustainable land-use practices through such activities as agroforestry, reforestation, development of varieties for adaptation to climate change, and development of effective management practices for waste treatment and disposal, and through policies for the use, settlement and tenure of land. This requires major changes in the aid policy, commercial practices and policies of related organizations (ITTO, FAO/TFAP and ICRAF) as well as possible "debt swapping" for forest protection and access to a reforestation fund.

3 identify the most productive agricultural lands so as to be able to implement a land reserve system that can be used to mitigate losses resulting from a more adverse climate and sea-level rise.

4 increase awareness among the public of issues posed by climate change in relation to the continued wise use of lands in a sustainable manner.

5 broaden existing programs that address the impact on land resources of acid and other toxic depositions, by taking account of their global dimension.

COASTAL AND MARINE RESOURCES

1 Research is required to understand which natural and human factors determine the productivity and variability of marine and coastal resources.

2 Institutional and legal arrangements for the wise use of common property resources must be greatly improved.

3 The flexibility of marine-dependent industries and coastal communities must be greatly enhanced to respond to climate-induced changes.

4 Site-specific impact studies of the effects of sea-level rise must be undertaken. These should include consideration of the human, economic and environmental risks and should result in local education programs.

5 The implications of climate change for coastal-zone planning must be considered, particularly the risk of sea-level rise and/or the potential need to locate new developments inland.

FUTURES AND FORECASTING

1 In order to have any hope of coping with future change, we must acquire and make use of the knowledge of the past and develop the ability to anticipate the possible future. No one model can or should be expected to deal with the uncertainties in forecasting, the details needed for making decisions, and the social, technical and economic implications of change. Hence an array of techniques must be used in order to produce useful results.

2 Not only are continued efforts needed to improve forecasting-methodologies and to integrate cause-and-effect modelling, but also improvements are needed in our ability to communicate and convey their implications for the broader culture so that individual and collective decisions can be made appropriately and with foresight. Attitudinal and institutional changes will be necessary because of the projected serious global consequences. Equally important is the need to take action, in an environmentally sustainable way, on the interrelated issues of population growth, resource use and depletion, and technological inequalities.

DECISION-MAKING AND UNCERTAINTY

1 The reduction of uncertainties requires advanced understanding of the chemistry of the atmosphere, of the implications of climate change for health, agriculture, economies, and other social concerns, and of the legal, political and other aspects of the possible responses to climate change (prevention, compensation and adaptation).

2 The industrialized nations should begin to restore the integrity of the environment, making atmospheric change the turning point for an ecological innovation of industrial economy.

3 Emission targets ought to be the subject of an international treaty between the nations that take the first step. Those nations should invite all the others to join them in advancing environmentally sustainable economic development.

4 Open decision-making may well provide for decisions that are not easily accepted by the public. We recommend a democratic discussion about possible responses to the atmospheric threat. Non-governmental organizations should play a decisive role in furthering this discourse.

INDUSTRY, TRADE AND INVESTMENT

Proposed as matters for urgent action are:

1 creation of a World Atmosphere Fund financed by a levy on the fossil fuel consumption of industrialized countries, sufficient to support development and transfer fuel-efficient technologies.

2 development of mechanisms for incorporating environmental considerations and responsibilities into the internal decision and reporting processes of business and industry.

3 formation of an international consultative mechanism at the highest level, reporting to heads of government, to assure:

- accelerated research and development efforts
- reduction of institutional barriers to the adoption of appropriate low-emission technologies by industries and households

- improvement of market information to promote the shift of consumption toward ecologically appropriate products.

GEOPOLITICAL ISSUES

1 The particular regions of the world or sectors of the economy that will be damaged first or most strongly by a rapidly changing atmosphere cannot be foreseen today, but the magnitude and variety of the eventual impacts is such that it is in the self-interest of all people to join in prompt action to slow the change and to negotiate toward an international accord on achieving shared responsibility for care of the climate and the atmosphere.

2 Coordinated international efforts and an all-encompassing international agreement are required along with prompt action by governmental agencies and non-governmental groups to prevent harmful changes to the atmosphere. Such actions can be based on improvements in energy efficiency, the use of alternative energy sources, and the transfer of technology and resources to the Third World.

LEGAL DIMENSIONS

1 More states should observe the international principles and norms that exist and all should be encouraged to enact or strengthen appropriate national legislation for the protection of the atmosphere.

2 The offer of the Prime Minister of Canada to host a meeting of law and policy experts in early 1989 should be accepted. That meeting should address the question of the progressive development and codification of the principles of international law taking into account the general principles of law set out in the Trail smelter, Lac Lanoux, Corfu Channel cases, Principle 21 of the 1972 Declaration of the United Nations Conference on the Human Environment, the Convention on Long-Range Transboundary Air Pollution and related protocols, Part XII of the Law of the Sea Convention and the Vienna Convention for the Protection of the Ozone Layer and its Montréal Protocol. The meeting should be directed toward the elaboration of the principles to be included in an umbrella/framework Convention on the Protection of the Atmosphere – one that would lend itself to the development of specific agreements/protocols laying down international standards for the protection of the atmosphere, in addition to existing instruments.

INTEGRATED PROGRAMS

1 A thorough review is required to establish the institutional needs for cooperation in research, impact assessment and development of public policy options at the international, intergovernmental and non-governmental levels, at regional levels and at national levels. This review should be completed by 1992.

2 Extension and further development is required for a United Nations global monitoring and information system that will incorporate technological advances in measurement, data storage and retrieval, and communications in order to track systematic changes in the physical, chemical, biological and socio-economic parameters that collectively describe the total global human environment. The responsibility for development rests with governments. The monitoring system should be in place by the year 2000.

3 Also required is the development of an educational program to familiarize present and future generations with the importance of addressing issues concerning sustainable development including the actions and integrated, interdisciplinary programs needed.

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Conference of Plenipotentiaries on the Global Convention on the Control of Transboundary Movements of Hazardous Wastes

Basel, 20-22 March 1989
Item 3 of the agenda

BASEL CONVENTION ON THE CONTROL OF TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTES AND THEIR DISPOSAL

PREAMBLE

The Parties to this Convention,

Aware of the risk of damage to human health and the environment caused by hazardous wastes and other wastes and the transboundary movement thereof,

Mindful of the growing threat to human health and the environment posed by the increased generation and complexity, and transboundary movement of hazardous wastes and other wastes,

Mindful also that the most effective way of protecting human health and the environment from the dangers posed by such wastes is the reduction of their generation to a minimum in terms of quantity and/or hazard potential,

Convinced that States should take necessary measures to ensure that the management of hazardous wastes and other wastes including their transboundary movement and disposal is consistent with the protection of human health and the environment whatever the place of their disposal,

Noting that States should ensure that the generator should carry out duties with regard to the transport and disposal of hazardous wastes and other wastes in a manner that is consistent with the protection of the environment, whatever the place of disposal,

Fully recognizing that any State has the sovereign right to ban the entry or disposal of foreign hazardous wastes and other wastes in its territory,

Recognizing also the increasing desire for the prohibition of transboundary movements of hazardous wastes and their disposal in other States, especially developing countries,

Convinced that hazardous wastes and other wastes should, as far as is compatible with environmentally sound and efficient management, be disposed of in the State where they were generated,

Aware also that transboundary movements of such wastes from the State of their generation to any other State should be permitted only when conducted under conditions which do not endanger human health and the environment, and under conditions in conformity with the provisions of this Convention,

Considering that enhanced control of transboundary movement of hazardous wastes and other wastes will act as an incentive for their environmentally sound management and for the reduction of the volume of such transboundary movement,

Convinced that States should take measures for the proper exchange of information on and control of the transboundary movement of hazardous wastes and other wastes from and to those States,

Noting that a number of international and regional agreements have addressed the issue of protection and preservation of the environment with regard to the transit of dangerous goods.

Taking into account the Declaration of the United Nations Conference on the Human Environment (Stockholm, 1972), the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes adopted by the Governing Council of the United Nations Environment Programme (UNEP) by decision 14/30 of 17 June 1987, the Recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods (formulated in 1957 and updated biennially), relevant recommendations, declarations, instruments and regulations adopted within the United Nations system and the work and studies done within other international and regional organizations,

Mindful of the spirit, principles, aims and functions of the World Charter for Nature adopted by the General Assembly of the United Nations at its thirty-seventh session (1982) as the rule of ethics in respect of the protection of the human environment and the conservation of natural resources,

Affirming that States are responsible for the fulfilment of their international obligations concerning the protection of human health and protection and preservation of the environment, and are liable in accordance with international law,

Recognizing that in the case of a material breach of the provisions of this Convention or any protocol thereto the relevant international law of treaties shall apply,

Aware of the need to continue the development and implementation of environmentally sound low-waste technologies, recycling options, good house-keeping and management systems with a view to reducing to a minimum the generation of hazardous wastes and other wastes,

Aware also of the growing international concern about the need for stringent control of transboundary movement of hazardous wastes and other wastes, and of the need as far as possible to reduce such movement to a minimum,

Concerned about the problem of illegal transboundary traffic in hazardous wastes and other wastes,

Taking into account also the limited capabilities of the developing countries to manage hazardous wastes and other wastes,

Recognizing the need to promote the transfer of technology for the sound management of hazardous wastes and other wastes produced locally, particularly to the developing countries in accordance with the spirit of the Cairo Guidelines and decision 14/16 of the Governing Council of UNEP on Promotion of the transfer of environmental protection technology,

Recognizing also that hazardous wastes and other wastes should be transported in accordance with relevant international conventions and recommendations,

Convinced also that the transboundary movement of hazardous wastes and other wastes should be permitted only when the transport and the ultimate disposal of such wastes is environmentally sound, and

Determined to protect, by strict control, human health and the environment against the adverse effects which may result from the generation and management of hazardous wastes and other wastes,

HAVE AGREED AS FOLLOWS:

Article 1

Scope of the Convention

1. The following wastes that are subject to transboundary movement shall be "hazardous wastes" for the purposes of this Convention:

(a) Wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III; and

(b) Wastes that are not covered under paragraph (a) but are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit.

2. Wastes that belong to any category contained in Annex II that are subject to transboundary movement shall be "other wastes" for the purposes of this Convention.

3. Wastes which, as a result of being radioactive, are subject to other international control systems, including international instruments, applying specifically to radioactive materials, are excluded from the scope of this Convention.

4. Wastes which derive from the normal operations of a ship, the discharge of which is covered by another international instrument, are excluded from the scope of this Convention.

Article 2

Definitions

For the purposes of this Convention:

1. "Wastes" are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law;

2. "Management" means the collection, transport and disposal of hazardous wastes or other wastes, including after-care of disposal sites;

3. "Transboundary movement" means any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement;

4. "Disposal" means any operation specified in Annex IV to this Convention;

5. "Approved site or facility" means a site or facility for the disposal of hazardous wastes or other wastes which is authorized or permitted to operate for this purpose by a relevant authority of the State where the site or facility is located;

6. "Competent authority" means one governmental authority designated by a Party to be responsible, within such geographical areas as the Party may think fit, for receiving the notification of a transboundary movement of hazardous wastes or other wastes, and any information related to it, and for responding to such a notification, as provided in Article 6;

7. "Focal point" means the entity of a Party referred to in Article 5 responsible for receiving and submitting information as provided for in Articles 13 and 15;

8. "Environmentally sound management of hazardous wastes or other wastes" means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes;

9. "Area under the national jurisdiction of a State" means any land, marine area or airspace within which a State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment;

10. "State of export" means a Party from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated;

11. "State of import" means a Party to which a transboundary movement of hazardous wastes or other wastes is planned or takes place for the purpose of disposal therein or for the purpose of loading prior to disposal in an area not under the national jurisdiction of any State;

12. "State of transit" means any State, other than the State of export or import, through which a movement of hazardous wastes or other wastes is planned or takes place;

13. "States concerned" means Parties which are States of export or import, or transit States, whether or not Parties;

14. "Person" means any natural or legal person;

15. "Exporter" means any person under the jurisdiction of the State of export who arranges for hazardous wastes or other wastes to be exported;

16. "Importer" means any person under the jurisdiction of the State of import who arranges for hazardous wastes or other wastes to be imported;

17. "Carrier" means any person who carries out the transport of hazardous wastes or other wastes;

18. "Generator" means any person whose activity produces hazardous wastes or other wastes or, if that person is not known, the person who is in possession and/or control of those wastes;

19. "Disposer" means any person to whom hazardous wastes or other wastes are shipped and who carries out the disposal of such wastes;

20. "Political and/or economic integration organization" means an organization constituted by sovereign States to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve, formally confirm or accede to it;

21. "Illegal traffic" means any transboundary movement of hazardous wastes or other wastes as specified in Article 9.

Article 3

National Definitions of Hazardous Wastes

1. Each Party shall, within six months of becoming a Party to this Convention, inform the Secretariat of the Convention of the wastes, other than those listed in Annexes I and II, considered or defined as hazardous under its national legislation and of any requirements concerning transboundary movement procedures applicable to such wastes.

2. Each Party shall subsequently inform the Secretariat of any significant changes to the information it has provided pursuant to paragraph 1.

3. The Secretariat shall forthwith inform all Parties of the information it has received pursuant to paragraphs 1 and 2.

4. Parties shall be responsible for making the information transmitted to them by the Secretariat under paragraph 3 available to their exporters.

Article 4

General Obligations

1. (a) Parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other Parties of their decision pursuant to Article 13.

(b) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes to the Parties which have prohibited the import of such wastes, when notified pursuant to subparagraph (a) above.

(c) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes if the State of import does not consent in writing to the specific import, in the case where that State of import has not prohibited the import of such wastes.

2. Each Party shall take the appropriate measures to:

(a) Ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects;

(b) Ensure the availability of adequate disposal facilities, for the environmentally sound management of hazardous wastes and other wastes, that shall be located, to the extent possible, within it, whatever the place of their disposal;

(c) Ensure that persons involved in the management of hazardous wastes or other wastes within it take such steps as are necessary to prevent pollution due to hazardous wastes and other wastes arising from such management and, if such pollution occurs, to minimize the consequences thereof for human health and the environment;

(d) Ensure that the transboundary movement of hazardous wastes and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement;

(e) Not allow the export of hazardous wastes or other wastes to a State or group of States belonging to an economic and/or political integration organization that are Parties, particularly developing countries, which have prohibited by their legislation all imports, or if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner, according to criteria to be decided on by the Parties at their first meeting.

(f) Require that information about a proposed transboundary movement of hazardous wastes and other wastes be provided to the States concerned, according to Annex V A, to state clearly the effects of the proposed movement on human health and the environment;

(g) Prevent the import of hazardous wastes and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner;

(h) Co-operate in activities with other Parties and interested organizations, directly and through the Secretariat, including the dissemination of information on the transboundary movement of hazardous wastes and other wastes, in order to improve the environmentally sound management of such wastes and to achieve the prevention of illegal traffic;

3. The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal.

4. Each Party shall take appropriate legal, administrative and other measures to implement and enforce the provisions of this Convention, including measures to prevent and punish conduct in contravention of the Convention.

5. A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party.

6. The Parties agree not to allow the export of hazardous wastes or other wastes for disposal within the area south of 60° South latitude, whether or not such wastes are subject to transboundary movement.

7. Furthermore, each Party shall:

(a) Prohibit all persons under its national jurisdiction from transporting or disposing of hazardous wastes or other wastes unless such persons are authorized or allowed to perform such types of operations;

(b) Require that hazardous wastes and other wastes that are to be the subject of a transboundary movement be packaged, labelled, and transported in conformity with generally accepted and recognized international rules and standards in the field of packaging, labelling, and transport, and that due account is taken of relevant internationally recognized practices;

(c) Require that hazardous wastes and other wastes be accompanied by a movement document from the point at which a transboundary movement commences to the point of disposal.

8. Each Party shall require that hazardous wastes or other wastes, to be exported, are managed in an environmentally sound manner in the State of import or elsewhere. Technical guidelines for the environmentally sound management of wastes subject to this Convention shall be decided by the Parties at their first meeting.

9. Parties shall take the appropriate measures to ensure that the transboundary movement of hazardous wastes and other wastes only be allowed if:

(a) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the wastes in question in an environmentally sound and efficient manner; or

(b) The wastes in question are required as a raw material for recycling or recovery industries in the State of import; or

(c) The transboundary movement in question is in accordance with other criteria to be decided by the Parties, provided those criteria do not differ from the objectives of this Convention.

10. The obligation under this Convention of States in which hazardous wastes and other wastes are generated to require that those wastes are managed in an environmentally sound manner may not under any circumstances be transferred to the States of import or transit.

11. Nothing in this Convention shall prevent a Party from imposing additional requirements that are consistent with the provisions of this Convention, and are in accordance with the rules of international law, in order better to protect human health and the environment.

12. Nothing in this Convention shall affect in any way the sovereignty of States over their territorial sea established in accordance with international law, and the sovereign rights and the jurisdiction which States have in their exclusive economic zones and their continental shelves in accordance with international law, and the exercise by ships and aircraft of all States of navigational rights and freedoms as provided for in international law and as reflected in relevant international instruments.

13. Parties shall undertake to review periodically the possibilities for the reduction of the amount and/or the pollution potential of hazardous wastes and other wastes which are exported to other States, in particular to developing countries.

Article 5

Designation of Competent Authorities and Focal Point

To facilitate the implementation of this Convention, the Parties shall:

1. Designate or establish one or more competent authorities and one focal point. One competent authority shall be designated to receive the notification in case of a State of transit.

2. Inform the Secretariat, within three months of the date of the entry into force of this Convention for them, which agencies they have designated as their focal point and their competent authorities.

3. Inform the Secretariat, within one month of the date of decision, of any changes regarding the designation made by them under paragraph 2 above.

Article 6

Transboundary Movement between Parties

1. The State of export shall notify, or shall require the generator or exporter to notify, in writing, through the channel of the competent authority of the State of export, the competent authority of the States concerned of any proposed transboundary movement of hazardous wastes or other wastes. Such notification shall contain the declarations and information specified in Annex V A, written in a language acceptable to the State of import. Only one notification needs to be sent to each State concerned.

2. The State of import shall respond to the notifier in writing, consenting to the movement with or without conditions, denying permission for the movement, or requesting additional information. A copy of the final response of the State of import shall be sent to the competent authorities of the States concerned which are Parties.

3. The State of export shall not allow the generator or exporter to commence the transboundary movement until it has received written confirmation that:

(a) The notifier has received the written consent of the State of import; and

(b) The notifier has received from the State of import confirmation of the existence of a contract between the exporter and the disposer specifying environmentally sound management of the wastes in question.

4. Each State of transit which is a Party shall promptly acknowledge to the notifier receipt of the notification. It may subsequently respond to the notifier in writing, within 60 days, consenting to the movement with or without conditions, denying permission for the movement, or requesting additional information. The State of export shall not allow the transboundary movement to commence until it has received the written consent of the State of transit. However, if at any time a Party decides not to require prior written consent, either generally or under specific conditions, for transit transboundary movements of hazardous wastes or other wastes, or modifies its requirements in this respect, it shall forthwith inform the other Parties of its decision pursuant to Article 13. In this latter case, if no response is received by the State of export within 60 days of the receipt of a given notification by the State of transit, the State of export may allow the export to proceed through the State of transit.

5. In the case of a transboundary movement of wastes where the wastes are legally defined as or considered to be hazardous wastes only:

(a) By the State of export, the requirements of paragraph 9 of this Article that apply to the importer or disposer and the State of import shall apply mutatis mutandis to the exporter and State of export, respectively;

(b) By the State of import, or by the States of import and transit which are Parties, the requirements of paragraphs 1, 3, 4 and 6 of this Article that apply to the exporter and State of export shall apply mutatis mutandis to the importer or disposer and State of import, respectively; or

(c) By any State of transit which is a Party, the provisions of paragraph 4 shall apply to such State.

6. The State of export may, subject to the written consent of the States concerned, allow the generator or the exporter to use a general notification where hazardous wastes or other wastes having the same physical and chemical characteristics are shipped regularly to the same disposer via the same customs office of exit of the State of export via the same customs office of entry of the State of import, and, in the case of transit, via the same customs office of entry and exit of the State or States of transit.

7. The States concerned may make their written consent to the use of the general notification referred to in paragraph 6 subject to the supply of certain information, such as the exact quantities or periodical lists of hazardous wastes or other wastes to be shipped.

8. The general notification and written consent referred to in paragraphs 6 and 7 may cover multiple shipments of hazardous wastes or other wastes during a maximum period of 12 months.

9. The Parties shall require that each person who takes charge of a transboundary movement of hazardous wastes or other wastes sign the movement document either upon delivery or receipt of the wastes in question. They shall also require that the disposer inform both the exporter and the competent authority of the State of export of receipt by the disposer of the wastes in question and, in due course, of the completion of disposal as specified in the notification. If no such information is received within the State of export, the competent authority of the State of export or the exporter shall so notify the State of import.

10. The notification and response required by this Article shall be transmitted to the competent authority of the Parties concerned or to such governmental authority as may be appropriate in the case of non-Parties.

11. Any transboundary movement of hazardous wastes or other wastes shall be covered by insurance, bond or other guarantee as may be required by the State of import or any State of transit which is a Party.

Article 7

Transboundary Movement from a Party through States which are not Parties

Paragraph 2 of Article 6 of the Convention shall apply *mutatis mutandis* to transboundary movement of hazardous wastes or other wastes from a Party through a State or States which are not Parties.

Article 8

Duty to Re-import

When a transboundary movement of hazardous wastes or other wastes to which the consent of the States concerned has been given, subject to the provisions of this Convention, cannot be completed in accordance with the terms of the contract, the State of export shall ensure that the wastes in question are taken back into the State of export, by the exporter, if alternative arrangements cannot be made for their disposal in an environmentally sound manner, within 90 days from the time that the importing State informed the State of export and the Secretariat, or such other period of time as the States concerned agree. To this end, the State of export and any Party of transit shall not oppose, hinder or prevent the return of those wastes to the State of export.

Article 9

Illegal Traffic

1. For the purpose of this Convention, any transboundary movement of hazardous wastes or other wastes:

(a) without notification pursuant to the provisions of this Convention to all States concerned; or

(b) without the consent pursuant to the provisions of this Convention of a State concerned; or

(c) with consent obtained from States concerned through falsification, misrepresentation or fraud; or

(d) that does not conform in a material way with the documents; or

(e) that results in deliberate disposal (e.g. dumping) of hazardous wastes or other wastes in contravention of this Convention and of general principles of international law,

shall be deemed to be illegal traffic.

2. In case of a transboundary movement of hazardous wastes or other wastes deemed to be illegal traffic as the result of conduct on the part of the exporter or generator, the State of export shall ensure that the wastes in question are:

(a) taken back by the exporter or the generator or, if necessary, by itself into the State of export, or, if impracticable,

(b) are otherwise disposed of in accordance with the provisions of this Convention,

within 30 days from the time the State of export has been informed about the illegal traffic or such other period of time as States concerned may agree. To this end the Parties concerned shall not oppose, hinder or prevent the return of those wastes to the State of export.

3. In the case of a transboundary movement of hazardous wastes or other wastes deemed to be illegal traffic as the result of conduct on the part of the importer or disposer, the State of import shall ensure that the wastes in question are disposed of in an environmentally sound manner by the importer or disposer or, if necessary, by itself within 30 days from the time the illegal traffic has come to the attention of the State of import or such other period of time as the States concerned may agree. To this end, the Parties concerned shall co-operate, as necessary, in the disposal of the wastes in an environmentally sound manner.

4. In cases where the responsibility for the illegal traffic cannot be assigned either to the exporter or generator or to the importer or disposer, the Parties concerned or other Parties, as appropriate, shall ensure, through co-operation, that the wastes in question are disposed of as soon as possible in an environmentally sound manner either in the State of export or the State of import or elsewhere as appropriate.

/...

5. Each Party shall introduce appropriate national/domestic legislation to prevent and punish illegal traffic. The Parties shall co-operate with a view to achieving the objects of this Article.

Article 10

International Co-operation

1. The Parties shall co-operate with each other in order to improve and achieve environmentally sound management of hazardous wastes and other wastes.

2. To this end, the Parties shall:

(a) Upon request, make available information, whether on a bilateral or multilateral basis, with a view to promoting the environmentally sound management of hazardous wastes and other wastes, including harmonization of technical standards and practices for the adequate management of hazardous wastes and other wastes;

(b) Co-operate in monitoring the effects of the management of hazardous wastes on human health and the environment;

(c) Co-operate, subject to their national laws, regulations and policies, in the development and implementation of new environmentally sound low-waste technologies and the improvement of existing technologies with a view to eliminating, as far as practicable, the generation of hazardous wastes and other wastes and achieving more effective and efficient methods of ensuring their management in an environmentally sound manner, including the study of the economic, social and environmental effects of the adoption of such new or improved technologies;

(d) Co-operate actively, subject to their national laws, regulations and policies, in the transfer of technology and management systems related to the environmentally sound management of hazardous wastes and other wastes. They shall also co-operate in developing the technical capacity among Parties, especially those which may need and request technical assistance in this field;

(e) Co-operate in developing appropriate technical guidelines and/or codes of practice.

3. The Parties shall employ appropriate means to co-operate in order to assist developing countries in the implementation of subparagraphs a, b and c of paragraph 2 of Article 4.

4. Taking into account the needs of developing countries, co-operation between Parties and the competent international organizations is encouraged to promote, inter alia, public awareness, the development of sound management of hazardous wastes and other wastes and the adoption of new low-waste technologies.

Article 11

Bilateral, Multilateral and Regional Agreements

1. Notwithstanding the provisions of Article 4 paragraph 5, Parties may enter into bilateral, multilateral, or regional agreements or arrangements regarding transboundary movement of hazardous wastes or other wastes with Parties or non-Parties provided that such agreements or arrangements do not derogate from the environmentally sound management of hazardous wastes and other wastes as required by this Convention. These agreements or arrangements shall stipulate provisions which are not less environmentally sound than those provided for by this Convention in particular taking into account the interests of developing countries.

2. Parties shall notify the Secretariat of any bilateral, multilateral or regional agreements or arrangements referred to in paragraph 1 and those which they have entered into prior to the entry into force of this Convention for them, for the purpose of controlling transboundary movements of hazardous wastes and other wastes which take place entirely among the Parties to such agreements. The provisions of this Convention shall not affect transboundary movements which take place pursuant to such agreements provided that such agreements are compatible with the environmentally sound management of hazardous wastes and other wastes as required by this Convention.

Article 12

Consultations on Liability

The Parties shall co-operate with a view to adopting, as soon as practicable, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes.

Article 13

Transmission of Information

1. The Parties shall, whenever it comes to their knowledge, ensure that, in the case of an accident occurring during the transboundary movement of hazardous wastes or other wastes or their disposal, which are likely to present risks to human health and the environment in other States, those states are immediately informed.

2. The Parties shall inform each other, through the Secretariat, of:

(a) Changes regarding the designation of competent authorities and/or focal points, pursuant to Article 5;

(b) Changes in their national definition of hazardous wastes, pursuant to Article 3;

and, as soon as possible,

(c) Decisions made by them not to consent totally or partially to the import of hazardous wastes or other wastes for disposal within the area under their national jurisdiction;

(d) Decisions taken by them to limit or ban the export of hazardous wastes or other wastes;

(e) Any other information required pursuant to paragraph 4 of this Article.

3. The Parties, consistent with national laws and regulations, shall transmit, through the Secretariat, to the Conference of the Parties established under Article 15, before the end of each calendar year, a report on the previous calendar year, containing the following information:

(a) Competent authorities and focal points that have been designated by them pursuant to Article 5;

(b) Information regarding transboundary movements of hazardous wastes or other wastes in which they have been involved, including:

(i) The amount of hazardous wastes and other wastes exported, their category, characteristics, destination, any transit country and disposal method as stated on the response to notification;

(ii) The amount of hazardous wastes and other wastes imported, their category, characteristics, origin, and disposal methods;

(iii) Disposals which did not proceed as intended;

(iv) Efforts to achieve a reduction of the amount of hazardous wastes or other wastes subject to transboundary movement;

(c) Information on the measures adopted by them in implementation of this Convention;

(d) Information on available qualified statistics which have been compiled by them on the effects on human health and the environment of the generation, transportation and disposal of hazardous wastes or other wastes;

(e) Information concerning bilateral, multilateral and regional agreements and arrangements entered into pursuant to Article 11 of this Convention;

(f) Information on accidents occurring during the transboundary movement and disposal of hazardous wastes and other wastes and on the measures undertaken to deal with them;

(g) Information on disposal options operated within the area of their national jurisdiction;

(h) Information on measures undertaken for development of technologies for the reduction and/or elimination of production of hazardous wastes and other wastes; and

(i) Such other matters as the Conference of the Parties shall deem relevant.

4. The Parties, consistent with national laws and regulations, shall ensure that copies of each notification concerning any given transboundary movement of hazardous wastes or other wastes, and the response to it, are sent to the Secretariat when a Party considers that its environment may be affected by that transboundary movement has requested that this should be done.

Article 14

Financial Aspects

1. The Parties agree that, according to the specific needs of different regions and subregions, regional or sub-regional centres for training and technology transfers regarding the management of hazardous wastes and other wastes and the minimization of their generation should be established. The Parties shall decide on the establishment of appropriate funding mechanisms of a voluntary nature.

2. The Parties shall consider the establishment of a revolving fund to assist on an interim basis in case of emergency situations to minimize damage from accidents arising from transboundary movements of hazardous wastes and other wastes or during the disposal of those wastes.

Article 15

Conference of the Parties

1. A Conference of the Parties is hereby established. The first meeting of the Conference of the Parties shall be convened by the Executive Director of UNEP not later than one year after the entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be determined by the Conference at its first meeting.

2. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to them by the Secretariat, it is supported by at least one third of the Parties.

3. The Conference of the Parties shall by consensus agree upon and adopt rules of procedure for itself and for any subsidiary body it may establish, as well as financial rules to determine in particular the financial participation of the Parties under this Convention.

4. The Parties at their first meeting shall consider any additional measures needed to assist them in fulfilling their responsibilities with respect to the protection and the preservation of the marine environment in the context of this Convention.

5. The Conference of the Parties shall keep under continuous review and evaluation the effective implementation of this Convention, and, in addition, shall:

(a) Promote the harmonization of appropriate policies, strategies and measures for minimizing harm to human health and the environment by hazardous wastes and other wastes;

(b) Consider and adopt, as required, amendments to this Convention and its annexes, taking into consideration, inter alia, available scientific, technical, economic and environmental information;

(c) Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention in the light of experience gained in its operation and in the operation of the agreements and arrangements envisaged in Article 11;

(d) Consider and adopt protocols as required; and

(e) Establish such subsidiary bodies as are deemed necessary for the implementation of this Convention.

6. The United Nations, its specialized agencies, as well as any State not party to this Convention, may be represented as observers at meetings of the Conference of the Parties. Any other body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to hazardous wastes or other wastes which has informed the Secretariat of its

wish to be represented as an observer at a meeting of the Conference of the Parties, may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

7. The Conference of the Parties shall undertake three years after the entry into force of this Convention, and at least every six years thereafter, an evaluation of its effectiveness and, if deemed necessary, to consider the adoption of a complete or partial ban of transboundary movements of hazardous wastes and other wastes in light of the latest scientific, environmental, technical and economic information.

Article 16

Secretariat

1. The functions of the Secretariat shall be:

(a) To arrange for and service meetings provided for in Article 15 and 17;

(b) To prepare and transmit reports based upon information received in accordance with Articles 3, 4, 6, 11 and 13 as well as upon information derived from meetings of subsidiary bodies established under Article 15 as well as upon, as appropriate, information provided by relevant intergovernmental and non-governmental entities;

(c) To prepare reports on its activities carried out in implementation of its functions under this Convention and present them to the Conference of the Parties;

(d) To ensure the necessary coordination with relevant international bodies, and in particular to enter into such administrative and contractual arrangements as may be required for the effective discharge of its functions;

(e) To communicate with focal points and competent authorities established by the Parties in accordance with Article 5 of this Convention;

(f) To compile information concerning authorized national sites and facilities of Parties available for the disposal of their hazardous wastes and other wastes and to circulate this information among Parties;

(g) To receive and convey information from and to Parties on;

- sources of technical assistance and training;
- available technical and scientific know-how;
- sources of advice and expertise; and
- availability of resources

with a view to assisting them, upon request, in such areas as:

- the handling of the notification system of this Convention;
- the management of hazardous wastes and other wastes;
- environmentally sound technologies relating to hazardous wastes and other wastes, such as low- and non-waste technology;
- the assessment of disposal capabilities and sites;
- the monitoring of hazardous wastes and other wastes; and
- emergency responses;

(h) To provide Parties, upon request, with information on consultants or consulting firms having the necessary technical competence in the field, which can assist them to examine a notification for a transboundary movement, the concurrence of a shipment of hazardous wastes or other wastes with the relevant notification, and/or the fact that the proposed disposal facilities for hazardous wastes or other wastes are environmentally sound, when they have reason to believe that the wastes in question will not be managed in an environmentally sound manner. Any such examination would not be at the expense of the Secretariat;

(i) To assist Parties upon request in their identification of cases of illegal traffic and to circulate immediately to the Parties concerned any information it has received regarding illegal traffic;

(j) To co-operate with Parties and with relevant and competent international organizations and agencies in the provision of experts and equipment for the purpose of rapid assistance to States in the event of an emergency situation; and

(k) To perform such other functions relevant to the purposes of this Convention as may be determined by the Conference of the Parties.

2. The secretariat functions will be carried out on an interim basis by UNEP until the completion of the first meeting of the Conference of the Parties held pursuant to Article 15.

3. At its first meeting, the Conference of the Parties shall designate the Secretariat from among those existing competent intergovernmental organizations which have signified their willingness to carry out the secretariat functions under this Convention. At this meeting, the Conference of the Parties shall also evaluate the implementation by the interim Secretariat of the functions assigned to it, in particular under paragraph 1 above, and decide upon the structures appropriate for those functions.

Article 17

Amendment of the Convention

1. Any Party may propose amendments to this Convention and any Party to a protocol may propose amendments to that protocol. Such amendments shall take due account, inter alia, of relevant scientific and technical considerations.

2. Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. Amendments to any protocol shall be adopted at a meeting of the Parties to the protocol in question. The text of any proposed amendment to this Convention or to any protocol, except as may otherwise be provided in such protocol, shall be communicated to the Parties by the Secretariat at least six months before the meeting at which it is proposed for adoption. The Secretariat shall also communicate proposed amendments to the Signatories to this Convention for information.

3. The Parties shall make every effort to reach agreement on any proposed amendment to this Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting, and shall be submitted by the Depositary to all Parties for ratification, approval, formal confirmation or acceptance.

4. The procedure mentioned in paragraph 3 above shall apply to amendments to any protocol, except that a two-thirds majority of the Parties to that protocol present and voting at the meeting shall suffice for their adoption.

5. Instruments of ratification, approval, formal confirmation or acceptance of amendments shall be deposited with the Depositary. Amendments adopted in accordance with paragraphs 3 or 4 above shall enter into force between Parties having accepted them on the ninetieth day after the receipt by the Depositary of their instrument of ratification, approval, formal confirmation or acceptance by at least three-fourths of the Parties who accepted the amendments to the protocol concerned, except as may otherwise be provided in such protocol. The amendments shall enter into force for any other Party on the ninetieth day after that Party deposits its instrument of ratification, approval, formal confirmation or acceptance of the amendments.

6. For the purpose of this Article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

Article 18

Adoption and Amendment of Annexes

1. The annexes to this Convention or to any protocol shall form an integral part of this Convention or of such protocol, as the case may be and, unless expressly provided otherwise, a reference to this Convention or its protocols constitutes at the same time a reference to any annexes thereto. Such annexes shall be restricted to scientific, technical and administrative matters.

2. Except as may be otherwise provided in any protocol with respect to its annexes, the following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention or of annexes to a protocol:

(a) Annexes to this Convention and its protocols shall be proposed and adopted according to the procedure laid down in Article 17, paragraphs 2, 3 and 4;

(b) Any Party that is unable to accept an additional annex to this Convention or an annex to any protocol to which it is party shall so notify the Depositary, in writing, within six months from the date of the communication of the adoption by the Depositary. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time substitute an acceptance for a previous declaration of objection and the annexes shall thereupon enter into force for that Party;

(c) On the expiry of six months from the date of the circulation of the communication by the Depositary, the annex shall become effective for all Parties to this Convention or to any protocol concerned, which have not submitted a notification in accordance with the provision of subparagraph (b) above.

3. The proposal, adoption and entry into force of amendments to annexes to this Convention or to any protocol shall be subject to the same procedure as for the proposal, adoption and entry into force of annexes to the Convention or annexes to a protocol. Annexes and amendments thereto shall take due account, inter alia, of relevant scientific and technical considerations.

4. If an additional annex or an amendment to an annex involves an amendment to this Convention or to any protocol, the additional annex or amended annex shall not enter into force until such time as the amendment to this Convention or to the protocol enters into force.

Article 19

Verification

Any Party which has reason to believe that another Party is acting or has acted in breach of its obligations under this Convention may inform the Secretariat thereof, and in such an event, shall simultaneously and immediately inform, directly or through the Secretariat, the Party against whom the allegations are made. All relevant information should be submitted by the Secretariat to the Parties.

Article 20

Settlement of Disputes

1. In case of a dispute between Parties as to the interpretation or application of, or compliance with, this Convention or any protocol thereto, they shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

2. If the Parties concerned cannot settle their dispute through the means mentioned in the preceding paragraph, the dispute, if the parties to the dispute agree, shall be submitted to the International Court of Justice or to arbitration under the conditions set out in Annex VI on Arbitration. However, failure to reach common agreement on submission of the dispute to the International Court of Justice or to arbitration shall not absolve the Parties from the responsibility of continuing to seek to resolve it by the means referred to in paragraph 1.

3. When ratifying, accepting, approving, formally confirming or acceding to this Convention, or at any time thereafter, a State or political and/or economic integration organization may declare that it recognizes as compulsory ipso facto and without special agreement, in relation to any Party accepting the same obligation:

(a) submission of the dispute to the International Court of Justice; and/or

(b) arbitration in accordance with the procedures set out in Annex VI.

Such declaration shall be notified in writing to the Secretariat which shall communicate it to the Parties.

Article 21

Signature

This Convention shall be open for signature by States, by Namibia, represented by the United Nations Council for Namibia, and by political and/or economic integration organizations, in Basel on 22 March 1989, at the Federal Department of Foreign Affairs of Switzerland in Berne from 23 March 1989 to 30 June 1989, and at United Nations Headquarters in New York from 1 July 1989 to 22 March 1990.

Article 22

Ratification, Acceptance, Formal Confirmation or Approval

1. This Convention shall be subject to ratification, acceptance or approval by States and by Namibia, represented by the United Nations Council for Namibia, and to formal confirmation or approval by political and/or economic integration organizations. Instruments of ratification, acceptance, formal confirmation, or approval shall be deposited with the Depositary.

2. Any organization referred to in paragraph 1 above which becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to the Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of formal confirmation or approval, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Depositary, who will inform the Parties of any substantial modification in the extent of their competence.

Article 23

Accession

1. This Convention shall be open for accession by States, by Namibia, represented by the United Nations Council for Namibia, and by political and/or economic integration organizations from the day after the date on which the Convention is closed for signature. The instruments of accession shall be deposited with the Depositary.

2. In their instruments of accession, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Depositary of any substantial modification in the extent of their competence.

3. The provisions of Article 22 paragraph 2, shall apply to political and/or economic integration organizations which accede to this Convention.

Article 24

Right to Vote

1. Except as provided for in paragraph 2 below, each Contracting Party to this Convention shall have one vote.

2. Political and/or economic integration organizations, in matters within their competence, in accordance with Article 22, paragraph 3, and Article 23, paragraph 2, shall exercise their right to vote with a number of votes equal to the number of their member States which are Parties to the Convention or the relevant protocol. Such organizations shall not exercise their right to vote if their member States exercise theirs, and vice versa.

Article 25

Entry into Force

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the twentieth instrument of ratification, acceptance, formal confirmation, approval or accession.

2. For each State or political and/or economic integration organization which ratifies, accepts, approves or formally confirms this Convention or accedes thereto after the date of the deposit of the twentieth instrument of ratification, acceptance, approval, formal confirmation or accession, it shall enter into force on the ninetieth day after the date of deposit by such State or political and/or economic integration organization of its instrument of ratification, acceptance, approval, formal confirmation or accession.

3. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a political and/or economic integration organization shall not be counted as additional to those deposited by member States of such organization.

Article 26

Reservations and Declarations

1. No reservation or exception may be made to this Convention.

2. Paragraph 1 of this Article does not preclude a State or political and/or economic integration organizations, when signing, ratifying, accepting, approving, formally confirming or acceding to this Convention, from making declarations or statements, however phrased or named, with a view, inter alia, to the harmonization of its laws and regulations with the provisions of this Convention, provided that such declarations or statements do not purport to exclude or to modify the legal effects of the provisions of the Convention in their application to that State.

Article 27

Withdrawal

1. At any time after three years from the date on which this Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.

2. Withdrawal shall be effective one year from receipt of notification by the Depositary, or on such later date as may be specified in the notification.

Article 28

Depository

The Secretary-General of the United Nations shall be the Depository of this Convention and of any protocol thereto.

Article 29

Authentic texts

The original Arabic, Chinese, English, French, Russian and Spanish texts of this Convention are equally authentic.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

Done at ..... on the ..... day of 1989

Annex I

CATEGORIES OF WASTES TO BE CONTROLLED

Waste Streams

Y1	Clinical wastes from medical care in hospitals, medical centers and clinics
Y2	Wastes from the production and preparation of pharmaceutical products
Y3	Waste pharmaceuticals, drugs and medicines
Y4	Wastes from the production, formulation and use of biocides and phytopharmaceuticals
Y5	Wastes from the manufacture, formulation and use of wood preserving chemicals
Y6	Wastes from the production, formulation and use of organic solvents
Y7	Wastes from heat treatment and tempering operations containing cyanides
Y8	Waste mineral oils unfit for their originally intended use
Y9	Waste oils/water, hydrocarbons/water mixtures, emulsions
Y10	Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)
Y11	Waste tarry residues arising from refining, distillation and any pyrolytic treatment
Y12	Wastes from production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish
Y13	Wastes from production, formulation and use of resins, latex, plasticizers, glues/adhesives

Y14 Waste chemical substances arising from research and development or teaching activities which are not identified and/or are new and whose effects on man and/or the environment are not known
Y15 Wastes of an explosive nature not subject to other legislation
Y16 Wastes from production, formulation and use of photographic chemicals and processing materials
Y17 Wastes resulting from surface treatment of metals and plastics
Y18 Residues arising from industrial waste disposal operations

Wastes having as constituents:

Y19 Metal carbonyls
Y20 Beryllium; beryllium compounds
Y21 Hexavalent chromium compounds
Y22 Copper compounds
Y23 Zinc compounds
Y24 Arsenic; arsenic compounds
Y25 Selenium; selenium compounds
Y26 Cadmium; cadmium compounds
Y27 Antimony; antimony compounds
Y28 Tellurium; tellurium compounds
Y29 Mercury; mercury compounds
Y30 Thallium; thallium compounds
Y31 Lead; lead compounds
Y32 Inorganic fluorine compounds excluding calcium fluoride
Y33 Inorganic cyanides
Y34 Acidic solutions or acids in solid form
Y35 Basic solutions or bases in solid form
Y36 Asbestos (dust and fibres)
Y37 Organic phosphorous compounds
Y38 Organic cyanides
Y39 Phenols; phenol compounds including chlorophenols
Y40 Ethers
Y41 Halogenated organic solvents
Y42 Organic solvents excluding halogenated solvents
Y43 Any congenor of polychlorinated dibenzo-furan
Y44 Any congenor of polychlorinated dibenzo-p-dioxin
Y45 Organohalogen compounds other than substances referred to in this Annex (eg. Y39, Y41, Y42, Y43, Y44).

Annex II

CATEGORIES OF WASTES REQUIRING SPECIAL CONSIDERATION

Y46 Wastes collected from households
Y47 Residues arising from the incineration of household wastes

Annex III

LIST OF HAZARDOUS CHARACTERISTICS

UN Class*	Code	Characteristics
1	H1	Explosive An explosive substance or waste is a solid or liquid substance or waste (or mixture of substances or wastes) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.
3	H3	Flammable liquids The word "flammable" has the same meaning as "inflammable". Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc., but not including substances or wastes otherwise classified on account of their dangerous characteristics) which give off a flammable vapour at temperatures of not more than 60.5°C, closed-cup test, or not more than 65.6°C, open-cup test. (Since the results of open-cup tests and of closed-cup tests are not strictly comparable and even individual results by the same test are often variable, regulations varying from the above figures to make allowance for such differences would be within the spirit of this definition.)
4.1	H4.1	Flammable solids Solids, or waste solids, other than those classed as explosives, which under conditions encountered in transport are readily combustible, or may cause or contribute to fire through friction.
4.2	H4.2	Substances or wastes liable to spontaneous combustion Substances or wastes which are liable to spontaneous heating under normal conditions encountered in transport, or to heating up on contact with air, and being then liable to catch fire.
4.3	H4.3	Substances or wastes which, in contact with water emit flammable gases Substances or wastes which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.

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* Corresponds to the hazard classification system included in the United Nations Recommendations on the Transport of Dangerous Goods (ST/SG/AC.10/1/Rev.5, United Nations, New York, 1988).

5.1	H5.1	Oxidizing Substances or wastes which, while in themselves not necessarily combustible, may, generally by yielding oxygen cause, or contribute to, the combustion of other materials.
5.2	H5.2	Organic Peroxides Organic substances or wastes which contain the bivalent-O-O-structure are thermally unstable substances which may undergo exothermic self-accelerating decomposition.
6.1	H6.1	Poisonous (Acute) Substances or wastes liable either to cause death or serious injury or to harm human health if swallowed or inhaled or by skin contact.
6.2	H6.2	Infectious substances Substances or wastes containing viable micro organisms or their toxins which are known or suspected to cause disease in animals or humans.
8	H8	Corrosives Substances or wastes which, by chemical action, will cause severe damage when in contact with living tissue, or, in the case of leakage, will materially damage, or even destroy, other goods or the means of transport; they may also cause other hazards.
9	H10	Liberation of toxic gases in contact with air or water Substances or wastes which, by interaction with air or water, are liable to give off toxic gases in dangerous quantities.
9	H11	Toxic (Delayed or chronic) Substances or wastes which, if they are inhaled or ingested or if they penetrate the skin, may involve delayed or chronic effects, including carcinogenicity.
9	H12	Ecotoxic Substances or wastes which if released present or may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects upon biotic systems.
9	H13	Capable, by any means, after disposal, of yielding another material, e.g., leachate, which possesses any of the characteristics listed above.

Tests

The potential hazards posed by certain types of wastes are not yet fully documented; tests to define quantitatively these hazards do not exist. Further research is necessary in order to develop means to characterise potential hazards posed to man and/or the environment by these wastes. Standardized tests have been derived with respect to pure substances and materials. Many countries have developed national tests which can be applied to materials listed in Annex I, in order to decide if these materials exhibit any of the characteristics listed in this Annex.

Annex IV

DISPOSAL OPERATIONS

A. OPERATIONS WHICH DO NOT LEAD TO THE POSSIBILITY OF RESOURCE RECOVERY, RECYCLING, RECLAMATION, DIRECT RE-USE OR ALTERNATIVE USES

Section A encompasses all such disposal operations which occur in practice.

D1 Deposit into or onto land, (e.g., landfill, etc.)
D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)
D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)
D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)
D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
D6 Release into a water body except seas/oceans
D7 Release into seas/oceans including sea-bed insertion
D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A
D9 Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralisation, precipitation, etc.)
D10 Incineration on land
D11 Incineration at sea
D12 Permanent storage (e.g., emplacement of containers in a mine, etc.)
D13 Blending or mixing prior to submission to any of the operations in Section A
D14 Repackaging prior to submission to any of the operations in Section A
D15 Storage pending any of the operations in Section A

B. OPERATIONS WHICH MAY LEAD TO RESOURCE RECOVERY, RECYCLING, RECLAMATION, DIRECT RE-USE OR ALTERNATIVE USES

Section B encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section A

R1	Use as a fuel (other than in direct incineration) or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation of other inorganic materials
R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R1-R10
R12	Exchange of wastes for submission to any of the operations numbered R1-R11
R13	Accumulation of material intended for any operation in Section B

Annex V A

INFORMATION TO BE PROVIDED ON NOTIFICATION

1. Reason for waste export

2. Exporter of the waste 1/

3. Generator(s) of the waste and site of generation 1/

4. Disposer of the waste and actual site of disposal 1/

5. Intended carrier(s) of the waste or their agents, if known 1/

6. Country of export of the waste
   Competent authority 2/

7. Expected countries of transit
   Competent authority 2/

8. Country of import of the waste
   Competent authority 2/

9. General or single notification

10. Projected date(s) of shipment(s) and period of time over which waste is to be exported and proposed itinerary (including point of entry and exit) 3/

11. Means of transport envisaged (road, rail, sea, air, inland waters)

12. Information relating to insurance 4/

13. Designation and physical description of the waste including Y number and UN number and its composition 5/ and information on any special handling requirements including emergency provisions in case of accidents

14. Type of packaging envisaged (eg. bulk, drummed, tanker)

15. Estimated quantity in weight/volume 6/

16. Process by which the waste is generated 7/

17. For wastes listed in Annex I, classifications from Annex II: hazardous characteristic, H number, and UN class.

18. Method of disposal as per Annex III

19. Declaration by the generator and exporter that the information is correct

20. Information transmitted (including technical description of the plant) to the exporter or generator from the disposer of the waste upon which the latter has based his assessment that there was no reason to believe that the wastes will not be managed in an environmentally sound manner in accordance with the laws and regulations of the country of import.

21. Information concerning the contract between the exporter and disposer.

Notes

1/ Full name and address, telephone, telex or telefax number and the name, address, telephone, telex or telefax number of the person to be contacted.

2/ Full name and address, telephone, telex or telefax number.

3/ In the case of a general notification covering several shipments, either the expected dates of each shipment or, if this is not known, the expected frequency of the shipments will be required.

4/ Information to be provided on relevant insurance requirements and how they are met by exporter, carrier and disposer.

5/ The nature and the concentration of the most hazardous components, in terms of toxicity and other dangers presented by the waste both in handling and in relation to the proposed disposal method.

6/ In the case of a general notification covering several shipments, both the estimated total quantity and the estimated quantities for each individual shipment will be required.

7/ Insofar as this is necessary to assess the hazard and determine the appropriateness of the proposed disposal operation.

Annex V B

INFORMATION TO BE PROVIDED ON THE MOVEMENT DOCUMENT

1. Exporter of the waste 1/
2. Generator(s) of the waste and site of generation 1/
3. Disposer of the waste and actual site of disposal 1/
4. Carrier(s) of the waste 1/ or his agent(s)
5. Subject of general or single notification
6. The date the transboundary movement started and date(s) and signature on receipt by each person who takes charge of the waste
7. Means of transport (road, rail, inland waterway, sea, air) including countries of export, transit and import, also point of entry and exit where these have been designated
8. General description of the waste (physical state, proper UN shipping name and class, UN number, Y number and H number as applicable)
9. Information on special handling requirements including emergency provision in case of accidents
10. Type and number of packages
11. Quantity in weight/volume
12. Declaration by the generator or exporter that the information is correct
13. Declaration by the generator or exporter indicating no objection from the competent authorities of all States concerned which are Parties.
14. Certification by disposer of receipt at designated disposal facility and indication of method of disposal and of the approximate date of disposal.

Notes

The information required on the movement document shall where possible be integrated in one document with that required under transport rules. Where this is not possible the information should complement rather than duplicate that required under the transport rules. The movement document shall carry instructions as to who is to provide information and fill-out any form.

1/ Full name and address, telephone, telex or telefax number and the name, address, telephone, telex or telefax number of the person to be contacted in case of emergency.

Annex VI

ARBITRATION

Article 1

Unless the agreement referred to in Article 20 of the Convention provides otherwise, the arbitration procedure shall be conducted in accordance with Articles 2 to 10 below.

Article 2

The claimant party shall notify the Secretariat that the parties have agreed to submit the dispute to arbitration pursuant to paragraph 2 or paragraph 3 of Article 20 and include, in particular, the Articles of the Convention the interpretation or application of which are at issue. The Secretariat shall forward the information thus received to all Parties to the Convention.

Article 3

The arbitral tribunal shall consist of three members. Each of the Parties to the dispute shall appoint an arbitrator, and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall be the chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

Article 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of either party, designate him within a further two months period.

2. If one of the parties to the dispute does not appoint an arbitrator within two months of the receipt of the request, the other party may inform the Secretary-General of the United Nations who shall designate the chairman of the arbitral tribunal within a further two months' period. Upon designation, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. After such period, he shall inform the Secretary-General of the United Nations, who shall make this appointment within a further two months' period.

Article 5

1. The arbitral tribunal shall render its decision in accordance with international law and in accordance with the provisions of this Convention.

2. Any arbitral tribunal constituted under the provisions of this Annex shall draw up its own rules of procedure.

Article 6

1. The decisions of the arbitral tribunal both on procedure and on substance, shall be taken by majority vote of its members.

2. The tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the parties, recommend essential interim measures of protection.

3. The parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.

4. The absence or default of a party in the dispute shall not constitute an impediment to the proceedings.

Article 7

The tribunal may hear and determine counter-claims arising directly out of the subject-matter of the dispute.

Article 8

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the expenses of the tribunal, including the remuneration of its members, shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its expenses, and shall furnish a final statement thereof to the parties.

Article 9

Any Party that has an interest of a legal nature in the subject-matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

Article 10

1. The tribunal shall render its award within five months of the date on which it is established unless it finds it necessary to extend the time-limit for a period which should not exceed five months.

2. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the parties to the dispute.

3. Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another tribunal constituted for this purpose in the same manner as the first.

0098E

DRAFT RESOLUTION

The Diplomatic Conference,

Recognizing the coastal States' responsibilities in respect of the protection and preservation of the environment,

Taking into account the existing international conventions and agreements for the protection of the marine environment,

Noting further that a number of international and regional agreements have addressed the issue of protection and preservation of the environment with regard to the transport of hazardous substances,

In accordance with the relevant provisions of the [Global Convention on the Control of Transboundary Movements of Hazardous Wastes],

1. Invites the Executive Director of UNEP and Secretary-General of IMO in consultation, as appropriate, with other relevant international organizations, to review the existing rules, regulations and practices with respect to the transport of hazardous substances by sea in the light of the [Convention on the Control of Transboundary Movements of Hazardous Wastes] with a view to recommend any additional measures needed, including information, documentation and other precautionary measures, in order to assist coastal States, flag States, and port States in fulfilling their responsibilities with respect to the protection and preservation of the marine environment;

2. Invites the Executive Director of UNEP to report on the results of the review and recommendations referred to in paragraph 1 above to the Contracting Parties to the [Convention on the Control of Transboundary Movements of Hazardous Wastes] at their first meeting.

0098E

Article XVI

Add a new paragraph to read: consider

"The Contracting Parties at their first Meeting shall ~~consider~~ any additional measures needed to assist them in fulfilling their responsibilities with respect to the protection and the preservation of the marine environment in the context of this Convention.".

UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE

PROTOCOL TO THE 1979 CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION CONCERNING THE CONTROL OF EMISSIONS OF NITROGEN OXIDES OR THEIR TRANSBOUNDARY FLUXES

NATIONS UNIES
COMMISSION ECONOMIQUE POUR L'EUROPE

PROTOCOLE A LA CONVENTION SUR LA POLLUTION ATMOSPHÉRIQUE TRANSFRONTIÈRE À LONGUE DISTANCE, DE 1979, RELATIF À LA LUTTE CONTRE LES ÉMISSIONS D'OXYDES D'AZOTE OU LEURS FLUX TRANSFRONTIÈRES

ОБЪЕДИНЕННЫЕ НАЦИИ
ЕВРОПЕЙСКАЯ ЭКОНОМИЧЕСКАЯ КОМИССИЯ

ПРОТОКОЛ ОБ ОГРАНИЧЕНИИ ВЫБРОСОВ ОКИСЛОВ АЗОТА ИЛИ ИХ ТРАНСГРАНИЧНЫХ ПОТОКОВ К КОНВЕНЦИИ 1979 ГОДА О ТРАНСГРАНИЧНОМ ЗАГРЯЗНЕНИИ ВОЗДУХА НА БОЛЬШИЕ РАССТОЯНИЯ

PROTOCOL TO THE 1979 CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION CONCERNING THE CONTROL OF EMISSIONS OF NITROGEN OXIDES OR THEIR TRANSBOUNDARY FLUXES

UNITED NATIONS

1988

PROTOCOL TO THE 1979 CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION AIR POLLUTION CONCERNING THE CONTROL OF EMISSIONS OF NITROGEN OXIDES OR THEIR TRANSBOUNDARY FLUXES

The Parties,

Determined to implement the Convention on Long-range Transboundary Air Pollution,

Concerned that present emissions of air pollutants are causing damage, in exposed parts of Europe and North America, to natural resources of vital environmental and economic importance,

Recalling that the Executive Body for the Convention recognized at its second session the need to reduce effectively the total annual emissions of nitrogen oxides from stationary and mobile sources or their transboundary fluxes by 1995, and the need on the part of other States that had already made progress in reducing these emissions to maintain and review their emission standards for nitrogen oxides,

Taking into consideration existing scientific and technical data on emissions, atmospheric movements and effects on the environment of nitrogen oxides and their secondary products, as well as on control technologies,

Conscious that the adverse environmental effects of emissions of nitrogen oxides vary among countries,

Determined to take effective action to control and reduce national annual emissions of nitrogen oxides or their transboundary fluxes by, in particular, the application of appropriate national emission standards to new mobile and major new stationary sources and the retrofitting of existing major stationary sources,

Recognizing that scientific and technical knowledge of these matters is developing and that it will be necessary to take such developments into account when reviewing the operation of this Protocol and deciding on further action,

Noting that the elaboration of an approach based on critical loads is aimed at the establishment of an effect-oriented scientific basis to be taken into account when reviewing the operation of this Protocol and at deciding on further internationally agreed measures to limit and reduce emissions of nitrogen oxides or their transboundary fluxes,

Recognizing that the expeditious consideration of procedures to create more favourable conditions for exchange of technology will contribute to the effective reduction of emissions of nitrogen oxides in the region of the Commission,

Noting with appreciation the mutual commitment undertaken by several countries to implement immediate and substantial reductions of national annual emissions of nitrogen oxides,

Acknowledging the measures already taken by some countries which have had the effect of reducing emissions of nitrogen oxides,

Have agreed as follows:

Article 1

Definitions

For the purposes of the present Protocol,

1. "Convention" means the Convention on Long-range Transboundary Air Pollution, adopted in Geneva on 13 November 1979;

2. "EMEP" means the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe;

3. "Executive Body" means the Executive Body for the Convention constituted under article 10, paragraph 1 of the Convention;

4. "Geographical scope of EMEP" means the area defined in article 1, paragraph 4 of the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), adopted in Geneva on 28 September 1984;

5. "Parties" means, unless the context otherwise requires, the Parties to the present Protocol;

6. "Commission" means the United Nations Economic Commission for Europe;

7. "Critical load" means 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;

8. "Major existing stationary source" means any existing stationary source the thermal input of which is at least 100 MW;

9. "Major new stationary source" means any new stationary source the thermal input of which is at least 50 MW;

10. "Major source category" means any category of sources which emit or may emit air pollutants in the form of nitrogen oxides, including the categories described in the Technical Annex, and which contribute at least 10 per cent of

the total national emissions of nitrogen oxides on an annual basis as measured or calculated in the first calendar year after the date of entry into force of the present Protocol, and every fourth year thereafter;

11. "New stationary source" means any stationary source the construction or substantial modification of which is commenced after the expiration of two years from the date of entry into force of this Protocol;

12. "New mobile source" means a motor vehicle or other mobile source which is manufactured after the expiration of two years from the date of entry into force of the present Protocol.

Article 2

Basic obligations

1. The Parties shall, as soon as possible and as a first step, take effective measures to control and/or reduce their national annual emissions of nitrogen oxides or their transboundary fluxes so that these, at the latest by 31 December 1994, do not exceed their national annual emissions of nitrogen oxides or transboundary fluxes of such emissions for the calendar year 1987 or any previous year to be specified upon signature of, or accession to, the Protocol, provided that in addition, with respect to any Party specifying such a previous year, its national average annual transboundary fluxes or national average annual emissions of nitrogen oxides for the period from 1 January 1987 to 1 January 1996 do not exceed its transboundary fluxes or national emissions for the calendar year 1987.

2. Furthermore, the Parties shall in particular, and no later than two years after the date of entry into force of the present Protocol:

(a) Apply national emissions standards to major new stationary sources and/or source categories, and to substantially modified stationary sources in major source categories, based on the best available technologies which are economically feasible, taking into consideration the Technical Annex;

(b) Apply national emission standards to new mobile sources in all major source categories based on the best available technologies which are economically feasible, taking into consideration the Technical Annex and the relevant decisions taken within the framework of the Inland Transport Committee of the Commission; and

(c) Introduce pollution control measures for major existing stationary sources, taking into consideration the Technical Annex and the characteristics of the plant, its age and its rate of utilization and the need to avoid undue operational disruption.

3. (a) The Parties shall, as a second step, commence negotiations, no later than six months after the date of entry into force of the present Protocol, on

further steps to reduce national annual emissions of nitrogen oxides or transboundary fluxes of such emissions, taking into account the best available scientific and technological developments, internationally accepted critical loads and other elements resulting from the work programme undertaken under article 6.

(b) To this end, the Parties shall co-operate in order to establish:

(i) Critical loads;

(ii) Reductions in national annual emissions of nitrogen oxides or transboundary fluxes of such emissions as required to achieve agreed objectives based on critical loads; and

(iii) Measures and a time-table commencing no later than 1 January 1996 for achieving such reductions.

4. Parties may take more stringent measures than those required by the present article.

Article 3

Exchange of technology

1. The Parties shall, consistent with their national laws, regulations and practices, facilitate the exchange of technology to reduce emissions of nitrogen oxides, particularly through the promotion of:

(a) Commercial exchange of available technology;

(b) Direct industrial contacts and co-operation, including joint ventures;

(c) Exchange of information and experience; and

(d) Provision of technical assistance.

2. In promoting the activities specified in subparagraphs (a) to (d) above, the Parties shall create favourable conditions by facilitating contacts and co-operation among appropriate organizations and individuals in the private and public sectors that are capable of providing technology, design and engineering services, equipment or finance.

3. The Parties shall, no later than six months after the date of entry into force of the present Protocol, commence consideration of procedures to create more favourable conditions for the exchange of technology to reduce emissions of nitrogen oxides.

Article 4

Unleaded fuel

The Parties shall, as soon as possible and no later than two years after the date of entry into force of the present Protocol, make unleaded fuel sufficiently available, in particular cases as a minimum along main international transit routes, to facilitate the circulation of vehicles equipped with catalytic converters.

Article 5

Review process

1. The Parties shall regularly review the present Protocol, taking into account the best available scientific substantiation and technological development.

2. The first review shall take place no later than one year after the date of entry into force of the present Protocol.

Article 6

Work to be undertaken

The Parties shall give high priority to research and monitoring related to the development and application of an approach based on critical loads to determine, on a scientific basis, necessary reductions in emissions of nitrogen oxides. The Parties shall, in particular, through national research programmes, in the work plan of the Executive Body and through other co-operative programmes within the framework of the Convention, seek to:

(a) Identify and quantify effects of emissions of nitrogen oxides on humans, plant and animal life, waters, soils and materials, taking into account the impact on these of nitrogen oxides from sources other than atmospheric deposition;

(b) Determine the geographical distribution of sensitive areas;

(c) Develop measurements and model calculations including harmonized methodologies for the calculation of emissions, to quantify the long-range transport of nitrogen oxides and related pollutants;

(d) Improve estimates of the performance and costs of technologies for control of emissions of nitrogen oxides and record the development of improved and new technologies; and

(e) Develop, in the context of an approach based on critical loads, methods to integrate scientific, technical and economic data in order to determine appropriate control strategies.

Article 7

National programmes, policies and strategies

The Parties shall develop without undue delay national programmes, policies and strategies to implement the obligations under the present Protocol that shall serve as a means of controlling and reducing emissions of nitrogen oxides or their transboundary fluxes.

Article 8

Information exchange and annual reporting

1. The Parties shall exchange information by notifying the Executive Body of the national programmes, policies and strategies that they develop in accordance with article 7 and by reporting to it annually on progress achieved under, and any changes to, those programmes, policies and strategies, and in particular on:

(a) The levels of national annual emissions of nitrogen oxides and the basis upon which they have been calculated;

(b) Progress in applying national emission standards required under article 2, subparagraphs 2 (a) and 2 (b), and the national emission standards applied or to be applied, and the sources and/or source categories concerned;

(c) Progress in introducing the pollution control measures required under article 2, subparagraph 2 (c), the sources concerned and the measures introduced or to be introduced;

(d) Progress in making unleaded fuel available;

(e) Measures taken to facilitate the exchange of technology; and

(f) Progress in establishing critical loads.

2. Such information shall, as far as possible, be submitted in accordance with a uniform reporting framework.

Article 9

Calculations

EMEP shall, utilizing appropriate models and in good time before the annual meetings of the Executive Body, provide to the Executive Body calculations of nitrogen budgets and also of transboundary fluxes and deposition of nitrogen oxides within the geographical scope of EMEP. In areas outside the geographical scope of EMEP, models appropriate to the particular circumstances of Parties to the Convention therein shall be used.

Article 10

Technical Annex

The Technical Annex to the present Protocol is recommendatory in character. It shall form an integral part of the Protocol.

Article 11

Amendments to the Protocol

1. Any Party may propose amendments to the present Protocol.

2. Proposed amendments shall be submitted in writing to the Executive Secretary of the Commission who shall communicate them to all Parties. The Executive Body shall discuss the proposed amendments at its next annual meeting provided that these proposals have been circulated by the Executive Secretary to the Parties at least ninety days in advance.

3. Amendments to the Protocol, other than amendments to its Technical Annex, shall be adopted by consensus of the Parties present at a meeting of the Executive Body, and shall enter into force for the Parties which have accepted them on the ninetieth day after the date on which two-thirds of the Parties have deposited their instruments of acceptance thereof. Amendments shall enter into force for any Party which has accepted them after two-thirds of the Parties have deposited their instruments of acceptance of the amendment, on the ninetieth day after the date on which that Party deposited its instrument of acceptance of the amendments.

4. Amendments to the Technical Annex shall be adopted by consensus of the Parties present at a meeting of the Executive Body and shall become effective thirty days after the date on which they have been communicated in accordance with paragraph 5 below.

5. Amendments under paragraphs 3 and 4 above shall, as soon as possible after their adoption, be communicated by the Executive Secretary to all Parties.

Article 12

Settlement of disputes

If a dispute arises between two or more Parties as to the interpretation or application of the present Protocol, they shall seek a solution by negotiation or by any other method of dispute settlement acceptable to the parties to the dispute.

Article 13

Signature

1. The present Protocol shall be open for signature at Sofia from 1 November 1988 until 4 November 1988 inclusive, then at the Headquarters of the United Nations in New York until 5 May 1989, by the member States of the Commission as well as States having consultative status with the Commission, pursuant to paragraph 8 of Economic and Social Council resolution 36 (IV) of 28 March 1947, and by regional economic integration organizations, constituted by sovereign States members of the Commission, which have competence in respect of the negotiation, conclusion and application of international agreements in matters covered by the Protocol, provided that the States and organizations concerned are Parties to the Convention.

2. In matters within their competence, such regional economic integration organizations shall, on their own behalf, exercise the rights and fulfil the responsibilities which the present Protocol attributes to their member States. In such cases, the member States of these organizations shall not be entitled to exercise such rights individually.

Article 14

Ratification, acceptance, approval and accession

1. The present Protocol shall be subject to ratification, acceptance or approval by Signatories.

2. The present Protocol shall be open for accession as from 6 May 1989 by the States and organizations referred to in article 13, paragraph 1.

3. A State or organization which accedes to the present Protocol after 31 December 1993 may implement articles 2 and 4 no later than 31 December 1995.

4. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations, who will perform the functions of depositary.

Article 15

Entry into force

1. The present Protocol shall enter into force on the ninetieth day following the date on which the sixteenth instrument of ratification, acceptance, approval or accession has been deposited.

2. For each State and organization referred to in article 13, paragraph 1, which ratifies, accepts or approves the present Protocol or accedes thereto after the deposit of the sixteenth instrument of ratification, acceptance, approval, or accession, the Protocol shall enter into force on the ninetieth day following the date of deposit by such Party of its instrument of ratification, acceptance, approval, or accession.

Article 16

Withdrawal

At any time after five years from the date on which the present Protocol has come into force with respect to a Party, that Party may withdraw from it by giving written notification to the depositary. Any such withdrawal shall take effect on the ninetieth day following the date of its receipt by the depositary, or on such later date as may be specified in the notification of the withdrawal.

Article 17

Authentic texts

The original of the present Protocol, of which the English, French and Russian texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed the present Protocol.

DONE at Sofia this thirty-first day of October one thousand nine hundred and eighty-eight.

TECHNICAL ANNEX

1. Information regarding emission performance and costs is based on official documentation of the Executive Body and its subsidiary bodies, in particular documents EB.AIR/WG.3/R.8, R.9 and R.16, and ENV/WP.1/R.86, and Corr.1, as reproduced in chapter 7 of Effects and Control of Transboundary Air Pollution. */ Unless otherwise indicated, the technologies listed are considered to be well established on the basis of operational experience. **/

2. The information contained in this annex is incomplete. Because experience with new engines and new plants incorporating low emission technology, as well as with retrofitting existing plants, is continuously expanding, regular elaboration and amendment of the annex will be necessary. The annex cannot be an exhaustive statement of technical options; its aim is to provide guidance for the Parties in identifying economically feasible technologies for giving effect to the obligations of the Protocol.

I. CONTROL TECHNOLOGIES FOR NO_x EMISSIONS FROM STATIONARY SOURCES

3. Fossil fuel combustion is the main stationary source of anthropogenic NO_x emissions. In addition, some non-combustion processes can contribute relevant NO_x emissions.

4. Major stationary source categories of NO_x emissions may include:

(a) Combustion plants;

(b) Industrial process furnaces (e.g., cement manufacture);

(c) Stationary gas turbines and internal combustion engines; and

(d) Non-combustion processes (e.g., nitric acid production).

5. Technologies for the reduction of NO_x emissions focus on certain combustion/process modifications, and, especially for large power plants, on flue gas treatment.

6. For retrofitting of existing plants, the extent of application of low-NO_x technologies may be limited by negative operational side-effects or by other site-specific constraints. In the case of retrofitting, therefore, only approximate estimates are given for typically achievable NO_x emission values. For new plants, negative side-effects can be minimized or excluded by appropriate design features.

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*/ Air Pollution Studies No. 4 (United Nations publication, Sales No. E.87.II.E.36).

**/ It is at present difficult to provide reliable data on the costs of control technologies in absolute terms. For cost data included in the present annex, emphasis should therefore be placed on the relationships between the costs of different technologies rather than on absolute cost figures.

7. According to currently available data, the costs of combustion modifications can be considered as small for new plants. However, in the case of retrofitting, for instance at large power plants, they ranged from about 8 to 25 Swiss francs per kW_{el} (in 1985). As a rule, investment costs of flue gas treatment systems are considerably higher.

8. For stationary sources, emission factors are expressed in milligrams of NO_2 per normal (C^o C, 1013 mb) cubic metre (mg/m^3), dry basis.

Combustion plants

9. The category of combustion plants comprises fossil fuel combustion in furnaces, boilers, indirect heaters and other combustion facilities with a heat input larger than 10 MW, without mixing the combustion flue gases with other effluents or treated materials. The following combustion technologies, either singly or in combination, are available for new and existing installations:

(a) Low-temperature design of the firebox, including fluidized bed combustion;

(b) Low excess-air operation;

(c) Installation of special low-NO_x burners;

(d) Flue gas recirculation into the combustion air;

(e) Staged combustion/overfire-air operation; and

(f) Reburning (fuel staging). ***/

Performance standards that can be achieved are summarized in table 1.

10. Flue gas treatment by selective catalytic reduction (SCR) is an additional NO_x emission reduction measure with efficiencies of up to 80 per cent and more. Considerable operational experience from new and retrofitted installations is now being obtained within the region of the Commission, in particular for power plants larger than 300 MW (thermal). When combined with combustion modifications, emission values of 200 mg/m^3 (solid fuels, 6% O_2) and 150 mg/m^3 (liquid fuels, 3% O_2) can be easily met.

11. Selective non-catalytic reduction (SNCR), a flue gas treatment for a 20-60% NO_x reduction, is a cheaper technology for special applications (e.g., refinery furnaces and base load gas combustion).

***/ There is limited operational experience of this type of combustion technology.

Table 1: NO_x performance standards (mg/m^3) that can be achieved by combustion modifications

Plant type a/			Uncontrolled baseline	Existing plant retrofit b/		New plant	O_2 %
				Range	Typical value		
Solid Fuels	10 MW c/ to 300 MW	Grate Combustion (coal)	300 - 1 000	-	600	400	7
		Fluidized Bed Combustion					
		(i) stationary	300 - 600	-	-	400	7
		(ii) circulating	150 - 300	-	-	200	7
		Pulverized Coal Combustion					
		(i) dry bottom	700 - 1 700	600 - 1 100	800	< 600	6
		(ii) wet bottom	1 000 - 2 300	1 000 - 1 400	-	< 1 000	6
	>300 MW	Pulverized Coal Combustion					
		(i) dry bottom	700 - 1 700	600 - 1 100	-	< 600	6
		(ii) wet bottom	1 000 - 2 300	1 000 - 1 400	-	< 1 000	6
Liquid Fuels	10 MW c/ to 300 MW	Distillate Oil Combustion	-	-	300	-	3
		Residual Oil Combustion	500 - 1 400	200 - 400	400	-	3
	>300 MW	Residual Oil Combustion	500 - 1 400	200 - 400	-	-	3
Gaseous Fuels	10 MW c/ to 300 MW		150 - 1 000	100 - 300	-	< 300	3
	>300 MW		250 - 1 400	100 - 300	-	< 300	3

a/ Capacity numbers refer to MW (thermal) heat input by fuel (lower heating value).
b/ Only approximate values can be given due to site specific factors and greater uncertainty for retrofitting of existing plant.
c/ For small (10 MW - 100 MW) plants a greater degree of uncertainty applies to all figures given.

Stationary gas turbines and internal combustion (IC) engines

12. NO_x emissions from stationary gas turbines can be reduced either by combustion modification (dry control) or by water/steam injection (wet control). Both measures are well established. By these means, emission values of 150 mg/m^3 (gas, 15% O_2) and 300 mg/m^3 (oil, 15% O_2) can be met. Retrofit is possible.

13. NO_x emissions from stationary spark ignition IC engines can be reduced either by combustion modifications (e.g., lean-burn and exhaust gas recirculation concepts) or by flue gas treatment (closed-loop 3-way catalytic converter, SCR). The technical and economic feasibility of these various processes depends on engine size, engine type (two stroke/four stroke), and engine operation mode (constant/varying load). The lean-burn concept is capable of meeting NO_x emission values of 800 mg/m^3 (5% O_2), the SCR process reduces NO_x emissions well below 400 mg/m^3 (5% O_2), and the three-way catalytic converter reduces such emissions even below 200 mg/m^3 (5% O_2).

Industrial process furnaces - Cement calcination

14. The precalcination process is being evaluated within the region of the Commission as a possible technology with the potential for reducing NO_x concentrations in the flue gas of new and existing cement calcination furnaces to about 300 mg/m^3 (10% O_2).

Non-combustion processes - Nitric acid production

15. Nitric acid production with a high pressure absorption (>8 bar) is capable of keeping NO_x concentrations in undiluted effluents below 400 mg/m^3. The same emission performance can be met by medium pressure absorption in combination with a SCR process or any other similar efficient NO_x reduction process. Retrofit is possible.

II. CONTROL TECHNOLOGIES FOR NO_x EMISSIONS FROM MOTOR VEHICLES

16. The motor vehicles considered in this annex are those used for road transport, namely: petrol-fuelled and diesel-fuelled passenger cars, light-duty vehicles and heavy-duty vehicles. Appropriate reference is made, as necessary, to the specific vehicle categories (M_1, M_2, M_3, N_1, N_2, N_3) defined in ECE Regulation No. 13 pursuant to the 1958 Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicles Equipment and Parts.

17. Road transport is a major source of anthropogenic NO_x emission in many Commission countries, contributing between 40 and 80 per cent of total national emissions. Typically, petrol-fuelled vehicles contribute two-thirds of total road transport NO_x emissions.

18. The technologies available for the control of nitrogen oxides from motor vehicles are summarized in tables 3 and 6. It is convenient to group the technologies by reference to existing or proposed national and international emission standards differing in stringency of control. Because current regulatory test cycles only reflect urban and metropolitan driving, the estimates of relative NO_x emissions given below take account of higher speed driving where NO_x emissions can be particularly important.

19. The additional production cost figures for the various technologies given in tables 3 and 6 are manufacturing cost estimates rather than retail prices.

20. Control of production conformity and in-use vehicle performance is important in ensuring that the reduction potential of emission standards is achieved in practice.

21. Technologies that incorporate or are based on the use of catalytic converters require unleaded fuel. Free circulation of vehicles equipped with catalytic converters depends on the general availability of unleaded petrol.

Petrol-fuelled and diesel-fuelled passenger cars (M_1)

22. In table 2, four emission standards are summarized. These are used in table 3 to group the various engine technologies for petrol vehicles according to their NO_x emission reduction potential.

Table 2: Definition of emission standards

Standard	Limits	Comments
A. ECE R.15-04	HC + NO_x: 19-28 g/test	Current ECE standard (Regulation No.15, including the 04 series of amendments, pursuant to the 1958 Agreement referred to in paragraph 16 above), also adopted by the European Economic Community (Directive 83/351/EEC). ECE R.15 urban test cycle. Emission limit varies with vehicle mass.
B."Luxembourg 1985"	HC + NO_x: 1.4-2.0 l : 8.0 g/test This standard only used to group technology (<1.4 l : 15.0 g/test, >2.0 l : 6.5 g/test)	Standards to be introduced during 1988-1993 in the European Economic Community, as discussed at the 1985 Luxembourg meeting of EEC Council of Ministers and finally agreed upon in December 1987. ECE R.15 urban test cycle applies. Standard for engines >2 l is generally equivalent to US 1983 standard. Standard for engines <1.4 l is provisional, definite standard to be elaborated. Standard for engines of 1.4-2.0 applies to all diesel cars >1.4 l.
C."Stockholm 1985"		Standards for national legislation based on the "master document" developed after the 1985 Stockholm meeting of Environment Ministers from eight countries. Matching US 1987 standards, with the following test procedures:
	NO_x: 0.62 g/km	US Federal Test Procedure (1975).
	NO_x: 0.76 g/km	Highway fuel economy test procedure.
D."California 1989"	NO_x: 0.25 g/km	Standards to be introduced in the State of California, United States from 1989 models onwards. US Federal Test Procedure.

Table 3: Petrol engine technologies, emission performance, costs and fuel consumption for emission standard levels

Standard	Technology	Composite a/ NO_x reduction (%)	Additional b/ production cost (1986 Swiss francs)	Fuel consumption index a/
A.	Baseline (Current conventional spark-ignition engine with carburettor)	- c/	-	100
B.				
	(a) Fuel injection + EGR + secondary air d/	25	200	105
	(b) Open-loop three-way catalyst (+EGR)	55	150	103
	(c) Lean-burn engine with oxidation catalyst (+EGR) e/	60	200-600	90
C.	Closed-loop three-way catalyst	90	300-600	95
D.	Closed-loop three-way catalyst (+ EGR)	92	350-650	98

a/ Composite NO_x reduction and fuel consumption index estimates are for an average-weight European car operating under average European driving conditions.

b/ Additional production costs could be more realistically expressed as a percentage of the total car cost. However, since cost estimates are primarily for comparison in relative terms only, the formulation of the original documents has been retained.

c/ Composite NO_x emission factor = 2.6 g/km.

d/ "EGR" means exhaust gas recirculation.

e/ Based entirely on data for experimental engines. Virtually no production of lean-burn engined vehicles exists.

23. The emission standards A, B, C and D include limits on hydrocarbon (HC) and carbon monoxide (CO) emissions as well as NO_x. Estimates of emission reductions for these pollutants, relative to the baseline ECE R.15-04 case, are given in table 4.

Table 4: Estimated reductions in HC and CO emissions from petrol-fuelled passenger cars for different technologies

Standard	HC-reduction (%)	CO-reduction (%)
B.	(a) 30-40	50
	(b) 50-60	40-50
	(c) 70-90	70-90
C.	90	90
D.	90	90

24. Current diesel cars can meet the NO_x emission requirements of standards A, B and C. Strict particulate emission requirements, together with the stringent NO_x limits of standard D, imply that diesel passenger cars will require further development, probably including electronic control of the fuel pump, advanced fuel injection systems, exhaust gas recirculation and particulate traps. Only experimental vehicles exist to date. (See also table 6, footnote a/).

Other light-duty vehicles (N_1)

25. The control methods for passenger cars are applicable but NO_x reductions, costs and commercial lead time factors may differ.

Heavy-duty petrol-fuelled vehicles (M_2, M_3, N_2, N_3)

26. This class of vehicle is insignificant in western Europe and is decreasing in eastern Europe. US 1990 and US 1991 NO_x emission levels (see table 5) could be achieved at modest cost without significant technology advancement.

Heavy-duty diesel-fuelled vehicles (M_2, M_3, N_2, N_3)

27. In table 5, three emission standards are summarized. These are used in table 6 to group engine technologies for heavy-duty diesel vehicles according to NO_x reduction potential. The baseline engine configuration is changing, with a trend away from naturally aspirated to turbo-charged engines. This trend has implications for improved baseline fuel consumption performance. Comparative estimates of consumption are therefore not included.

Table 5: Definition of emission standards

Standard	NO_x limits (g/kWh)	Comments
I ECE R.49	18	13 mode test
II US-1990	8.0	Transient test
III US-1991	6.7	Transient test

Table 6: Heavy-duty diesel engine technologies, emission performance, a/ and costs for emission standard levels

Standard	Technology	NO_x reduction estimate (%)	Additional production cost (1984 US$)
I	Current conventional direct injection diesel engine	-	-
II b/	Turbo-charging + after-cooling + injection timing retard (Combustion chamber and port modification) (Naturally-aspirated engines are unlikely to meet this standard)	40	$115 ($69 attributable to NO_x standard) c/
III b/	Further refinements of technologies listed under II together with variable injection timing and use of electronics	50	$404 ($68 attributable to NO_x standard) c/

a/ Deterioration in diesel fuel quality would adversely affect emission and may affect fuel consumption for both heavy and light duty vehicles.

b/ It is still necessary to verify on a large scale the availability of new components.

c/ Particulate control and other considerations account for the balance.

MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER

Montreal, September 16, 1987

PROTOCOLE DE MONTRÉAL RELATIF À DES SUBSTANCES QUI APPAUVRISSENT LA COUCHE D'OZONE

Montréal le 16 septembre 1987

MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER

The Parties to this Protocol,

Being Parties to the Vienna Convention for the Protection of the Ozone Layer,

Mindful of their obligation under that Convention to take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer,

Recognizing that world-wide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment,

Conscious of the potential climatic effects of emissions of these substances,

Aware that measures taken to protect the ozone layer from depletion should be based on relevant scientific knowledge, taking into account technical and economic considerations,

Determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations,

Acknowledging that special provision is required to meet the needs of developing countries for these substances,

Noting the precautionary measures for controlling emissions of certain chlorofluorocarbons that have already been taken at national and regional levels,

Considering the importance of promoting international co-operation in the research and development of science and technology relating to the control and reduction of emissions of substances that deplete the ozone layer, bearing in mind in particular the needs of developing countries,

HAVE AGREED AS FOLLOWS:

ARTICLE 1: DEFINITIONS

For the purposes of this Protocol:

1. "Convention" means the Vienna Convention for the Protection of the Ozone Layer, adopted on 22 March 1985.

2. "Parties" means, unless the text otherwise indicates, Parties to this Protocol.

3. "Secretariat" means the secretariat of the Convention.

4. "Controlled substance" means a substance listed in Annex A to this Protocol, whether existing alone or in a mixture. It excludes, however, any such substance or mixture which is in a manufactured product other than a container used for the transportation or storage of the substance listed.

5. "Production" means the amount of controlled substances produced minus the amount destroyed by technologies to be approved by the Parties.

6. "Consumption" means production plus imports minus exports of controlled substances.

7. "Calculated levels" of production, imports, exports and consumption means levels determined in accordance with Article 3.

8. "Industrial rationalization" means the transfer of all or a portion of the calculated level of production of one Party to another, for the purpose of achieving economic efficiencies or responding to anticipated shortfalls in supply as a result of plant closures.

ARTICLE 2: CONTROL MEASURES

1. Each Party shall ensure that for the twelve-month period commencing on the first day of the seventh month following the date of the entry into force of this Protocol, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed its calculated level of consumption in 1986. By the end of the same period, each Party producing one or more of these substances shall ensure that its calculated level of production of the substances does not exceed its calculated level of production in 1986, except that such level may have increased by no more than ten per cent based on the 1986 level. Such increase shall be permitted only so as to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties.

2. Each Party shall ensure that for the twelve-month period commencing on the first day of the thirty-seventh month following the date of the entry into force of this Protocol, and in each twelve month period thereafter, its calculated level of consumption of the controlled substances listed in Group II of Annex A does not exceed its calculated level of consumption in 1986. Each Party producing one or more of these substances shall ensure that its calculated level of production of the substances does not exceed its calculated level of production in 1986, except that such level may have increased by no more than ten per cent based on the 1986 level. Such increase shall be permitted only so as to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties. The mechanisms for implementing these measures shall be decided by the Parties at their first meeting following the first scientific review.

3. Each Party shall ensure that for the period 1 July 1993 to 30 June 1994 and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, eighty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, eighty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.

4. Each Party shall ensure that for the period 1 July 1998 to 30 June 1999, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, fifty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986. This

paragraph will apply unless the Parties decide otherwise at a meeting by a two-thirds majority of Parties present and voting, representing at least two-thirds of the total calculated level of consumption of these substances of the Parties. This decision shall be considered and made in the light of the assessments referred to in Article 6.

5. Any Party whose calculated level of production in 1986 of the controlled substances in Group I of Annex A was less than twenty-five kilotonnes may, for the purposes of industrial rationalization, transfer to or receive from any other Party, production in excess of the limits set out in paragraphs 1, 3 and 4 provided that the total combined calculated levels of production of the Parties concerned does not exceed the production limits set out in this Article. Any transfer of such production shall be notified to the secretariat, no later than the time of the transfer.

6. Any Party not operating under Article 5, that has facilities for the production of controlled substances under construction, or contracted for, prior to 16 September 1987, and provided for in national legislation prior to 1 January 1987, may add the production from such facilities to its 1986 production of such substances for the purposes of determining its calculated level of production for 1986, provided that such facilities are completed by 31 December 1990 and that such production does not raise that Party's annual calculated level of consumption of the controlled substances above 0.5 kilograms per capita.

7. Any transfer of production pursuant to parsgraph 5 or any addition of production pursuant to paragraph 6 shall be notified to the secretariat, no later than the time of the transfer or addition.

8. (a) Any Parties which are Member States of a regional economic integration organization as defined in Article 1(6) of the Convention may agree that they shall jointly fulfil their obligations respecting consumption under this Article provided that their total combined calculated level of consumption does not exceed the levels required by this Article.

(b) The Parties to any such agreement shall inform the secretariat of the terms of the agreement before the date of the reduction in consumption with which the agreement is concerned.

(c) Such agreement will become operative only if all Member States of the regional economic integration organization and the organization concerned are Parties to the Protocol and have notified the secretariat of their manner of implementation.

9. (a) Based on the assessments made pursuant to Article 6, the Parties may decide whether:

(i) adjustments to the ozone depleting potentials specified in Annex A should be made and, if so, what the adjustments should be; and

(ii) further adjustments and reductions of production or consumption of the controlled substances from 1986 levels should be undertaken and, if so, what the scope, amount and timing of any such adjustments and reductions should be.

(b) Proposals for such adjustments shall be communicated to the Parties by the secretariat at least six months before the meeting of the Parties at which they are proposed for adoption.

(c) In taking such decisions, the Parties shall make every effort to reach agreement by consensus. If all efforts at consensus have been exhausted, and no agreement reached, such decisions shall, as a last resort, be adopted by a two-thirds majority vote of the Parties present and voting representing at least fifty per cent of the total consumption of the controlled substances of the Parties.

(d) The decisions, which shall be binding on all Parties, shall forthwith be communicated to the Parties by the Depositary. Unless otherwise provided in the decisions, they shall enter into force on the expiry of six months from the date of the circulation of the communication by the Depositary.

10. (a) Based on the assessments made pursuant to Article 6 of this Protocol and in accordance with the procedure set out in Article 9 of the Convention, the Parties may decide:

(i) whether any substances, and if so which, should be added to or removed from any annex to this Protocol; and

(ii) the mechanism, scope and timing of the control measures that should apply to those substances;

(b) Any such decision shall become effective, provided that it has been accepted by a two-thirds majority vote of the Parties present and voting.

11. Notwithstanding the provisions contained in this Article, Parties may take more stringent measures than those required by this Article.

ARTICLE 3: CALCULATION OF CONTROL LEVELS

For the purposes of Articles 2 and 5, each Party shall, for each Group of substances in Annex A, determine its calculated levels of:

(a) production by:

(i) multiplying its annual production of each controlled substance by the ozone depleting potential specified in respect of it in Annex A; and

(ii) adding together, for each such Group, the resulting figures;

(b) imports and exports, respectively, by following, mutatis mutandis, the procedure set out in subparagraph (a); and

(c) consumption by adding together its calculated levels of production and imports and subtracting its calculated level of exports as determined in accordance with subparagraphs (a) and (b). However, beginning on 1 January 1993, any export of controlled substances to non-Parties shall not be subtracted in calculating the consumption level of the exporting Party.

ARTICLE 4: CONTROL OF TRADE WITH NON-PARTIES

1. Within one year of the entry into force of this Protocol, each Party shall ban the import of controlled substances from any State not party to this Protocol.

2. Beginning on 1 January 1993, no Party operating under paragraph 1 of Article 5 may export any controlled substance to any State not party to this Protocol.

3. Within three years of the date of the entry into force of this Protocol, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of products containing controlled substances. Parties that have not objected to the annex in accordance with those procedures shall ban, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.

4. Within five years of the entry into force of this Protocol, the Parties shall determine the feasibility of banning or restricting, from States not party to this Protocol, the import of products produced with, but not containing, controlled substances. If determined feasible, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of such products. Parties that have not objected to it in accordance with those procedures shall ban or restrict, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.

5. Each Party shall discourage the export, to any State not party to this Protocol, of technology for producing and for utilizing controlled substances.

6. Each Party shall refrain from providing new subsidies, aid, credits, guarantees or insurance programmes for the export to States not party to this Protocol of products, equipment, plants or technology that would facilitate the production of controlled substances.

7. Paragraphs 5 and 6 shall not apply to products, equipment, plants or technology that improve the containment, recovery, recycling or destruction of controlled substances, promote the development of alternative substances, or otherwise contribute to the reduction of emissions of controlled substances.

8. Notwithstanding the provisions of this Article, imports referred to in paragraphs 1, 3 and 4 may be permitted from any State not party to this Protocol if that State is determined, by a meeting of the Parties, to be in full compliance with Article 2 and this Article, and has submitted data to that effect as specified in Article 7.

ARTICLE 5: SPECIAL SITUATION OF DEVELOPING COUNTRIES

1. Any Party that is a developing country and whose annual calculated level of consumption of the controlled substances is less than 0.3 kilograms per capita on the date of the entry into force of the Protocol for it, or any time thereafter within ten years of the date of entry into force of the Protocol shall, in order to meet its basic domestic needs, be entitled to delay its compliance with the control measures set out in paragraphs 1 to 4 of Article 2 by ten years after that specified in those paragraphs. However, such Party shall not exceed an annual calculated level of consumption of 0.3 kilograms per capita. Any such Party shall be entitled to use either the average of its annual calculated level of consumption for the period 1995 to 1997 inclusive or a calculated level of consumption of 0.3 kilograms per capita, whichever is the lower, as the basis for its compliance with the control measures.

2. The Parties undertake to facilitate access to environmentally safe alternative substances and technology for Parties that are developing countries and assist them to make expeditious use of such alternatives.

3. The Parties undertake to facilitate bilaterally or multilaterally the provision of subsidies, aid, credits, guarantees or insurance programmes to Parties that are developing countries for the use of alternative technology and for substitute products.

ARTICLE 6: ASSESSMENT AND REVIEW OF CONTROL MEASURES

Beginning in 1990, and at least every four years thereafter, the Parties shall assess the control measures provided for in Article 2 on the basis of available scientific, environmental, technical and economic information. At least one year before each assessment, the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels. Within one year of being convened, the panels will report their conclusions, through the secretariat, to the Parties.

ARTICLE 7: REPORTING OF DATA

1. Each Party shall provide to the secretariat, within three months of becoming a Party, statistical data on its production, imports and exports of each of the controlled substances for the year 1986, or the best possible estimates of such data where actual data are not available.

2. Each Party shall provide statistical data to the secretariat on its annual production (with separate data on amounts destroyed by technologies to be approved by the Parties), imports, and exports to Parties and non-Parties, respectively, of such substances for the year during which it becomes a Party and for each year thereafter. It shall forward the data no later than nine months after the end of the year to which the data relate.

ARTICLE 8: NON-COMPLIANCE

The Parties, at their first meeting, shall consider and approve procedures and institutional mechanisms for determining non-compliance with the provisions of this Protocol and for treatment of Parties found to be in non-compliance.

ARTICLE 9: RESEARCH, DEVELOPMENT, PUBLIC AWARENESS AND EXCHANGE OF INFORMATION

1. The Parties shall co-operate, consistent with their national laws, regulations and practices and taking into account in particular the needs of developing countries, in promoting, directly or through competent international bodies, research, development and exchange of information on:

(a) best technologies for improving the containment, recovery, recycling or destruction of controlled substances or otherwise reducing their emissions;

(b) possible alternatives to controlled substances, to products containing such substances, and to products manufactured with them; and

(c) costs and benefits of relevant control strategies.

2. The Parties, individually, jointly or through competent international bodies, shall co-operate in promoting public awareness of the environmental effects of the emissions of controlled substances and other substances that deplete the ozone layer.

3. Within two years of the entry into force of this Protocol and every two years thereafter, each Party shall submit to the secretariat a summary of the activities it has conducted pursuant to this Article.

ARTICLE 10: TECHNICAL ASSISTANCE

1. The Parties shall, in the context of the provisions of Article 4 of the Convention, and taking into account in particular the needs of developing countries, co-operate in promoting technical assistance to facilitate participation in and implementation of this Protocol.

2. Any Party or Signatory to this Protocol may submit a request to the secretariat for technical assistance for the purposes of implementing or participating in the Protocol.

3. The Parties, at their first meeting, shall begin deliberations on the means of fulfilling the obligations set out in Article 9, and paragraphs 1 and 2 of this Article, including the preparation of workplans. Such workplans shall pay special attention to the needs and circumstances of the developing countries. States and regional economic integration organizations not party to the Protocol should be encouraged to participate in activities specified in such workplans.

ARTICLE 11: MEETINGS OF THE PARTIES

1. The Parties shall hold meetings at regular intervals. The secretariat shall convene the first meeting of the Parties not later than one year after the date of the entry into force of this Protocol and in conjunction with a meeting of the Conference of the Parties to the Convention, if a meeting of the latter is scheduled within that period.

2. Subsequent ordinary meetings of the Parties shall be held, unless the Parties otherwise decide, in conjunction with meetings of the Conference of the Parties to the Convention. Extraordinary meetings of the Parties shall be held at such other times as may be deemed necessary by a meeting of the Parties, or at the written request of any Party, provided that, within six months of such a request being communicated to them by the secretariat, it is supported by at least one third of the Parties.

3. The Parties, at their first meeting, shall:

   (a) adopt by consensus rules of procedure for their meetings;

   (b) adopt by consensus the financial rules referred to in paragraph 2 of Article 13;

   (c) establish the panels and determine the terms of reference referred to in Article 6;

   (d) consider and approve the procedures and institutional mechanisms specified in Article 8; and

   (e) begin preparation of workplans pursuant to paragraph 3 of Article 10.

4. The functions of the meetings of the Parties shall be to:

   (a) review the implementation of this Protocol;

   (b) decide on any adjustments or reductions referred to in paragraph 9 of Article 2;

   (c) decide on any addition to, insertion in or removal from any annex of substances and on related control measures in accordance with paragraph 10 of Article 2;

(d) establish, where necessary, guidelines or procedures for reporting of information as provided for in Article 7 and paragraph 3 of Article 9;

(e) review requests for technical assistance submitted pursuant to paragraph 2 of Article 10;

(f) review reports prepared by the secretariat pursuant to sub-paragraph (c) of Article 12;

(g) assess, in accordance with Article 6, the control measures provided for in Article 2;

(h) consider and adopt, as required, proposals for amendment of this Protocol or any annex and for any new annex;

(i) consider and adopt the budget for implementing this Protocol; and

(j) consider and undertake any additional action that may be required for the achievement of the purposes of this Protocol.

5. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not party to this Protocol, may be represented at meetings of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to the protection of the ozone layer which has informed the secretariat of its wish to be represented at a meeting of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Parties.

ARTICLE 12: SECRETARIAT

For the purposes of this Protocol, the secretariat shall:

(a) arrange for and service meetings of the Parties as provided for in Article 11;

(b) receive and make available, upon request by a Party, data provided pursuant to Article 7;

(c) prepare and distribute regularly to the Parties reports based on information received pursuant to Articles 7 and 9;

(d) notify the Parties of any request for technical assistance received pursuant to Article 10 so as to facilitate the provision of such assistance;

(e) encourage non-Parties to attend the meetings of the Parties as observers and to act in accordance with the provisions of this Protocol;

(f) provide, as appropriate, the information and requests referred to in subparagraphs (c) and (d) to such non-party observers; and

(g) perform such other functions for the achievement of the purposes of this Protocol as may be assigned to it by the Parties.

ARTICLE 13: FINANCIAL PROVISIONS

1. The funds required for the operation of this Protocol, including those for the functioning of the secretariat related to this Protocol, shall be charged exclusively against contributions from the Parties.

2. The Parties, at their first meeting, shall adopt by consensus financial rules for the operation of this Protocol.

ARTICLE 14: RELATIONSHIP OF THIS PROTOCOL TO THE CONVENTION

Except as otherwise provided in this Protocol, the provisions of the Convention relating to its protocols shall apply to this Protocol.

ARTICLE 15: SIGNATURE

This Protocol shall be open for signature by States and by regional economic integration organizations in Montreal on 16 September 1987, in Ottawa from 17 September 1987 to 16 January 1988, and at United Nations Headquarters in New York from 17 January 1988 to 15 September 1988.

ARTICLE 16: ENTRY INTO FORCE

1. This Protocol shall enter into force on 1 January 1989, provided that at least eleven instruments of ratification, acceptance, approval of the Protocol or accession thereto have been deposited by States or regional economic integration organizations representing at least two-thirds of 1986 estimated global consumption of the controlled substances, and the provisions of paragraph 1 of Article 17 of the Convention have been fulfilled. In the event that these conditions have not been fulfilled by that date, the Protocol shall enter into force on the ninetieth day following the date on which the conditions have been fulfilled.

2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.

3. After the entry into force of this Protocol, any State or regional economic integration organization shall become a Party to it on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

ARTICLE 17: PARTIES JOINING AFTER ENTRY INTO FORCE

Subject to Article 5, any State or regional economic integration organization which becomes a Party to this Protocol after the date of its entry into force, shall fulfil forthwith the sum of the obligations under Article 2, as well as under Article 4, that apply at that date to the States and regional economic integration organizations that became Parties on the date the Protocol entered into force.

ARTICLE 18: RESERVATIONS

No reservations may be made to this Protocol.

ARTICLE 19: WITHDRAWAL

For the purposes of this Protocol, the provisions of Article 19 of the Convention relating to withdrawal shall apply, except with respect to Parties referred to in paragraph 1 of Article 5. Any such Party may withdraw from this Protocol by giving written notification to the Depositary at any time after four years of assuming the obligations specified in paragraphs 1 to 4 of Article 2. Any such withdrawal shall take effect upon expiry of one year after the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.

ARTICLE 20: AUTHENTIC TEXTS

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF THE UNDERSIGNED, BEING DULY AUTHORIZED TO THAT EFFECT, HAVE SIGNED THIS PROTOCOL.

DONE AT MONTREAL THIS SIXTEENTH DAY OF SEPTEMBER, ONE THOUSAND NINE HUNDRED AND EIGHTY SEVEN

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ANNEX A

CONTROLLED SUBSTANCES

Group	Substance	Ozone Depleting Potential *
Group I		
	$CFCl_3$ (CFC-11)	1.0
	CF_2Cl_2 (CFC-12)	1.0
	$C_2F_3Cl_3$ (CFC-113)	0.8
	$C_2F_4Cl_2$ (CFC-114)	1.0
	C_2F_5Cl (CFC-115)	0.6
Group II		
	CF_2BrCl (halon-1211)	3.0
	CF_3Br (halon-1301)	10.0
	$C_2F_4Br_2$ (halon-2402)	(to be determined)

* These ozone depleting potentials are estimates based on existing knowledge and will be reviewed and revised periodically.

UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE

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

NATIONS UNIES
COMMISSION ECONOMIQUE POUR L'EUROPE

PROTOCOLE A LA CONVENTION SUR LA POLLUTION ATMOSPHÉRIQUE TRANSFRONTIÈRE À LONGUE DISTANCE, DE 1979, RELATIF À LA RÉDUCTION DES ÉMISSIONS DE SOUFRE OU DE LEURS FLUX TRANSFRONTIÈRES D'AU MOINS 30 POUR CENT

ОБЪЕДИНЕННЫЕ НАЦИИ
ЭКОНОМИЧЕСКАЯ КОМИССИЯ ДЛЯ ЕВРОПЫ

ПРОТОКОЛ О СОКРАЩЕНИИ ВЫБРОСОВ СЕРЫ ИЛИ ИХ ТРАНСГРАНИЧНЫХ ПОТОКОВ ПО МЕНЬШЕЙ МЕРЕ НА 30 ПРОЦЕНТОВ К КОНВЕНЦИИ 1979 ГОДА О ТРАНСГРАНИЧНОМ ЗАГРЯЗНЕНИИ ВОЗДУХА НА БОЛЬШИЕ РАССТОЯНИЯ

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

UNITED NATIONS

1985

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

The Parties,

Determined to implement the Convention on Long-range Transboundary Air Pollution,

Concerned that the present emissions of air pollutants are causing widespread damage, in exposed parts of Europe and North America, to natural resources of vital environmental and economic importance, such as forests, soils and waters, and to materials (including historical monuments) and, under certain circumstances, have harmful effects on human health,

Aware of the fact that the predominant sources of air pollution contributing to the acidification of the environment are the combustion of fossil fuels for energy production, and the main technological processes in various industrial sectors, as well as transport, which lead to emissions of sulphur dioxide, nitrogen oxides, and other pollutants,

Considering that high priority should be given to reducing sulphur emissions, which will have positive results environmentally, on the overall economic situation and on human health,

Recalling the decision of the United Nations Economic Commission for Europe (ECE) at its thirty-ninth session, which stresses the urgency of intensifying efforts to arrive at co-ordinated national strategies and policies in the ECE region to reduce sulphur emissions effectively at national levels,

Recalling the recognition by the Executive Body for the Convention at its first session of the need to decrease effectively the total annual emissions of sulphur compounds or their transboundary fluxes by 1993-1995, using 1980 levels as the basis for calculations of reductions,

Recalling that the Multilateral Conference on the Causes and Prevention of Damage to Forests and Water by Air Pollution in Europe (Munich, 24-27 June 1984) had requested that the Executive Body for the Convention, as a matter of highest priority, adopt a proposal for a specific agreement on the reduction of annual national sulphur emissions or their transboundary fluxes by 1993 at the latest,

Noting that a number of Contracting Parties to the Convention have decided to implement reductions of their national annual sulphur emissions or their transboundary fluxes by at least 30 per cent as soon as possible and at the latest by 1993, using 1980 levels as the basis for calculation of reductions,

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Recognizing, on the other hand, that some Contracting Parties to the Convention, while not signing the present Protocol at the time of its opening for signature, will nevertheless contribute significantly to the reduction of transboundary air pollution, or will continue to make efforts to control sulphur emissions, as stated in the document annexed to the report of the Executive Body at its third session,

Have agreed as follows:

Article 1

Definitions

For the purposes of the present Protocol,

1. "Convention" means the Convention on Long-range Transboundary Air Pollution, adopted in Geneva on 13 November 1979;

2. "EMEP" means the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe;

3. "Executive Body" means the Executive Body for the Convention constituted under article 10, paragraph 1 of the Convention;

4. "Geographical scope of EMEP" means the area defined in article 1, paragraph 4 of the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), adopted in Geneva on 28 September 1984;

5. "Parties" means, unless the context otherwise requires, the Parties to the present Protocol.

Article 2

Basic provisions

The Parties shall reduce their national annual sulphur emissions or their transboundary fluxes by at least 30 per cent as soon as possible and at the latest by 1993, using 1980 levels as the basis for calculation of reductions.

Article 3

Further reductions

The Parties recognize the need for each of them to study at the national level the necessity for further reductions, beyond those referred to in article 2, of sulphur emissions or their transboundary fluxes when environmental conditions warrant.

Article 4

Reporting of annual emissions

Each Party shall provide annually to the Executive Body its levels of national annual sulphur emissions, and the basis upon which they have been calculated.

Article 5

Calculations of transboundary fluxes

EMEP shall in good time before the annual meetings of the Executive Body provide to the Executive Body calculations of sulphur budgets and also of transboundary fluxes and depositions of sulphur compounds for each previous year within the geographical scope of EMEP, utilizing appropriate models. In areas outside the geographical scope of EMEP, models appropriate to the particular circumstances of Parties therein shall be used.

Article 6

National programmes, policies and strategies

The Parties shall, within the framework of the Convention, develop without undue delay national programmes, policies and strategies which shall serve as a means of reducing sulphur emissions or their transboundary fluxes, by at least 30 per cent as soon as possible and at the latest by 1993, and shall report thereon as well as on progress towards achieving the goal to the Executive Body.

Article 7

Amendments to the Protocol

1. Any Party may propose amendments to the present Protocol.

2. Proposed amendments shall be submitted in writing to the Executive Secretary of the Economic Commission for Europe who shall communicate them to all Parties. The Executive Body shall discuss the proposed amendments at its next annual meeting provided that such proposals have been circulated by the Executive Secretary of the Economic Commission for Europe to the Parties at least 90 days in advance.

3. An amendment to the present Protocol shall be adopted by consensus of the representatives of the Parties, and shall enter into force for the Parties which have accepted it on the ninetieth day after the date on which two-thirds of the Parties have deposited their instruments of acceptance of the amendment. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits its instrument of acceptance of the amendment.

Article 8

Settlement of disputes

If a dispute arises between two or more Parties as to the interpretation or application of the present Protocol, they shall seek a solution by negotiation or by any other method of dispute settlement acceptable to the parties to the dispute.

Article 9

Signature

1. The present Protocol shall be open for signature at Helsinki (Finland) from 8 July 1985 until 12 July 1985 inclusive, by the member States of the Economic Commission for Europe as well as States having consultative status with the Economic Commission for Europe, pursuant to paragraph 8 of Economic and Social Council resolution 36 (IV) of 28 March 1947, and by regional economic integration organizations, constituted by sovereign States members of the Economic Commission for Europe, which have competence in respect of the negotiation, conclusion and application of international agreements in matters covered by the present Protocol, provided that the States and organizations concerned are Parties to the Convention.

2. In matters within their competence, such regional economic integration organizations shall, on their own behalf, exercise the rights and fulfil the responsibilities which the present Protocol attributes to their member States. In such cases, the member States of these organizations shall not be entitled to exercise such rights individually.

Article 10

Ratification, acceptance, approval and accession

1. The present Protocol shall be subject to ratification, acceptance or approval by Signatories.

2. The present Protocol shall be open for accession as from 13 July 1985 by the States and organizations referred to in article 9, paragraph 1.

3. A State or organization acceding to the present Protocol after its entry into force shall implement Article 2 at the latest by 1993. However, if the Protocol is acceded to after 1990, Article 2 may be implemented later than 1993 by the Party concerned but not later than 1995, and such a Party shall implement Article 6 correspondingly.

4. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations, who will perform the functions of depositary.

Article 11

Entry into force

1. The present Protocol shall enter into force on the ninetieth day following the date on which the sixteenth instrument of ratification, acceptance, approval or accession has been deposited.

2. For each State and organization referred to in article 9, paragraph 1, which ratifies, accepts or approves the present Protocol or accedes thereto after the deposit of the sixteenth instrument of ratification, acceptance, approval, or accession, the Protocol shall enter into force on the ninetieth day after the date of deposit by such Party of its instrument of ratification, acceptance, approval, or accession.

Article 12

Withdrawal

At any time after five years from the date on which the present Protocol has come into force with respect to a Party, that Party may withdraw from it by giving written notification to the depositary. Any such withdrawal shall take effect on the ninetieth day after the date of its receipt by the depositary.

Article 13

Authentic texts

The original of the present Protocol, of which the English, French and Russian texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed the present Protocol.

DONE at Helsinki this eighth day of July one thousand nine hundred and eighty-five.

VIENNA CONVENTION FOR THE PROTECTION OF THE OZONE LAYER

UNITED NATIONS
1985

VIENNA CONVENTION FOR THE PROTECTION OF THE OZONE LAYER

Preamble

The Parties to this Convention,

Aware of the potentially harmful impact on human health and the environment through modification of the ozone layer,

Recalling the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, and in particular principle 21, which provides that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction",

Taking into account the circumstances and particular requirements of developing countries,

Mindful of the work and studies proceeding within both international and national organizations and, in particular, of the World Plan of Action on the Ozone Layer of the United Nations Environment Programme,

Mindful also of the precautionary measures for the protection of the ozone layer which have already been taken at the national and international levels,

Aware that measures to protect the ozone layer from modifications due to human activities require international co-operation and action, and should be based on relevant scientific and technical considerations,

Aware also of the need for further research and systematic observations to further develop scientific knowledge of the ozone layer and possible adverse effects resulting from its modification,

Determined to protect human health and the environment against adverse effects resulting from modifications of the ozone layer,

HAVE AGREED AS FOLLOWS:

Article 1
DEFINITIONS

For the purposes of this Convention:

1. "The ozone layer" means the layer of atmospheric ozone above the planetary boundary layer.

2. "Adverse effects" means changes in the physical environment or biota, including changes in climate, which have significant deleterious effects on human health or on the composition, resilience and productivity of natural and managed ecosystems, or on materials useful to mankind.

3. "Alternative technologies or equipment" means technologies or equipment the use of which makes it possible to reduce or effectively eliminate emissions of substances which have or are likely to have adverse effects on the ozone layer.

4. "Alternative substances" means substances which reduce, eliminate or avoid adverse effects on the ozone layer.

5. "Parties" means, unless the text otherwise indicates, Parties to this Convention.

6. "Regional economic integration organization" means an organization constituted by sovereign States of a given region which has competence in respect of matters governed by this Convention or its protocols and has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the instruments concerned.

7. "Protocols" means protocols to this Convention.

Article 2
GENERAL OBLIGATIONS

1. The Parties shall take appropriate measures in accordance with the provisions of this Convention and of those protocols in force to which they are party to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.

2. To this end the Parties shall, in accordance with the means at their disposal and their capabilities:

(a) Co-operate by means of systematic observations, research and information exchange in order to better understand and assess the effects of human activities on the ozone layer and the effects on human health and the environment from modification of the ozone layer;

(b) Adopt appropriate legislative or administrative measures and co-operate in harmonizing appropriate policies to control, limit, reduce or prevent human activities under their jurisdiction or control should it be found that these activities have or are likely to have adverse effects resulting from modification or likely modification of the ozone layer;

(c) Co-operate in the formulation of agreed measures, procedures and standards for the implementation of this Convention, with a view to the adoption of protocols and annexes;

(d) Co-operate with competent international bodies to implement effectively this Convention and protocols to which they are party.

3. The provisions of this Convention shall in no way affect the right of Parties to adopt, in accordance with international law, domestic measures additional to those referred to in paragraphs 1 and 2 above, nor shall they affect additional domestic measures already taken by a Party, provided that these measures are not incompatible with their obligations under this Convention.

4. The application of this article shall be based on relevant scientific and technical considerations.

Article 3
RESEARCH AND SYSTEMATIC OBSERVATIONS

1. The Parties undertake, as appropriate, to initiate and co-operate in, directly or through competent international bodies, the conduct of research and scientific assessments on:

(a) The physical and chemical processes that may affect the ozone layer;

(b) The human health and other biological effects deriving from any modifications of the ozone layer, particularly those resulting from changes in ultra-violet solar radiation having biological effects (UV-B);

(c) Climatic effects deriving from any modifications of the ozone layer;

(d) Effects deriving from any modifications of the ozone layer and any consequent change in UV-B radiation on natural and synthetic materials useful to mankind;

(e) Substances, practices, processes and activities that may affect the ozone layer, and their cumulative effects;

(f) Alternative substances and technologies;

(g) Related socio-economic matters;

and as further elaborated in annexes I and II.

2. The Parties undertake to promote or establish, as appropriate, directly or through competent international bodies and taking fully into account national legislation and relevant ongoing activities at both the national and international levels, joint or complementary programmes for systematic observation of the state of the ozone layer and other relevant parameters, as elaborated in annex I.

3. The Parties undertake to co-operate, directly or through competent international bodies, in ensuring the collection, validation and transmission of research and observational data through appropriate world data centres in a regular and timely fashion.

Article 4

CO-OPERATION IN THE LEGAL, SCIENTIFIC AND TECHNICAL FIELDS

1. The Parties shall facilitate and encourage the exchange of scientific, technical, socio-economic, commercial and legal information relevant to this Convention as further elaborated in annex II. Such information shall be supplied to bodies agreed upon by the Parties. Any such body receiving information regarded as confidential by the supplying Party shall ensure that such information is not disclosed and shall aggregate it to protect its confidentiality before it is made available to all Parties.

2. The Parties shall co-operate, consistent with their national laws, regulations and practices and taking into account in particular the needs of the developing countries, in promoting, directly or through competent international bodies, the development and transfer of technology and knowledge. Such co-operation shall be carried out particularly through:

(a) Facilitation of the acquisition of alternative technologies by other Parties;

(b) Provision of information on alternative technologies and equipment, and supply of special manuals or guides to them;

(c) The supply of necessary equipment and facilities for research and systematic observations;

(d) Appropriate training of scientific and technical personnel.

Article 5

TRANSMISSION OF INFORMATION

The Parties shall transmit, through the secretariat, to the Conference of the Parties established under article 6 information on the measures adopted by them in implementation of this Convention and of protocols to which they are party in such form and at such intervals as the meetings of the parties to the relevant instruments may determine.

Article 6

CONFERENCE OF THE PARTIES

1. A Conference of the Parties is hereby established. The first meeting of the Conference of the Parties shall be convened by the secretariat designated on an interim basis under article 7 not later than one year after entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be determined by the Conference at its first meeting.

2. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to them by the secretariat, it is supported by at least one third of the Parties.

3. The Conference of the Parties shall by consensus agree upon and adopt rules of procedure and financial rules for itself and for any subsidiary bodies it may establish, as well as financial provisions governing the functioning of the secretariat.

4. The Conference of the Parties shall keep under continuous review the implementation of this Convention, and, in addition, shall:

(a) Establish the form and the intervals for transmitting the information to be submitted in accordance with article 5 and consider such information as well as reports submitted by any subsidiary body;

(b) Review the scientific information on the ozone layer, on its possible modification and on possible effects of any such modification;

(c) Promote, in accordance with article 2, the harmonization of appropriate policies, strategies and measures for minimizing the release of substances causing or likely to cause modification of the ozone layer, and make recommendations on any other measures relating to this Convention;

(d) Adopt, in accordance with articles 3 and 4, programmes for research, systematic observations, scientific and technological co-operation, the exchange of information and the transfer of technology and knowledge;

(e) Consider and adopt, as required, in accordance with articles 9 and 10, amendments to this Convention and its annexes;

(f) Consider amendments to any protocol, as well as to any annexes thereto, and, if so decided, recommend their adoption to the parties to the protocol concerned;

(g) Consider and adopt, as required, in accordance with article 10, additional annexes to this Convention;

(h) Consider and adopt, as required, protocols in accordance with article 8;

(i) Establish such subsidiary bodies as are deemed necessary for the implementation of this Convention;

(j) Seek, where appropriate, the services of competent international bodies and scientific committees, in particular the World Meteorological Organization and the World Health Organization, as well as the Co-ordinating Committee on the Ozone Layer, in scientific research, systematic observations and other activities pertinent to the objectives of this Convention, and make use as appropriate of information from these bodies and committees;

(k) Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention.

5. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not party to this Convention, may be represented at meetings of the Conference of the Parties by observers. Any body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to the protection of the ozone layer which has informed the secretariat of its wish to be represented at a meeting of the Conference of the Parties as an observer may be admitted unless at least one-third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

Article 7
SECRETARIAT

1. The functions of the secretariat shall be:

(a) To arrange for and service meetings provided for in articles 6, 8, 9 and 10;

(b) To prepare and transmit reports based upon information received in accordance with articles 4 and 5, as well as upon information derived from meetings of subsidiary bodies established under article 6;

(c) To perform the functions assigned to it by any protocol;

(d) To prepare reports on its activities carried out in implementation of its functions under this Convention and present them to the Conference of the Parties;

(e) To ensure the necessary co-ordination with other relevant international bodies, and in particular to enter into such administrative and contractual arrangements as may be required for the effective discharge of its functions;

(f) To perform such other functions as may be determined by the Conference of the Parties.

2. The secretariat functions will be carried out on an interim basis by the United Nations Environment Programme until the completion of the first ordinary meeting of the Conference of the Parties held pursuant to article 6. At its first ordinary meeting, the Conference of the Parties shall designate the secretariat from amongst those existing competent international organizations which have signified their willingness to carry out the secretariat functions under this Convention.

Article 8

ADOPTION OF PROTOCOLS

1. The Conference of the Parties may at a meeting adopt protocols pursuant to article 2.

2. The text of any proposed protocol shall be communicated to the Parties by the secretariat at least six months before such a meeting.

Article 9

AMENDMENT OF THE CONVENTION OR PROTOCOLS

1. Any Party may propose amendments to this Convention or to any protocol. Such amendments shall take due account, inter alia, of relevant scientific and technical considerations.

2. Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. Amendments to any protocol shall be adopted at a meeting of the Parties to the protocol in question. The text of any proposed amendment to this Convention or to any protocol, except as may otherwise be provided in such protocol, shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to this Convention for information.

3. The Parties shall make every effort to reach agreement on any proposed amendment to this Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting, and shall be submitted by the Depositary to all Parties for ratification, approval or acceptance.

4. The procedure mentioned in paragraph 3 above shall apply to amendments to any protocol, except that a two-thirds majority of the parties to that protocol present and voting at the meeting shall suffice for their adoption.

5. Ratification, approval or acceptance of amendments shall be notified to the Depositary in writing. Amendments adopted in accordance with paragraphs 3 or 4 above shall enter into force between parties having accepted them on the ninetieth day after the receipt by the Depositary of notification of their ratification, approval or acceptance by at least three-fourths of the Parties to this Convention or by at least two-thirds of the parties to the protocol concerned, except as may otherwise be provided in such protocol. Thereafter the amendments shall enter into force for any other Party on the ninetieth day after that Party deposits its instrument of ratification, approval or acceptance of the amendments.

6. For the purposes of this article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

Article 10

ADOPTION AND AMENDMENT OF ANNEXES

1. The annexes to this Convention or to any protocol shall form an integral part of this Convention or of such protocol, as the case may be, and, unless expressly provided otherwise, a reference to this Convention or its protocols constitutes at the same time a reference to any annexes thereto. Such annexes shall be restricted to scientific, technical and administrative matters.

2. Except as may be otherwise provided in any protocol with respect to its annexes, the following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention or of annexes to a protocol:

(a) Annexes to this Convention shall be proposed and adopted according to the procedure laid down in article 9, paragraphs 2 and 3, while annexes to any protocol shall be proposed and adopted according to the procedure laid down in article 9, paragraphs 2 and 4;

(b) Any party that is unable to approve an additional annex to this Convention or an annex to any protocol to which it is party shall so notify the Depositary, in writing, within six months from the date of the communication of the adoption by the Depositary. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time substitute an acceptance for a previous declaration of objection and the annexes shall thereupon enter into force for that Party;

(c) On the expiry of six months from the date of the circulation of the communication by the Depositary, the annex shall become effective for all Parties to this Convention or to any protocol concerned which have not submitted a notification in accordance with the provision of subparagraph (b) above.

3. The proposal, adoption and entry into force of amendments to annexes to this Convention or to any protocol shall be subject to the same procedure as for the proposal, adoption and entry into force of annexes to the Convention or annexes to a protocol. Annexes and amendments thereto shall take due account, inter alia, of relevant scientific and technical considerations.

4. If an additional annex or an amendment to an annex involves an amendment to this Convention or to any protocol, the additional annex or amended annex shall not enter into force until such time as the amendment to this Convention or to the protocol concerned enters into force.

Article 11
SETTLEMENT OF DISPUTES

1. In the event of a dispute between Parties concerning the interpretation or application of this Convention, the parties concerned shall seek solution by negotiation.

2. If the parties concerned cannot reach agreement by negotiation, they may jointly seek the good offices of, or request mediation by, a third party.

3. When ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a State or regional economic integration organization may declare in writing to the Depositary that for a dispute not resolved in accordance with paragraph 1 or paragraph 2 above, it accepts one or both of the following means of dispute settlement as compulsory:

(a) Arbitration in accordance with procedures to be adopted by the Conference of the Parties at its first ordinary meeting;

(b) Submission of the dispute to the International Court of Justice.

4. If the parties have not, in accordance with paragraph 3 above, accepted the same or any procedure, the dispute shall be submitted to conciliation in accordance with paragraph 5 below unless the parties otherwise agree.

5. A conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall be composed of an equal number of members appointed by each party concerned and a chairman chosen jointly by the members appointed by each party. The commission shall render a final and recommendatory award, which the parties shall consider in good faith.

6. The provisions of this article shall apply with respect to any protocol except as otherwise provided in the protocol concerned.

Article 12
SIGNATURE

This Convention shall be open for signature by States and by regional economic integration organizations at the Federal Ministry for Foreign Affairs of the Republic of Austria in Vienna from 22 March 1985 to 21 September 1985, and at United Nations Headquarters in New York from 22 September 1985 to 21 March 1986.

Article 13
RATIFICATION, ACCEPTANCE OR APPROVAL

1. This Convention and any protocol shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. Instruments of ratification, acceptance or approval shall be deposited with the Depositary.

2. Any organization referred to in paragraph 1 above which becomes a Party to this Convention or any protocol without any of its member States being a Party shall be bound by all the obligations under the Convention or the protocol, as the case may be. In the case of such organizations, one or more of whose member States is a Party to the Convention or relevant protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligation under the Convention or protocol, as the case may be. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention or relevant protocol concurrently.

3. In their instruments of ratification, acceptance or approval, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention or the relevant protocol. These organizations shall also inform the Depositary of any substantial modification in the extent of their competence.

Article 14
ACCESSION

1. This Convention and any protocol shall be open for accession by States and by regional economic integration organizations from the date on which the Convention or the protocol concerned is closed for signature. The instruments of accession shall be deposited with the Depositary.

2. In their instruments of accession, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention or the relevant protocol. These organizations shall also inform the Depositary of any substantial modification in the extent of their competence.

3. The provisions of article 13, paragraph 2, shall apply to regional economic integration organizations which accede to this Convention or any protocol.

Article 15
RIGHT TO VOTE

1. Each Party to this Convention or to any protocol shall have one vote.

2. Except as provided for in paragraph 1 above, regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States which are Parties to the Convention or the relevant protocol. Such organizations shall not exercise their right to vote if their member States exercise theirs, and vice versa.

Article 16

RELATIONSHIP BETWEEN THE CONVENTION AND ITS PROTOCOLS

1. A State or a regional economic integration organization may not become a party to a protocol unless it is, or becomes at the same time, a Party to the Convention.

2. Decisions concerning any protocol shall be taken only by the parties to the protocol concerned.

Article 17

ENTRY INTO FORCE

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the twentieth instrument of ratification, acceptance, approval or accession.

2. Any protocol, except as otherwise provided in such protocol, shall enter into force on the ninetieth day after the date of deposit of the eleventh instrument of ratification, acceptance or approval of such protocol or accession thereto.

3. For each Party which ratifies, accepts or approves this Convention or accedes thereto after the deposit of the twentieth instrument of ratification, acceptance, approval or accession, it shall enter into force on the ninetieth day after the date of deposit by such Party of its instrument of ratification, acceptance, approval or accession.

4. Any protocol, except as otherwise provided in such protocol, shall enter into force for a party that ratifies, accepts or approves that protocol or accedes thereto after its entry into force pursuant to paragraph 2 above, on the ninetieth day after the date on which that party deposits its instrument of ratification, acceptance, approval or accession, or on the date on which the Convention enters into force for that Party, whichever shall be the later.

5. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.

Article 18
RESERVATIONS

No reservations may be made to this Convention.

Article 19
WITHDRAWAL

1. At any time after four years from the date on which this Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.

2. Except as may be provided in any protocol, at any time after four years from the date on which such protocol has entered into force for a party, that party may withdraw from the protocol by giving written notification to the Depositary.

3. Any such withdrawal shall take effect upon expiry of one year after the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.

4. Any Party which withdraws from this Convention shall be considered as also having withdrawn from any protocol to which it is party.

Article 20
DEPOSITARY

1. The Secretary-General of the United Nations shall assume the functions of depositary of this Convention and any protocols.

2. The Depositary shall inform the Parties, in particular, of:

(a) The signature of this Convention and of any protocol, and the deposit of instruments of ratification, acceptance, approval or accession in accordance with articles 13 and 14;

(b) The date on which the Convention and any protocol will come into force in accordance with article 17;

(c) Notifications of withdrawal made in accordance with article 19;

(d) Amendments adopted with respect to the Convention and any protocol, their acceptance by the parties and their date of entry into force in accordance with article 9;

(e) All communications relating to the adoption and approval of annexes and to the amendment of annexes in accordance with article 10;

(f) Notifications by regional economic integration organizations of the extent of their competence with respect to matters governed by this Convention and any protocols, and of any modifications thereof.

(g) Declarations made in accordance with article 11, paragraph 3.

Article 21

AUTHENTIC TEXTS

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

Done at Vienna on the 22nd day of March 1985

Annex I

RESEARCH AND SYSTEMATIC OBSERVATIONS

1. The Parties to the Convention recognize that the major scientific issues are:

(a) Modification of the ozone layer which would result in a change in the amount of solar ultra-violet radiation having biological effects (UV-B) that reaches the Earth's surface and the potential consequences for human health, for organisms, ecosystems and materials useful to mankind;

(b) Modification of the vertical distribution of ozone, which could change the temperature structure of the atmosphere and the potential consequences for weather and climate.

2. The Parties to the Convention, in accordance with article 3, shall co-operate in conducting research and systematic observations and in formulating recommendations for future research and observation in such areas as:

(a) Research into the physics and chemistry of the atmosphere

(i) Comprehensive theoretical models: further development of models which consider the interaction between radiative, dynamic and chemical processes; studies of the simultaneous effects of various man-made and naturally occurring species upon atmospheric ozone; interpretation of satellite and non-satellite measurement data sets; evaluation of trends in atmospheric and geophysical parameters, and the development of methods for attributing changes in these parameters to specific causes;

(ii) Laboratory studies of: rate coefficients, absorption cross-sections and mechanisms of tropospheric and stratospheric chemical and photochemical processes; spectroscopic data to support field measurements in all relevant spectral regions;

(iii) Field measurements: the concentration and fluxes of key source gases of both natural and anthropogenic origin; atmospheric dynamics studies; simultaneous measurements of photochemically-related species down to the

planetary boundary layer, using in situ and remote sensing instruments; intercomparison of different sensors, including co-ordinated correlative measurements for satellite instrumentation; three-dimensional fields of key atmospheric trace constituents, solar spectral flux and meteorological parameters;

(iv) Instrument development, including satellite and non-satellite sensors for atmospheric trace constituents, solar flux and meteorological parameters;

(b) Research into health, biological and photodegradation effects

(i) The relationship between human exposure to visible and ultra-violet solar radiation and (a) the development of both non-melanoma and melanoma skin cancer and (b) the effects on the immunological system;

(ii) Effects of UV-B radiation, including the wavelength dependence, upon (a) agricultural crops, forests and other terrestial ecosystems and (b) the aquatic food web and fisheries, as well as possible inhibition of oxygen production by marine phytoplankton;

(iii) The mechanisms by which UV-B radiation acts on biological materials, species and ecosystems, including: the relationship between dose, dose rate, and response; photorepair, adaptation, and protection;

(iv) Studies of biological action spectra and the spectral response using polychromatic radiation in order to include possible interactions of the various wavelength regions;

(v) The influence of UV-B radiation on: the sensitivities and activities of biological species important to the biospheric balance; primary processes such as photosynthesis and biosynthesis;

(vi) The influence of UV-B radiation on the photodegradation of pollutants, agricultural chemicals and other materials;

(c) Research on effects on climate

(i) Theoretical and observational studies of the radiative effects of ozone and other trace species and the impact on climate parameters, such as land and ocean surface temperatures, precipitation patterns, the exchange between the troposphere and stratosphere;

(ii) The investigation of the effects of such climate impacts on various aspects of human activity;

(d) Systematic observations on:

(i) The status of the ozone layer (i.e. the spatial and temporal variability of the total column content and vertical distribution) by making the Global Ozone Observing System, based on the integration of satellite and ground-based systems, fully operational;

(ii) The tropospheric and stratospheric concentrations of source gases for the HO_x, NO_x, ClO_x and carbon families;

(iii) The temperature from the ground to the mesosphere, utilizing both ground-based and satellite systems;

(iv) Wavelength-resolved solar flux reaching, and thermal radiation leaving, the Earth's atmosphere, utilizing satellite measurements;

(v) Wavelength-resolved solar flux reaching the Earth's surface in the ultra-violet range having biological effects (UV-B);

(vi) Aerosol properties and distribution from the ground to the mesosphere, utilizing ground-based, airborne and satellite systems;

(vii) Climatically important variables by the maintenance of programmes of high-quality meteorological surface measurements;

(viii) Trace species, temperatures, solar flux and aerosols utilizing improved methods for analysing global data.

3. The Parties to the Convention shall co-operate, taking into account the particular needs of the developing countries, in promoting the appropriate scientific and technical training required to participate in the research and systematic observations outlined in this annex. Particular emphasis should be given to the intercalibration of observational instrumentation and methods with a view to generating comparable or standardized scientific data sets.

4. The following chemical substances of natural and anthropogenic origin, not listed in order of priority, are thought to have the potential to modify the chemical and physical properties of the ozone layer.

(a) Carbon substances

(i) Carbon monoxide (CO)

Carbon monoxide has significant natural and anthropogenic sources, and is thought to play a major direct role in tropospheric photochemistry, and an indirect role in stratospheric photochemistry.

(ii) Carbon dioxide (CO_2)

Carbon dioxide has significant natural and anthropogenic sources, and affects stratospheric ozone by influencing the thermal structure of the atmosphere.

(iii) Methane (CH_4)

Methane has both natural and anthropogenic sources, and affects both tropospheric and stratospheric ozone.

(iv) Non-methane hydrocarbon species

Non-methane hydrocarbon species, which consist of a large number of chemical substances, have both natural and anthropogenic sources, and play a direct role in tropospheric photochemistry and an indirect role in stratospheric photochemistry.

(b) Nitrogen substances

(i) Nitrous oxide (N_2O)

The dominant sources of N_2O are natural, but anthropogenic contributions are becoming increasingly important. Nitrous oxide is the primary source of stratospheric NO_x, which play a vital role in controlling the abundance of stratospheric ozone.

(ii) Nitrogen oxides (NO_x)

Ground-level sources of NO_x play a major direct role only in tropospheric photochemical processes and an indirect role in stratosphere photochemistry, whereas injection of NO_x close to the tropopause may lead directly to a change in upper tropospheric and stratospheric ozone.

(c) Chlorine substances

(i) Fully halogenated alkanes, e.g. CCl_4, $CFCl_3$ (CFC-11), CF_2Cl_2 (CFC-12), $C_2F_3Cl_3$ (CFC-113), $C_2F_4Cl_2$ (CFC-114)

Fully halogenated alkanes are anthropogenic and act as a source of ClO_x, which plays a vital role in ozone photochemistry, especially in the 30-50 km altitude region.

(ii) Partially halogenated alkanes, e.g. CH_3Cl, CHF_2Cl (CFC-22), CH_3CCl_3, $CHFCl_2$ (CFC-21)

The sources of CH_3Cl are natural, whereas the other partially halogenated alkanes mentioned above are anthropogenic in origin. These gases also act as a source of stratospheric ClO_x.

(d) Bromine substances

Fully halogenated alkanes, e.g. CF_3Br

These gases are anthropogenic and act as a source of BrO_x, which behaves in a manner similar to ClO_x.

(e) Hydrogen substances

(i) Hydrogen (H_2)

Hydrogen, the source of which is natural and anthropogenic, plays a minor role in stratospheric photochemistry.

(ii) Water (H_2O)

Water, the source of which is natural, plays a vital role in both tropospheric and stratospheric photochemistry. Local sources of water vapour in the stratosphere include the oxidation of methane and, to a lesser extent, of hydrogen.

Annex II

INFORMATION EXCHANGE

1. The Parties to the Convention recognize that the collection and sharing of information is an important means of implementing the objectives of this Convention and of assuring that any actions that may be taken are appropriate and equitable. Therefore, Parties shall exchange scientific, technical, socio-economic, business, commercial and legal information.

2. The Parties to the Convention, in deciding what information is to be collected and exchanged, should take into account the usefulness of the information and the costs of obtaining it. The Parties further recognize that co-operation under this annex has to be consistent with national laws, regulations and practices regarding patents, trade secrets, and protection of confidential and proprietary information.

3. Scientific information

This includes information on:

(a) Planned and ongoing research, both governmental and private, to facilitate the co-ordination of research programmes so as to make the most effective use of available national and international resources;

(b) The emission data needed for research;

(c) Scientific results published in peer-reviewed literature on the understanding of the physics and chemistry of the Earth's atmosphere and of its susceptibility to change, in particular on the state of the ozone layer and effects on human health, environment and climate which would result from changes on all time-scales in either the total column content or the vertical distribution of ozone;

(d) The assessment of research results and the recommendations for future research.

4. Technical information

This includes information on:

(a) The availability and cost of chemical substitutes and of alternative technologies to reduce the emissions of ozone-modifying substances and related planned and ongoing research;

(b) The limitations and any risks involved in using chemical or other substitutes and alternative technologies.

5. Socio-economic and commercial information on the substances referred to in annex I

This includes information on:

(a) Production and production capacity;

(b) Use and use patterns;

(c) Imports/exports;

(d) The costs, risks and benefits of human activities which may indirectly modify the ozone layer and of the impacts of regulatory actions taken or being considered to control these activities.

6. Legal information

This includes information on:

(a) National laws, administrative measures and legal research relevant to the protection of the ozone layer;

(b) International agreements, including bilateral agreements, relevant to the protection of the ozone layer;

(c) Methods and terms of licensing and availability of patents relevant to the protection of the ozone layer.

UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE

CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

done at Geneva, on 13 November 1979

NATIONS UNIES
COMMISSION ECONOMIQUE POUR L'EUROPE

CONVENTION SUR LA POLLUTION ATMOSPHERIQUE TRANSFRONTIERE A LONGUE DISTANCE

en date, à Genève, du 13 novembre 1979

ОБЪЕДИНЕННЫЕ НАЦИИ
ЭКОНОМИЧЕСКАЯ КОМИССИЯ ДЛЯ ЕВРОПЫ

КОНВЕНЦИЯ О ТРАНСГРАНИЧНОМ ЗАГРЯЗНЕНИИ ВОЗДУХА НА БОЛЬШИЕ РАССТОЯНИЯ

составлено в Женеве 13 ноября 1979 г.

CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

UNITED NATIONS

1979

CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

The Parties to the present Convention,

Determined to promote relations and co-operation in the field of environmental protection,

Aware of the significance of the activities of the United Nations Economic Commission for Europe in strengthening such relations and co-operation, particularly in the field of air pollution including long-range transport of air pollutants,

Recognizing the contribution of the Economic Commission for Europe to the multilateral implementation of the pertinent provisions of the Final Act of the Conference on Security and Co-operation in Europe,

Cognizant of the references in the chapter on environment of the Final Act of the Conference on Security and Co-operation in Europe calling for co-operation to control air pollution and its effects, including long-range transport of air pollutants, and to the development through international co-operation of an extensive programme for the monitoring and evaluation of long-range transport of air pollutants, starting with sulphur dioxide and with possible extension to other pollutants,

Considering the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, and in particular principle 21, which expresses the common conviction that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

Recognizing the existence of possible adverse effects, in the short and long term, of air pollution including transboundary air pollution,

Concerned that a rise in the level of emissions of air pollutants within the region as forecast may increase such adverse effects,

Recognizing the need to study the implications of the long-range transport of air pollutants and the need to seek solutions for the problems identified,

Affirming their willingness to reinforce active international co-operation to develop appropriate national policies and by means of exchange of information, consultation, research and monitoring, to co-ordinate national action for combating air pollution including long-range transboundary air pollution,

Have agreed as follows:

DEFINITIONS

Article 1

For the purposes of the present Convention:

(a) "air pollution" means the introduction by man, directly or indirectly, of substances or energy into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment, and "air pollutants" shall be construed accordingly;

(b) "long-range transboundary air pollution" means air pollution whose physical origin is situated wholly or in part within the area under the national jurisdiction of one State and which has adverse effects in the area under the jurisdiction of another State at such a distance that it is not generally possible to distinguish the contribution of individual emission sources or groups of sources.

FUNDAMENTAL PRINCIPLES

Article 2

The Contracting Parties, taking due account of the facts and problems involved, are determined to protect man and his environment against air pollution and shall endeavour to limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution.

Article 3

The Contracting Parties, within the framework of the present Convention, shall by means of exchanges of information, consultation, research and monitoring, develop without undue delay policies and strategies which shall serve as a means of combating the discharge of air pollutants, taking into account efforts already made at national and international levels.

Article 4

The Contracting Parties shall exchange information on and review their policies, scientific activities and technical measures aimed at combating, as far as possible, the discharge of air pollutants which may have adverse effects, thereby contributing to the reduction of air pollution including long-range transboundary air pollution.

Article 5

Consultations shall be held, upon request, at an early stage between, on the one hand, Contracting Parties which are actually affected by or exposed to a significant risk of long-range transboundary air pollution and, on the other hand, Contracting Parties within which and subject to whose jurisdiction a significant contribution to long-range transboundary air pollution originates, or could originate, in connexion with activities carried on or contemplated therein.

AIR QUALITY MANAGEMENT

Article 6

Taking into account articles 2 to 5, the ongoing research, exchange of information and monitoring and the results thereof, the cost and effectiveness of local and other remedies and, in order to combat air pollution, in particular that originating from new or rebuilt installations, each Contracting Party undertakes to develop the best policies and strategies including air quality management systems and, as part of them, control measures compatible with balanced development, in particular by using the best available technology which is economically feasible and low- and non-waste technology.

RESEARCH AND DEVELOPMENT

Article 7

The Contracting Parties, as appropriate to their needs, shall initiate and co-operate in the conduct of research into and/or development of:

(a) existing and proposed technologies for reducing emissions of sulphur compounds and other major air pollutants, including technical and economic feasibility, and environmental consequences;

(b) instrumentation and other techniques for monitoring and measuring emission rates and ambient concentrations of air pollutants;

(c) improved models for a better understanding of the transmission of long-range transboundary air pollutants;

(d) the effects of sulphur compounds and other major air pollutants on human health and the environment, including agriculture, forestry, materials, aquatic and other natural ecosystems and visibility, with a view to establishing a scientific basis for dose/effect relationships designed to protect the environment;

(e) the economic, social and environmental assessment of alternative measures for attaining environmental objectives including the reduction of long-range transboundary air pollution;

(f) education and training programmes related to the environmental aspects of pollution by sulphur compounds and other major air pollutants.

EXCHANGE OF INFORMATION

Article 8

The Contracting Parties, within the framework of the Executive Body referred to in article 10 and bilaterally, shall, in their common interests, exchange available information on:

(a) data on emissions at periods of time to be agreed upon, of agreed air pollutants, starting with sulphur dioxide, coming from grid-units of agreed size; or on the fluxes of agreed air pollutants, starting with sulphur dioxide, across national borders, at distances and at periods of time to be agreed upon;

(b) major changes in national policies and in general industrial development, and their potential impact, which would be likely to cause significant changes in long-range transboundary air pollution;

(c) control technologies for reducing air pollution relevant to long-range transboundary air pollution;

(d) the projected cost of the emission control of sulphur compounds and other major air pollutants on a national scale;

(e) meteorological and physico-chemical data relating to the processes during transmission;

(f) physico-chemical and biological data relating to the effects of long-range transboundary air pollution and the extent of the damage 1/ which these data indicate can be attributed to long-range transboundary air pollution;

(g) national, subregional and regional policies and strategies for the control of sulphur compounds and other major air pollutants.

IMPLEMENTATION AND FURTHER DEVELOPMENT OF THE CO-OPERATIVE PROGRAMME FOR THE MONITORING AND EVALUATION OF THE LONG-RANGE TRANSMISSION OF AIR POLLUTANTS IN EUROPE

Article 9

The Contracting Parties stress the need for the implementation of the existing "Co-operative programme for the monitoring and evaluation of the long-range transmission of air pollutants in Europe" (hereinafter referred to as EMEP) and, with regard to the further development of this programme, agree to emphasize:

(a) the desirability of Contracting Parties joining in and fully implementing EMEP which, as a first step, is based on the monitoring of sulphur dioxide and related substances;

(b) the need to use comparable or standardized procedures for monitoring whenever possible;

(c) the desirability of basing the monitoring programme on the framework of both national and international programmes. The establishment of monitoring stations and the collection of data shall be carried out under the national jurisdiction of the country in which the monitoring stations are located;

(d) the desirability of establishing a framework for a co-operative environmental monitoring programme, based on and taking into account present and future national, subregional, regional and other international programmes;

(e) the need to exchange data on emissions at periods of time to be agreed upon, of agreed air pollutants, starting with sulphur dioxide, coming from grid-units of agreed size; or on the fluxes of agreed air pollutants, starting with sulphur dioxide, across national borders, at distances and at periods of time to be agreed upon. The method, including the model, used to determine the fluxes, as well as the method, including the model, used to

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1/ The present Convention does not contain a rule on State liability as to damage.

determine the transmission of air pollutants based on the emissions per grid-unit, shall be made available and periodically reviewed, in order to improve the methods and the models;

(f) their willingness to continue the exchange and periodic updating of national data on total emissions of agreed air pollutants, starting with sulphur dioxide;

(g) the need to provide meteorological and physico-chemical data relating to processes during transmission;

(h) the need to monitor chemical components in other media such as water, soil and vegetation, as well as a similar monitoring programme to record effects on health and environment;

(i) the desirability of extending the national EMEP networks to make them operational for control and surveillance purposes.

EXECUTIVE BODY

Article 10

1. The representatives of the Contracting Parties shall, within the framework of the Senior Advisers to ECE Governments on Environmental Problems, constitute the Executive Body of the present Convention, and shall meet at least annually in that capacity.

2. The Executive Body shall:

(a) review the implementation of the present Convention;

(b) establish, as appropriate, working groups to consider matters related to the implementation and development of the present Convention and to this end to prepare appropriate studies and other documentation and to submit recommendations to be considered by the Executive Body;

(c) fulfil such other functions as may be appropriate under the provisions of the present Convention.

3. The Executive Body shall utilize the Steering Body for the EMEP to play an integral part in the operation of the present Convention, in particular with regard to data collection and scientific co-operation.

4. The Executive Body, in discharging its functions, shall, when it deems appropriate, also make use of information from other relevant international organizations.

SECRETARIAT

Article 11

The Executive Secretary of the Economic Commission for Europe shall carry out, for the Executive Body, the following secretariat functions:

(a) to convene and prepare the meetings of the Executive Body;

(b) to transmit to the Contracting Parties reports and other information received in accordance with the provisions of the present Convention;

(c) to discharge the functions assigned by the Executive Body.

AMENDMENTS TO THE CONVENTION

Article 12

1. Any Contracting Party may propose amendments to the present Convention.

2. The text of proposed amendments shall be submitted in writing to the Executive Secretary of the Economic Commission for Europe, who shall communicate them to all Contracting Parties. The Executive Body shall discuss proposed amendments at its next annual meeting provided that such proposals have been circulated by the Executive Secretary of the Economic Commission for Europe to the Contracting Parties at least ninety days in advance.

3. An amendment to the present Convention shall be adopted by consensus of the representatives of the Contracting Parties, and shall enter into force for the Contracting Parties which have accepted it on the ninetieth day after the date on which two-thirds of the Contracting Parties have deposited their instruments of acceptance with the depositary. Thereafter, the amendment shall enter into force for any other Contracting Party on the ninetieth day after the date on which that Contracting Party deposits its instrument of acceptance of the amendment.

SETTLEMENT OF DISPUTES

Article 13

If a dispute arises between two or more Contracting Parties to the present Convention as to the interpretation or application of the Convention, they shall seek a solution by negotiation or by any other method of dispute settlement acceptable to the parties to the dispute.

SIGNATURE

Article 14

1. The present Convention shall be open for signature at the United Nations Office at Geneva from 13 to 16 November 1979 on the occasion of the High-level Meeting within the framework of the Economic Commission for Europe on the Protection of the Environment, by the member States of the Economic Commission for Europe as well as States having consultative status with the Economic Commission for Europe, pursuant to paragraph 8 of Economic and Social Council resolution 36 (IV) of 28 March 1947, and by regional economic integration organizations, constituted by sovereign States members of the Economic Commission for Europe, which have competence in respect of the negotiation, conclusion and application of international agreements in matters covered by the present Convention.

2. In matters within their competence, such regional economic integration organizations shall, on their own behalf, exercise the rights and fulfil the responsibilities which the present Convention attributes to their member States. In such cases, the member States of these organizations shall not be entitled to exercise such rights individually.

RATIFICATION, ACCEPTANCE, APPROVAL AND ACCESSION

Article 15

1. The present Convention shall be subject to ratification, acceptance or approval.

2. The present Convention shall be open for accession as from 17 November 1979 by the States and organizations referred to in article 14, paragraph 1.

3. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations, who will perform the functions of the depositary.

ENTRY INTO FORCE

Article 16

1. The present Convention shall enter into force on the ninetieth day after the date of deposit of the twenty-fourth instrument of ratification, acceptance, approval or accession.

2. For each Contracting Party which ratifies, accepts or approves the present Convention or accedes thereto after the deposit of the twenty-fourth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such Contracting Party of its instrument of ratification, acceptance, approval or accession.

WITHDRAWAL

Article 17

At any time after five years from the date on which the present Convention has come into force with respect to a Contracting Party, that Contracting Party may withdraw from the Convention by giving written notification to the depositary. Any such withdrawal shall take effect on the ninetieth day after the date of its receipt by the depositary.

AUTHENTIC TEXTS

Article 18

The original of the present Convention, of which the English, French and Russian texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed the present Convention.

DONE at Geneva, this thirteenth day of November, one thousand nine hundred and seventy-nine.

Office of the Prime Minister

CANADA

Cabinet du Premier ministre

NOTES FOR AN ADDRESS

BY

THE RIGHT HONOURABLE BRIAN MULRONEY

PRIME MINISTER OF CANADA

ARCTIC AND ANTARCTIC INSTITUTE

LENINGRAD

NOVEMBER 24, 1989

CHECK AGAINST DELIVERY

Peter the Great made this city his nation's window on the West. This impressive Institute makes Leningrad also a window on the North.

The exhibition of photographs from the historic skiteck expedition from the Soviet Union to Canada across the North Pole is a remarkably powerful statement about the spirit of man. I salute the Canadian and Soviet skiers for their imagination and courage in carrying out this extraordinary initiative and for the advancement of scientific knowledge they have made.

That exhibition also brought home to me, again, the reality that the Arctic is a link between Canada and the Soviet Union, physically and spiritually. We are both northerners; the Arctic is part of us; its in our blood.

To Canadians, the Arctic is a vast wilderness, a homeland of ancient peoples and timeless values, a priceless dimension of our national identity. Like yours, our Arctic is, also, an important economic asset, rich in natural resources. And, like yours, our Arctic is also a stewardship of singular ecological value.

Other bordering countries also have their own legitimate interests in the Arctic. But the sheer size of our respective shares of the Arctic makes cooperation between us not just a bilateral opportunity but a global responsibility.

This week in Moscow we have made a new beginning in honouring our obligations. We signed a major new agreement on Arctic cooperation and a series of agreements on environmental protection. Together, these agreements demonstrate both the will for closer cooperation and the means to bring it about.

The Arctic Cooperation Agreement opens a new chapter in relations between the peoples of the Canadian North and of the Soviet North. The agreement builds on existing scientific and technical cooperation to promote action across the full range of civilian interests in the Arctic. The Agreement provides for bilateral programs in the key areas: economic development, particularly renewable and non-renewable resources, social and cultural issues and science and technology. A ministerial level Soviet-Canadian Mixed Commission will direct the implementation of the agreement.

Cooperation between Canadian and Soviet scientists already exists, of course. The new agreement should strongly amplify that cooperation.

To facilitate cooperation in this field, I am pleased to announce the establishment of a Canadian Polar Commission. The Commission, comprised of distinguished Canadians, covering a broad range of polar research, will be a contact point for Canadian and foreign scientists and will promote international cooperation in Arctic science.

The Arctic is neither a museum nor a laboratory. It is a region where people make their livings and where competing cultural and economic interests conflict and must be reconciled.

The Arctic is no longer a pristine reserve, safely apart from the unintended consequences of economic development in the South. The Arctic is suffering from environmental problems both from its own economic development and from industrial activity elsewhere. There are disturbingly high levels of toxic chemicals in the Arctic food chain -- even in mothers' milk -- which originated further South, for the most part. There is worrying evidence, developed by Soviet and Canadian scientists and others that the ozone layer is depleted. In the European Arctic, acid precipitation is falling in areas far removed from economic activity. And, over 70 percent of the pollutants that make up the "Arctic haze" off Canada's Northern Coast are originating on this side of the Arctic. Since the mid 1950's, that haze has grown by 75 percent.

It is no secret that Canadians need to do more to protect their own natural environment. It is likewise no secret that the Soviet Union faces major challenges regarding air quality and river basin pollution, including rivers emptying into the Arctic and the disposal of hazardous chemicals.

There are benefits to both sides in exchanging information and technology relevant to such topics as acid rain and toxic chemicals. You have in Norilsk, and we have in Sudbury, examples of very large mineral-processing complexes with major environmental effects; our best people should be put in contact with each other.

In both the Soviet Union and Canada, the public opposes economic development of a kind that harms the environment. In both countries, funds and technology are needed to correct past mistakes and prevent new ones.

We, in Canada, do not believe that sustainable development can be realized unless business enterprise is engaged in the effort to develop non-polluting technologies and processes. And, in fact, business in Canada is increasingly taking the lead in this area.

To promote this approach internationally, Canada will host Globe 90, an environmental conference and technology exhibition in Vancouver in March. We hope there will be a strong Soviet representation there.

The pollution problem is serious and will get worse before it gets better. Consider these statistics.

- In 1950, the world's population, was 2.5 billion; in 1987, it topped 5 billion; in the year 2000 it will reach 6 billion.
- Global industrial production is seven times the 1950 level.
- Within the lifespan of our children, global industrial production will increase 5 to 10 times more.
- Also within the lifespan of our children, the developing nations, including China, are expected to quadruple their CO_2 emissions - the principal cause of global warming.

Ultimately, the most serious threat to the fragile Arctic ecology is global warming. An increase of a degree or two in average temperatures at the Equator would be triple that high in the Arctic. Methane gas would be released from the permafrost, amplifying the greenhouse effect. Large glaciers and the ice cap would melt, and icebergs would multiply, endangering shipping and off-shore drilling. Marine and plant life would be dramatically affected. And Northern peoples would suffer serious disruption of their lives and livelihoods.

Global warming, ozone depletion, acid precipitation, overfishing -- these are all global environmental problems. As scientists, you are keenly aware both that these problems are real, not science fiction, and that they are urgent. Their solutions, however, are elusive and difficult.

What is clear is that these are everybody's problems and will only respond to international solutions. That is why we have made environmental protection a central theme of our foreign policy. We offered Montreal as the site of the 1987 ConfereCce on Protection of the Ozone Layer, where the first global air pollution agreement, the Montreal Protocol on CFC's, was concluded. Toronto was the site of the 1988 Economic Summit

Together, these Arctic and environment agreements transform Arctic diplomacy which has often been as remote and chilly as the region itself. We strongly support the proposal to create an International Arctic Science Committee. We also back the call by the Finnish government for multilateral Arctic environmental cooperation.

I am pleased to announce that the next meeting to develop an action plan for this initiative will take place in Canada's North, in Yellowknife, in the Spring of 1990.

We also strongly support the Inuit Circumpolar Conference, the first multilateral Arctic organization. We were delighted that the Soviet Union was represented at the last meeting and urge that you be represented again at the next meeting. We agree entirely with President Gorbachev on the call he made at the United Nations for definitions of national security to be broadened to include the environmental threat to all nations. We, also, agree with his suggestion that the 1992 UN conference on the environment be held at the head of government/head of state level.

The environmental summit at the Hague last March, concluded that protection of the environment against global threats will require innovative international cooperation and entirely new concepts. I commend the Hague Declaration to the U.S.S.R. This declaration was signed by 24 countries at the Hague and has, subsequently, been endorsed by 45 more.

The most difficult challenge world-wide, is neither ozone depletion nor the "greenhouse effect". The most difficult challenge is to change mankind's behaviour. Attitudes must change, world-wide, towards the common property of all mankind -- our natural environment -- if the security, health and livelihood of our own children and grandchildren are to be protected. The challenge for mankind is to change its behaviour in anticipation of the crisis, not in response to it. Because if we wait for doomsday, the costs will be appalling. And they will be borne by our children and their children.

For no area of the world are new attitudes more important than for the Arctic, the unintended victim of economic activity elsewhere. And for no two countries are new attitudes more crucial than for Canada and the USSR, with our joint stewardship of so much of the Arctic and of one-fifth of the earth surface of the entire planet. We have much we can do together bilaterally and multilaterally in the Arctic.

where, for the first time, the leaders of the seven major Western industrial democracies endorsed the concept of sustainable development. A week later, Toronto hosted the Conference on the Changing Atmosphere which identified the continuing CO_2 build up as a major hazard and called for collective action to curtail it.

In September of last year, my colleague, the Minister of Finance, presented the World Bank with a plan to ensure that protection of the environment is a major element in the bank's development projects. This past February, legal experts from around the world gathered in Ottawa to consider the elements of an international legal convention on the atmosphere. In March, I attended the Environmental Summit in The Hague which gave further impetus to the concept of sustainable development as a policy for all nations.

In July, the environment was at the top of all leaders' agendas at the Economic Summit in Paris. In Kuala Lumpur, in October, at the Commonwealth Heads of Government Meeting, developing countries and developed countries alike acknowledged that the environment was a collective responsibility and endorsed the concept of sustainable development.

While international cooperation is crucial, environmental protection begins at Home. That is why the Canadian government is fundamentally re-examining its approach to the environment and will be announcing a national plan early in 1990.

The major environmental challenges cannot be met in any country without the revenues generated by economic growth. But for growth not to be self-defeating, it must be environmentally sustainable. Sustainable development as conceived by the Brundtland Commission, means common sense development; it means respecting nature, not violating it; it means protecting our children's birthright, not consuming it. It means integrating environmental imperatives into economic decision-making, to prevent damage, not just cleaning up after the damage is done.

The agreements Canada and the Soviet Union concluded earlier this week will help both sides in making their economic development environmentally sustainable, including in the Arctic and other northern regions. The agreements open a new era in bilateral cooperation. They cover atmospheric pollution, and climate research, fresh water pollution and water research, nuclear safety and Arctic marine pollution. The last agreement provides for bilateral cooperation in the prevention and clean-up of oil spills in fragile northern waters. We would like to see such cooperation expanded to include other Arctic countries.

Eventually, we would like to see the nascent multilateral environmental and scientific cooperation become more broadly based to cover the full range of economic and social issues, just as Canada and the USSR are doing bilaterally. And why not a council of Arctic countries eventually coming into existence to coordinate and promote cooperation among them?

Canada and the Soviet Union have made substantial progress together this week in building the foundation for closer cooperation in our own and in mankind's interest. I invite the distinguished members of this Institute to join us in building a new relationship between our two countries. Join us in making a new beginning in relations between Canada and the Soviet Union. Join us in creating a warm friendship out of our cold climate.

- 30 -

Minister Environment Canada | Ministre Environnement Canada

Speech
Discours

Notes for an address by
the Honourable Lucien Bouchard
Minister of the Environment for Canada

to the
44th United Nations General Assembly

New York

23 October 1989

(CHECK AGAINST DELIVERY)

(Aussi disponible en français)

Canada

Mr. President, excellencies, distinguished representatives, ladies and gentlemen.

Thank you for this opportunity, my first, to address the General Assembly of the United Nations.

As Environment Minister for Canada, I am here with mixed emotions. I am proud to represent Canada at this podium from which, through 40 years of vital United Nations activity, so many eminent persons have spoken on issues of global importance.

Yet I am concerned, too. I am concerned that, while speeches and rhetoric are important, and may often be powerful and moving, their value is limited if words do not result in concrete changes to our political and economic behaviour.

On the issues under discussion today -- our environment and our responsibility to preserve it for future generations -- it is action that must be our unremitting goal. We cannot allow undue delay between this time of environmental awakening and the implementation of essential changes to the patterns of our political and economic behaviour.

The environmental issues we face are at once simple and complex. Most complex are the global accommodations we are being driven to contemplate: accommodations between developing

and developed economies; between rich and poor; between the present and future generations; and between national sovereignty and collective action.

What is simple, I submit, is the nature of the choice before us. We can move, now, to address environmental problems and develop economic and social practices that are sustainable. Or we can leave the problems to our children and hope they are capable of solutions that escape us, and that they have time enough to implement them.

We can accept our responsibilities as leaders; or we can abdicate. I think the choice is really that simple.

This choice must remain uppermost in our minds as we debate the context, the program and the objectives of the 1992 U.N. Conference on Environment and Development.

From the Canadian perspective, the choice is clear. The problems are well defined. The solutions are reduced to a question of political will. The global community must act now.

Unquestionably, the challenges before us are great.

* Canada does not dispute the scientific evidence of global climate change and other issues of ecosystemic crisis. We

believe that change is occurring in our air, water and soil -- and that, beyond reasonable debate, the causes are man-made and highly dangerous.

* Canada believes that industrialized nations must shoulder their full share of the responsibility for this crisis and its remedy. But developing nations, too, must accept that their interests are best served by avoiding the mistakes of non-sustainable development.

* Canadians recognize that issues such as debt, population and poverty in less-developed nations create enormous environmental burdens. Further, Canada believes that the gap between rich and poor must be closed; that this is as much an environmental as an economic and moral imperative.

* Many solutions to our environmental problems will be provided through technological innovation. We believe that industrialized nations must, through development assistance programmes and other mechanisms, provide their technological and scientific expertise to the developing world. In this connection, Canada would be pleased to see all nations participate in an international environmental industries conference and trade fair called Globe '90 in Vancouver next March.

* We applaud the work of the United Nations Environment Programme in helping to resolve the many environmental issues facing the world.

* We consider crucial the further development of international law. Moreover, as leaders recognized at the Hague last March, international institutions must be vested with effective authority to meet the unprecedented challenges facing the global community.

* The idea of national sovereignty has evolved over time. We have left behind the "international anarchy" described by the political theorists. Now, in an era characterized by environmental problems that recognize no boundaries, our concept of sovereignty must continue to evolve and adapt.

* We believe lasting change will be accomplished in two ways -- first, through vigorous regulations and action by concerned and committed governments; and second, through the harnessing of economic forces so they contribute to the achievement of environmental goals.

* Canada recognizes that change must start at home. No advocate for change should arrive at the door of the 1992 conference with dirty hands. We have begun a process of change with innovative institutions such as the National Round Table

on Environment and Economy and the Winnipeg Centre for the Promotion of Sustainable Development, as well as through changes to our Cabinet decision-making process. In addition, Canada will, by next spring, present a government-wide action plan for the implementation of sustainable development at the federal level. Legislation to be introduced shortly will enshrine in law the requirement that environmental considerations be fully taken into account in most projects and initiatives involving the federal government.

* Communications and public awareness are vital to achieving lasting environmental change. The news media around the world have a responsibility -- indeed an obligation -- to grasp what science is telling us and to convey that information to the widest possible audience.

* Finally, Canada recognizes the need for, and commits itself to, using a larger share of its resources to address these problems, domestically and internationally. We are prepared to deploy additional resources in concert with others.

The decade before us will be crucial. As Dr. Mostafa Tolba, the Executive Director of the United Nations Environment Programme has indicated, it will be the last opportunity to take the decisions that will allow us to reconcile the legitimate demands of developing countries with the essential need to protect our

environment. The 1992 conference on environment and development will be a unique opportunity for genuine movement. It will provide a vital step forward and a needed impetus to the activities under way in most nations and all international institutions.

We should expect that the preparatory work will also establish a framework that will integrate in a logical way both policy and action. It is essential that we organize in a coherent fashion the proliferation of proposals and initiatives that will otherwise distract us.

The origins of this process date back to 1972, when the nations of the world met in Stockholm for the first World Conference on the Human Environment. The historic Stockholm Declaration provided guidance on dealing with the problems, largely local and transboundary, of that era.

On the twentieth anniversary of that conference, our nations must reconvene to address a new generation of problems -- more global in character -- while, at the same time, assuring economic development for all.

This is not indicative of failure on the part of any organization or group of individuals. The Stockholm Declaration was suited to its time; today, however, the problems are infinitely

more pervasive. The vicious circle of poverty and environmental degradation must be broken through the integration of environment and development. What is required now is a new world concord no less challenging than a universal commitment to the implementation of sustainable development.

The 1987 report of the World Commission on Environment and Development set the stage for the 1992 conference. In articulating the concept of sustainable development, the Commission changed forever the way we think about the environment.

But two full years have now passed since the Brundtland Report was considered by this Assembly. We must now take the next step and translate sustainable development into reality.

We should do this without illusion. Let there be no mistake. Sustainable development is a radical concept, not the status quo in a new package. We are talking about fundamental changes in -- in the developing world and, even more importantly, in industrialized countries. Sustainable development need not entail large capital outlays. But, as pointed out in the Brundtland Report and confirmed in the UNEP definition of sustainable development, it requires a new way of thinking about future development.

The sustainable development prescription has now been endorsed as a guiding concept by this Assembly and the U.N. system, by the G-7 Economic Summit nations, the Commonwealth, the Francophone Summit and many others. Individual governments at all levels in Canada and elsewhere have adopted it as a fundamental objective.

The 1992 conference, and the national and international preparations for it, can be the driving force behind the advancement of fundamental change. And I would like to propose, on behalf of Canada, some specific recommendations we believe would help ensure a successful conference.

* The 1992 conference must clearly address environment and development from the perspective of all members of the United Nations. It will be about the principle of conserving resources and planning our economies so that sustainable growth is possible.

* Political decision-makers at the highest level should participate directly to ensure that the conference leads to real follow-up action.

* We endorse the offer to host the conference made by Brazil, a country that has come to symbolize for many of us the dilemmas inherent in world-scale sustainable development.

* We support a preparatory process designed to ensure that the 1992 meetings focus on defining world priorities, schedules and targets for action. We believe that the membership of the committee charged with this work must reflect the importance that world leaders attach to these vital issues.

* As well, this preparatory committee must have the widest possible membership, and we commit ourselves to active participation.

* Developing countries must be encouraged to bring to the conference the energy and commitment to the environment demonstrated at the recent non-aligned movement summit. The USSR, China and Eastern Europe, with which Canada has many common concerns and shared hopes for a better environment, will also be crucial partners.

* We in Canada see the environment as a shared responsibility. The 1992 conference cannot be a true success unless it reflects a partnership approach -- all levels of government, business, labour, advocacy groups and individuals should be involved in national preparations and in the conference itself.

* Finally, we believe that young people, who will inherit the consequences of the decisions and actions of the present,

must have a special place at the conference. We encourage the organizers to give prominence to youth in the preparatory process. For our part, Canada will hold a series of regional and national youth conferences to help prepare our positions for 1992.

Clearly, climate change will be a priority issue for 1992 and the invaluable work of the intergovernmental panel on climate change must help clear the way for a framework convention on this problem. As Prime Minister Mulroney advocated in 1988, it is Canada's hope that this convention be signed at, or before, the 1992 conference.

Some nations are advocating that preparatory negotiations of protocols on greenhouse gases should not await the signature of the framework convention in 1992. Canada is among those countries prepared to attempt to develop, for signing at the 1992 conference, the first of the necessary protocols. While such a target is politically ambitious, Canada believes our international determination must be equal to the potential crisis posed by climate change.

Agreed approaches on ways of better managing the earth's resources are essential if we are successfully to combat such serious problems as air and water pollution, deforestation, desertification, depletion of fish stocks, soil degradation and

loss of species, as well as the poverty and famine they engender. At the same time, we must ensure sustainable economic growth for all. We must leave 1992 with a clear blueprint for action that will take us well into the 21st century.

But if there is one message I want to leave with you today, it is that we simply cannot wait until 1992 to act. We must start today to advance the issues and solutions as quickly as possible.

* We must strengthen the Montreal Protocol on Substances that Deplete the Ozone Layer by next year, and increase the number of signatories.

* A convention on biological diversity is urgently required. Every day that passes sees another species lost forever.

* The conservation of our common resources is essential, whether marine resources, temperate and tropical forests, air, water or minerals. We must co-operate to eliminate practices such as pelagic drift-net fishing and overfishing off the Atlantic coast.

* We must also move now to save our endangered spaces through the creation of a global network of protected areas. We are the last generation with the opportunity to save the final remnants of our natural heritage and wilderness.

There is a clear need for yardsticks to define problems as well as to measure our success. Work has begun on environmental quality indicators, and these must be as useful and understandable to the public and decision-makers as are current economic indicators such as the rate of inflation.

The United Nations was formed in the 1940s following the greatest cataclysm witnessed by the human race. Today, an environmental cataclysm is no less threatening. There are no guns and bombs. The threat is incremental and thus very difficult to present as a crisis. We are threatened not with immediate destruction, which is palpable, but with a pervasive and gradual degeneration of the planet's life-support systems.

Incremental crisis presents a challenge for world leadership. <u>New dimensions in political will and international decision-making are required.</u>

The 1992 conference will be only a step on a much longer journey. But, quite possibly, it will be the single most important step we shall take in this decade; and without it, the journey itself might be sidetracked or delayed catastrophically.

Moreover, failure to make 1992 a success would be the admission by our generation to those that follow that we lacked the

political will, the boldness and imagination to meet these problems in our time. Failure to make 1992 a success would be an admission that our burden will be passed on to the future, a trust broken with our children and theirs.

Canada is not prepared to submit its young people to a legacy of a mortgaged environment. We stand ready to do our share and more, and to be generous with our knowledge and financial resources.

Canadians know that change is needed. We acknowledge that we are privileged and that the privileges of the past bring responsibilities for the future.

Canada urges the General Assembly to give its full blessing to the 1992 conference, and we call on all nations to join in the epic struggle to ensure our common future.

Thank you, Mr. President.

Minister Environment Canada

Ministre Environnement Canada

Speech

Discours

Speech by
the Honourable Lucien Bouchard
Minister of the Environment

THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT:

CHARTING THE COURSE FOR THE FUTURE

Edouard-Montpetit CEGEP
Longueuil (Québec)

5 October 1989

(Aussi disponible en français)
(CHECK AGAINST DELIVERY)

Canada

Allow me to begin by thanking the Mouvement Environnement Jeunesse and the Groupe Uni-Vert for inviting me here today to speak to you, the students of the Edouard Montpetit CEGEP. This invitation gives me the opportunity to describe some of the decisions the federal government has taken to set the country on the road to sustainable development. I also welcome members of the Montreal Chamber of Commerce, who, led by concern for the environment as much as for our economic future, are present here today.

I would like to begin by reporting on my first months as Minister of the Environment, and then give you an overview of the program that the Mulroney government has planned. I particularly urge you to take an active part in the environment action plan that the federal government has decided to begin implementing in early 1990. It is to young people like you that I am launching this appeal, for I am convinced that you, like other young people around the world, are the ones who will bring about sustainable development.

It has been eight months since the Prime Minister assigned me the Environment portfolio. During those eight months, I have travelled across the country and observed, almost everywhere, the degradation of our environment and assessed the serious threats facing the environment. I also perceived -- how could I

not? -- the great concern of our citizens. I met ministers of other nations who are all confronted with the same problems in their own countries. These past eight months have been marked by serious environmental disasters that have dramatically demonstrated both the fragility of our environment and the lack of foresight in our development. I am thinking, among others, of the St-Jean lead leakage, the problems that befell the Atlantic fishermen, the Nestucca oil spill on the Pacific coast, and the saga of the PCBs.

In recent generations, the ability of humans to modify the world ecosystem has grown dramatically. A growing population and dazzling technological progress are the main causes. We know, for example, that world economic activity is now 20 times greater than it was in 1900. We know too that many human activities put an impossible strain on the ecosystems of our planet.

Each year, as a result of our energy consumption, we dump into the atmosphere 5 billion tonnes of CO_2, and we use 40 per cent of the planet's biomass. Each year, we burn as much fossil fuels as the earth was able to produce over one million years. At the same time, poverty and misery are still widespread throughout the world.

These problems can be solved if we look beyond the short term. What is required is a fundamental change in the way we make decisions at all levels of society. We must begin to integrate environmental considerations into the daily decisions we make as individuals, as companies, and as governments. We must treat the environment as the limited and unique resource it really is.

Let's not delude ourselves; the precarious state of our environment is the result of nearly two centuries of negligence. There will be no easy remedy. There will be other crises and other ecological accidents. Our vital challenge is to re-establish the ecological integrity that has been eroded over the centuries, particularly over the past one hundred years. This will be a long and arduous task that will require the commitment of everyone, from governments as well as individuals. But above all, any serious response to the environmental challenge will depend upon our willingness to question our way of life today.

To speak of the environment is not simply to speak of pollution, accumulation of waste and chemicals or land development. Those are essentially effects or symptoms. The main issue is the manner in which we see our relationships with others, how we define our prosperity, and how we choose our way of life.

I believe we are witnessing a radical change in attitudes. Public opinion polls, editorials in daily newspapers, open-line radio shows and news reports in the media indicate that when Canadians have to choose, they now consider quality of life to be more important than the quantity of life-style goods. Canadians are also saying that the protection of the environment is more desirable than economic expansion at all costs, and that health is preferable to the pursuit of materialism. These new values take priority. They are seen as the most fundamental guarantees of our success, because, in the final analysis, the basic values of a society -- what we call its vision of the world -- determine the will of the general public and its extension, the political will. The environment issue is first and foremost a question of genuine will.

I have come here today to tell you that the Government of Canada considers the environment a top priority. It is determined to work consistently and systematically to restore the state of the environment.

Given this explosion of environmental concern, governments cannot be content to act merely in response to environmental disasters. The development of a long-term action plan must be based on a comprehensive policy, that will mean taking tough decisions on sensitive issues.

I also want to discuss with you a process that will take place over the next few months and that will bring about a systematic and consistent method of dealing with our environmental problems. This process will, by the spring of 1990, result in the establishment of a comprehensive, and long-term environmental program. This program will demonstrate concretely that the environment is one of the top priorities of the government.

The New Mentality

I want to pay tribute to those people who prepared the way for the revolution in environmental awareness. I am thinking, of course, of Pierre Dansereau, Fernand Séguin, Jack Miner and J.B. Harkin, the pioneer of our national parks, but also of the young people of the 1960s, '70s and '80s who persistently forced our attention on the environment. What for many seemed an obsession has now become for all of us a question of survival.

Over the past two decades, we have acquired an almost sensory awareness of the condition of our planet. At a time when we are refining our methods of exploring the solar system, in particular with the Voyager space probe, it is important to remember that 1989 marks the anniversary of one of the events that

inspired our new vision of the world. Twenty years ago, the crew of the Apollo spaceship brought back to earth the first photographs of our planet taken from space. For the first time in history, human beings were able to observe from space the planet that serves as their habitat. They saw, lost in the immensity of space, a magnificent world of blue and white.

But, at the same time, we all became aware of the fragility of this globe, where life has developed, where the spark of intelligence sprang forth, where the arts have blossomed, and where the destiny of humanity, as distressing as it is admirable, hangs in the balance.

It is possible, and it is now imperative, that we build upon this changed perspective.

A Global Vision of Action

Wherever I go, I hear of the need for action. The discovery of threats that weigh heavy upon our collective health, the desire to combine economic development with environmental protection, the concern for ecological stability; all require vigorous and concrete intervention.

But, in order to be effective, such action must be part of a global approach. We must ask ourselves where we want to be in five years and ten years, and how we are going to get there without allowing ourselves to be sidetracked. Political will, above all, is going to be required to define the precise goals we want to achieve.

To know where we want to be, we must understand where we are now. Science can serve as an instrument, but cannot be mistaken as a panacea. For at least 200 years, human beings have been asking science to help achieve what the 18th century proudly called "the conquest of nature", what we have given the more mundane name of development. Science responded brilliantly. Society's choices have profoundly affected our lives and, at the same time, produced our lamentable state of the environment. Today, we are asking science other questions. Science will respond and is responding; but science can neither protect nor restore our environment if we do not want it to do so, for science is never more than an exercise of the human spirit. Science is a servant rather than master of our destiny.

This raises the question: what goal do we wish to achieve? We must know that the environment issue conceals a most difficult question: is it possible to reconcile our present standard of living with the protection of our environment?

Knowing that the pursuit of our economic standard has been largely responsible for the degradation of the environment, is it possible to have both a high quality of life and, at the same time, a high quality of the environment?

The answer to that question is called "sustainable development". The concept is difficult to define concretely because it is still being developed. Essentially, it involves developing the economy at a rate and in a way that is compatible with our planet's ability to renew itself.

We are at the threshold of calling into question our fundamental way of being, of consuming, of living. From this perspective, the environment issue certainly requires a firm, clear position on the part of governments, but no less essential is the commitment of every citizen. Are we ready to pay more money for a product that does not pollute? Thirty years ago, who questioned the electrical utilities about their use of PCBs? What municipality didn't prefer revenues from new taxes over a rigorous program to protect the environment?

This is a choice that every citizen must make, both in political life and in private life. We must stop all the grand talk about environmental issues. We must all pursue these choices, these options and their consequences, and we must ask the difficult questions.

A Fundamental Change in Direction

The goal of the action plan which the federal government is now developing, is to translate the concept of sustainable development into a concrete reality in Canada. That implementation will take years to complete.

The environmental program for Canada will serve as a framework for strategic initiatives which will change our way of making decisions:

- to improve our decisions by basing them on better scientific knowledge, better training, more certain data and better communications, and by using the latest technology for protecting the environment and producing reports on the state of our environment;

- to change the decision-making process within the Government of Canada, by requiring all departments to take environmental considerations into account when developing policies and programs;

- to emphasize the importance of co-operation and sharing of responsibilities by establishing new partnerships, and by renewing those that already exist, between all elements of society: governments, companies, unions, non-governmental agencies, and citizens.

This morning, I wrote to my counterparts, the provincial and territorial ministers of the environment, to inform them of the Government's decision to develop this action plan. I proposed that, during our meeting on october 17 and 18 in Prince Edward Island, in addition to deciding on questions already on our agenda, such as the new PCB disposal program, that we should discuss the main outline of this national action plan.

In early spring, we will face a moment of truth: one of reflection and decision, with unavoidable choices and priorities. It will then be the Cabinet's responsibility to decide on the Environmental Action Plan for Canada.

The federal government must and will assume its responsibilities for implementing the Environmental Action Plan. The same is true for the provincial governments who share jurisdiction over our environment. Companies and individuals have an important role, of course, but the governments cannot shirk their fundamental obligations. Governments alone have the means to deal with such wide-ranging questions and the public expects governments to provide leadership.

The natural laws of the market do not stimulate sufficient scientific research, and do not always provide the political decision-maker with the information needed to make wise environmental decisions.

Because the market will not establish the proper framework for responsible decisions on environmental issues, governments inevitably must establish conditions for the use of the environment.

We must establish the value of the environment through regulations, laws, and through economic and financial penalties and rewards. We must also ensure an appropriate level of scientific research and analysis to support informed decisions.

The contribution of Youth

I want to stress the absolutely vital role that the very nature of the environmental question imposes on a particular group of citizens. It is to you, the young people of Canada, that I wish to speak.

It is mainly in the future that the damaging effects of pollution will be felt, and it is for the workers of tomorrow that we need to create sustainable jobs. Indeed, the promotion of the environment is the protection of our future.

Simply stated - the future belongs to you.

For you also, there are obligations. Above all, you must determine a role for yourselves. Given the importance of the environmental stakes for you, do you not think you should consider political involvement as an essential route? Should you not ask your elders for an explanation? Should you not become full-fledged protectors of the environment?

Do you not have something to say about the collective values upon which our emerging society will be based? Do you not believe that the environment is a sacred cause that can unite people of good will from your generation and mine?

Just as there are many questions, there are many appeals for reflection, for dialogue and for concerted action.

I believe that we can expect a great deal from your concerns, your commitment and your uncompromising attitude.

In short, we need you. I intend to establish environmental programs that focus on the participation of young people. I also intend to hold, with my colleague Jean Charest, Minister of State for Youth, a national conference for young people on the environment.

This conference, and its preparatory stages, will, I hope, allow us to mobilize Canada's young people, to make them partners in the development of Canada's positions at the United Nations conference on the environment and development in 1992. For this national conference and its preliminary conferences, I am ready to make facilities in our national parks available to the young people of all regions.

Conclusion

A revolution, a global vision, a fundamental change in direction, the commitment of our citizens and the mobilization of young people: these are the foundations on which the Government of Canada intends to carry out its action plan on the environment over the next few years.

Choosing solutions for the long term is a guarantee of consistency. The choice of a new attitude is a guarantee of continuity. The way of citizen support and the impetus of young people are the ultimate guarantee of success.

The work will be difficult, for the obstacles are numerous. The results will rarely be spectacular, and success never instantaneous. And nothing can be done without real commitment. What

is asked of us is nothing less than an unflagging collective effort that transcends political partisanship, personal interest and a servile materialism.

We have entered a world in which solidarity, moderation and respect for nature are not virtues, but rather necessities. In other words, we have no choice: we must get to work.

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STATEMENTS AND SPEECHES

Sustainable Development: Moving towards Concrete Steps for International Action

A Speech by
the Right Honourable Joe Clark,
Secretary of State for External Affairs,
to "Environment and the Economy:
Partners for the Future —
A Conference on Sustainable Development"

Canada

Winnipeg, Manitoba

May 17, 1989

SYNOPSIS

- A fundamental problem of contemporary society is how to reconcile our economic goals with the natural systems of our planet.

- Environmental change resulting from our economic activities means that economists can no longer assume a predictable environment. They must calculate the costs of modifying production processes now, as compared to the future costs of failing to modify them.

- Sustainable development is about how to make hard choices in situations of scarcity; it is not a way of having your environmental cake and still enjoying the same level of economic development.

- The economy-environment interactions implicit in sustainable development involve an ongoing balance of human harvesting of nature, strategic preservation, and anticipating and preventing disasters rather than reacting after the event.

- Canada is applying the principles of sustainable development to Canadian domestic and international policy.

- At home, the Government adopted a new water policy, preserved significant wilderness areas and created five new national parks, supported the National Roundtable on Environment and Economy, and established a new federal Environmental Protection Act.

- On the international level, Canada is committed to:

  - increasing the share of development assistance dedicated to environmental protection;
  - pressing multilateral development banks to devote more attention to environmental concerns;
  - discussing the environment at meetings such as the Francophone Summit next week.

- Canada has a special responsibility to put its good international and environmental credentials to work at this time of increased recognition that it is urgent to act together to protect the environment.

I am pleased that the Government of Manitoba and its Premier, Gary Filmon, have taken the initiative in bringing us together this week in Winnipeg. It is an action which is fully in line with the record it has established in the National Task Force on Environment and the Economy and in its own policies.

This conference addresses one of the most basic conundrums of modern life - how we reconcile our economic goals with the natural systems of our planet.

The organizers of this conference have obviously recognized some basic facts about the nature of the problem. Bringing together representatives from both the public and private sectors across Canada highlights the reality that the environment is not the exclusive responsibility of governments. Similarly the participation of delegates from outside Canada points to another basic fact - that these issues transcend national boundaries.

Not very long ago it was possible to think of the environment and the economy as separate and mutually exclusive.

Today, thanks to the work of the Brundtland Commission and the appearance of global "mega-problems", it is evident that the environment and the economy are inextricably and symbiotically linked.

Farmers in Africa cannot be productive when desertification takes away their land. No more so than farmers in Bangladesh whose lands are washed away by uncontrollable floods. Fishermen on our Atlantic coast cannot stay in business when the fish stocks they depend on are over-harvested.

Astronauts like Marc Garneau fixed in our minds the image of earth as a single wispy-edged planetary spaceship. From outerspace, some of the impacts of our economic development are distressingly visible - urban smog, Arctic haze, trails of marine pollution in our oceans. With new technology our ability to understand and digest information about the planet is expanding by leaps and bounds. The story it tells is, increasingly, very disturbing. The harvest of our economic systems, in terms of "greenhouse gases", deforestation, acidification of lakes streams and soils, species extinction, and destruction of the ozone layer, is not sustainable. With computers and scientific models, the consequences of current economic trends can be projected ahead and from this we learn that in another two generations:

-- tropical forests could have disappeared;

-- the world could be warmer by 4 - 6 degrees and accelerating;

-- ultraviolet radiation will be a serious threat to animal health and plant yields;

-- species depletion and extinction could have wiped out much of the earth's genetic resources;

-- and arable land could be barely adequate to feed a human population half again as large as today's.

The acceleration of environmental change resulting from our economic activities now means that every investment project with a life longer than 15-20 years must take into account how the world may have changed. Economists can no longer assume a predictable climate, free access to pure air and water, or negligible pollution control costs. They must begin to calculate the costs of modifying production processes now, as compared to the future costs of failing to modify them.

Phenomena that were previously local and small-scale are increasingly global in their effects. Each chimney belching carbon dioxide adds to the greenhouse effect, so does each hectare of tropical forest burned down. A pandemic like that of AIDs can spread from continent to continent in weeks; so can newly bio-engineered crop strains.

What, then, does the environmental crisis mean for the way economies are managed, and for our international relations? What we are facing is an adjustment challenge extending to all the industrialized and newly-industrializing countries of the world, and affecting the development plans of Third World countries. To carry conviction internationally, we must show ourselves ready to bear the very considerable costs, and, if necessary, to do so before everybody is signed on. The world can adjust to changes of this magnitude, it if knows it must.

The Brundtland Commission on Environment and Development, in its 1987 report Our Common Future, stated this conclusion in no uncertain terms: "It is impossible to separate economic development issues from environmental issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development." The Report concludes that the environment and the development challenges really are but one challenge, which can only be resolved by a common pursuit.

In other words, sustainable development is about how to make hard choices in situations of scarcity; it is not, as some might think, a way of having our environmental cake and still enjoying the same level of economic development.

There is still a great deal to be learned about the economy-environment interactions implicit in sustainable development, but some points are clear. For one thing, it involves an ongoing balance of human harvesting of nature, such as we have had for centuries in the Canadian trapping industry. For another, it involves strategic preservation - choosing unique sites such as the South Moresby Islands, and giving them appropriate protection. It involves anticipating and preventing disasters, rather than reacting after the event.

We are seeking to apply the principles of sustainable development to Canadian policy, at home and internationally.

We adopted last year a new water policy which provides a framework to manage the essential resource in an environmentally sound manner.

We recognize the value of preserving significant wilderness areas so have created five new national parks in the past four years - Ellesmere Island, Bruce Peninsula, Pacific Rim, South Moresby and Grasslands.

The National Roundtable on Environment and Economy, brings together leaders from the business, labour, academic and environmental communities to advise on how best to integrate environmental concerns into economic decision-making. It will present annual progress reports to the Council of First Ministers.

The new federal Environmental Protection Act has guaranteed individual Canadians a role in decision-making affecting our environment.

More than $900 million a year of CIDA's program is allocated to projects designed to improve the management of renewable and nonrenewable resources in developing countries.

We will continue to press multilateral development banks to devote more attention to environmental concerns in the design and implementation of projects. Last year, we proposed that the World Bank should make more information available about the environmental impact of its activities; develop criteria for its lending where it affects such vital resources as rainforests; and promote innovative ways to finance conservation in the Third World.

Last June Toronto hosted a World Conference on the Changing Atmosphere. The work begun there is now being pursued through the Intergovernmental Panel on Climate Change under the auspices of the World Meteorological Organization and UNEP. A follow-up world conference on this issue will be held next year.

My colleague, Lucien Bouchard, has put forward a proposal to the UN for the creation of an International Law of the Air similar to the historic Law of the Sea Treaty. Three months ago Canada hosted an international gathering of legal experts to develop and codify international legal principles to protect the atmosphere.

The Montreal Ozone Conference has been followed this Spring in London by a Ministerial meeting to search for materials that could replace ozone damaging products now in use.

In March Prime Minister Mulroney attended an environmental summit in The Hague where an impressive number of world leaders signalled their intention to make global climate change a first order political problem. These issues will be on the agenda next week at the Francophone Summit in Dakar, the week after that in Paris at the OECD and, in July, at the Economic Summit.

At first glance, it might seem an almost impossible task to achieve the necessary coordinated international responses. There are few precedents for countries agreeing to specific limits on their economic activities for environmental reasons. There are problems in identifying the right international institutions to use, and equipping them with necessary powers. Scientific opinion on the need for action is far from unanimous and the degree of commitment within and among countries differs widely. There is the familiar political problem of a shared general concern not being matched by a willingness of particular regions and sectors to suffer.

These and other concerns affect attitudes in the Third World. These countries tend to regard the greenhouse effect as a problem created by industrialization in developed countries, for which compensation is due. They hold strongly to their sovereignty, and resist, for example, international action affecting control over their tropical forests. In some cases the governments have little control over the use of forests, soil, or water by rural populations or of settlement patterns by urban dwellers. In most cases they are preoccupied by the stresses of poverty, civil strife, and economic insecurity which make environmental concerns seem a distant diversion.

In normal circumstances these impediments would be enough to forestall meaningful action for a long time to come. But these are not normal circumstances, and there is some reason to believe that we can make significant progress internationally.

The next few months and years will be critical. That is for two reasons. One is the wide recognition that it is urgent to act together to protect the environment. The other is that this is an unusually co-operative time in international affairs. The UN enjoys renewed prestige. The superpowers have begun to work together. New trading arrangements have lifted horizons, in Europe, with our own Free Trade Agreement, and in the MTN.

Those circumstances create a special responsibility for Canada. We have good credentials internationally, and on the environment, and we are determined to put that combination to work.

Statement

Department of External Affairs

Discours

Ministère des Affaires extérieures

SPEAKING NOTES BY THE HONOURABLE MONIQUE LANDRY,

MINISTER FOR EXTERNAL RELATIONS AND INTERNATIONAL DEVELOPMENT

ON THE OCCASION OF

THE 15TH SESSION OF THE UNITED NATIONS

ENVIRONMENT PROGRAMME GOVERNING COUNCIL

NAIROBI, KENYA

May 15, 1989.

Minister for External Relations and International Development

Ministre des Relations extérieures et du développement international

Canada

Mr. President, Dr. Tolba, Ministers, and Delegates,

It is indeed an honour and a privilege to represent the Government of Canada at the Fifteenth Governing Council of the United Nations Environment Programme (UNEP). The unprecedented ministerial presence at this current session underlines the importance which countries attach to the environment. It is a tribute to the dedication and commitment of UNEP and its Executive Director, Dr. Tolba. It is also an indication that global environmental issues are high on the international political agenda.

I will concentrate my remarks on the need to achieve consensus, cooperation and commitment in order to resolve environmental problems. This presupposes a multi-disciplinary approach. In this respect, I would like to focus on the role and mandate of UNEP, and on the 1992 Conference on Environment and Development.

Ladies, and Gentlemen,

Environmental degradation affects all nations of the world and respects no boundaries. Whether we like it or not, the world is at a turning point. The environment cannot be allowed to deteriorate. We need global solutions.

In some respects, the international community is making progress. We are indeed fortunate that almost twenty years ago, we had the foresight to establish the United Nations Environment Programme. Canada fully recognizes the pivotal role UNEP has played, and must continue to play, in catalyzing and coordinating international cooperation in environmental matters, and in implementing sustainable development.

We appreciate the clear direction given by UNEP in identifying the major environmental issues facing the world today. As Dr. Tolba has said numerous times, these are: global climate change; depletion of the ozone layer; fresh water problems; marine pollution; desertification; deforestation; biological diversity; and, hazardous waste. It must be realized that certain global problems affect particular regions of the world differently -- for example, the severity of the desertification problem in Africa, and the contamination of the food chain in the Canadian Arctic. However, to find lasting solutions to such problems, the assistance and

cooperation of the international community is essential. We must develop partnerships involving governments, the private sector, non-governmental organizations, labour, and other groups. Through such cooperation, the environment can thus become a powerful unifying force. The challenge is to put into practice economic development which is environmentally sustainable.

We recognize that industralized countries neglected the environment in the pursuit of economic growth and economic development. This cannot continue. If developing countries are to avoid the mistakes of the past, they will require assistance. To achieve sustainable development, financial capability, technology transfer, and training, are necessary.

In Canada, the environmental challenge is being met in a number of ways. The Prime Minister of Canada, Mr. Brian Mulroney, has created a Cabinet Committee on the Environment, chaired by the Environment Minister, which includes Ministers from key economic departments. I also have the privilege to be a member of it. This Committee will ensure that the Government's environmental objectives are reflected in its decision-making process. In response to the recommendations of the World Commission on Environment and Development, cross-sectoral round tables on environment and economy have been set up at the national level and in most provinces. Aware that the support of the Canadian public is an essential part of the integration of the environment and economy, the Government of Canada has launched a programme to empower citizens to make environmentally sound choices. The "Environmental Choice" programme will encourage consumers to purchase environmentally friendly products. In addition, the Government will establish an "Environmental Partners" fund which allows individual Canadians to become involved in community projects aimed at finding solutions to environmental problems.

The Canadian Government, through the Canadian International Development Agency, for which I have the responsibility, is concerned with environmental priorities in developing countries. The Canadian Charter for Development Assistance, which I had the honour to table in Parliament in 1988, upholds the need to ensure development which is ecologically sound. More precisely, the concept of sustainable development is a major priority for me and my Agency. As the distinguished Executive Director of UNEP has written, the first priority for the industrialized nations should be to assist the developing countries develop their own environmental institutions. My Agency is keenly occupied in realizing this objective.

Internationally, Canada will continue to play an active role in ensuring political momentum on the environment. Just last week in Geneva the Intergovernmental Panel on Climate Change meeting under the auspices of UNEP and the World Meteorological Organization, started work on the elements of a framework convention for the protection of the global climate. This work will we hope become part of a much larger effort by the Intergovernmental Panel on Climate Change which is vigorously exploring all aspects of this major problem.

The environment will be on the agenda of the Dakar Summit of the Francophonie next week and will be one of the three major issues at the Paris Economic Summit in July. The ministerial meeting of the Organization of Economic Cooperation and Development at the end of May will discuss the role which it will play on the issue of the environment and economy. The Commonwealth Summit will also place a high emphasis on the environment, as will the Hague Ministerial Meeting in November.

Furthermore, as we prepare for the 1992 UN Conference on Environment and Development, both regional and sectoral conferences are being planned. We will be happy to actively participate in May 1990 in Bergen, Norway at the conference entitled: "Action for a Common Future".

In late 1990, the Second World Climate Conference will take place in Geneva. This will offer an early opportunity for governments to discuss the assessment reports on climate change, its impacts, and policy options prepared by the Intergovernmental Panel on Climate Change.

As you know, our Prime Minister Brian Mulroney has called for a global convention on protection of the atmosphere. We have already hosted the Toronto Conference on the Changing Atmosphere, and the Ottawa Legal and Policy Experts Meeting on the Protection of the Atmosphere. My delegation will be tabling the reports of those two meetings. We believe that the time has come for the international community to develop such a convention and we urge other countries to cooperate in this most important endeavour.

To this end, we were pleased to be active participants at the London Ozone Conference, The Hague Environment Summit, and the Helsinki Meetings on Ozone Depletion.

The follow-up meeting to the Hague Summit, held last week in Paris, arrived at the strong consensus on strengthening existing institutions such as UNEP and WMO. New institutional authority would be arrived at through the negotiation of a climate change convention. Preparations and negotiations

towards this goal should begin urgently, and clearly UNEP (as well as the WMO and the IPCC), must play an important role. An urgent question to be addressed at this session of the Governing Council is the timing and focus for the negotiation of the convention. In this process UNEP has been vital in its conceptualizing, coordinating, codifying and catalyzing role.

We as a community, have already acted together to address major global environmental problems. For example, countries recently agreed in Helsinki on the need to strengthen the Montreal Protocol on Substances that Deplete the Ozone Layer. As well, countries agreed in Basel on a Convention to Control the Transboundary Movement of Hazardous Wastes and their Disposal. These two instruments, which reflect the international political will to address global environmental problems, could well serve the international community as useful benchmarks for addressing other issues. These various conventions are all important elements which reflect the broadening of the international environmental dialogue.

However, the wide range of global environmental problems will require more such efforts. For these reasons, Canada supports the UN initiative to convene the 1992 Conference on Environment and Development.

For this conference to be successful in terms of realizing concrete results, we believe the preparatory process will be crucial. As I have stated earlier, it is important that regional conferences take place prior to the 1992 conference. Canada will be an active participant at the Economic Commission for Europe regional conference. We note that the Latin American and Caribbean region is also preparing a similar meeting. I sincerely hope other regions are planning to hold their own conferences, since they will have substantial input to the outcome of the 1992 conference.

We have come a long way since the historic 1972 Stockholm Conference on the Human Environment which gave birth to this organization. Environment and economic development, once thought to be competing solitudes, are now recognized as being inseparably linked. In all parts of the world, we are learning that a development process which does not respect environmental priorities is ultimately self-defeating. Such a process serves only to increase for future generations land degradation and resource depletion. This in turn creates the vicious poverty cycle which fuels increased environmental degradation. This can lead to devastating social and economic upheaval for the international community in the coming century.

I believe it crucial, therefore, that we take the decision to act constructively now at this Fifteenth Governing Council and concentrate on the scope and content of the 1992 conference. The Government of Canada, among others, will work to achieve this goal.

Management of the environment is inevitably management of the future. Enlightened leadership on these major issues will stimulate our creativity and galvanize our efforts.

Ladies and Gentlemen,

Environment is our destiny. What is needed is a new environmental ethic. We need to value our environment as we value life itself. The essence of the new environmental ethic does not lie in condemning development and technology, but in recognizing the need to balance innovation with wisdom. It must allow for sensitivity to national aspirations and be based on sound environmental management policies as well as profitability. We must respect the sovereignty of nations but we must learn to think of the environment as the common heritage of mankind. Growth is good if it works in harmony with nature's laws.

Let us join together in creating an environmental ethic we all can live with, and which will contribute to a more peaceful and prosperous world.

Office of the
Prime Minister

CANADA

Cabinet du
Premier ministre

NOTES FOR AN ADDRESS

BY

THE RIGHT HONOURABLE BRIAN MULRONEY

PRIME MINISTER OF CANADA

INTERNATIONAL ENVIRONMENT BUREAU AWARD

WASHINGTON, D.C.

MAY 4, 1989

CHECK AGAINST DELIVERY

Prime Minister Brundtland, Mr. Roderick, Dr. Ford, honoured guests, ladies and gentlemen.

It is a very great honour for me to come here today to accept the International Environment Bureau Award. I accept it on behalf of the Canadian people, who are in a very real sense the authors of the environmental progress we have made to date in Canada.

We, Canadians, care deeply about our natural environment. Our national soul breathes its life from our lakes and forests and plains and trees. They are part of us and we are part of our environment.

In Canada the environment is a powerfully unifying force. The environment is fundamental to our identity. Preserving the environment for future generations is not merely a question of social responsibility; it is an act of national fulfilment.

I am honoured to receive this Environmental Award in the presence of Prime Minister Brundtland, its first recipient. Madame Prime Minister, you and your colleagues on the World Commission on Environment and Development succeeded in articulating one of the seminal truths of our times -- that good environmental policy is sound economic policy; that the two are not mutually exclusive but mutually reinforcing.

You have shown that the management of the environment is the management of our future. You have shown, also, that enlightened leadership on transcendent issues can rekindle mankind's hope, stimulate its ingenuity and galvanize its effort.

I would also like to thank Mr. Roderick and members of the International Environment Bureau for honouring me and my country with this award.

The creation of the IEB by the International Chamber of Commerce was an act of environmental leadership, perfectly suited to the spirit of our times. Our times certainly demand leadership.

The possibility, for the first time in 70 years, of normalcy in East-West relations; the rise in economic prosperity; the advance of democracy; the information revolution -- ours is an age of extraordinary promise. The prevalence of poverty and ignorance; the persistence of disease; the increase in population -- ours is also an age of extraordinary challenge. Nowhere is the challenge more complex or more important than the pressure mankind is putting on the environment.

For the first time in history, mankind is capable of altering the global environment, for the worse, permanently. And nowhere is the pressure greater than on the atmosphere, the common heritage of us all. The consequences are serious.

This audience will know that a one per cent depletion of stratospheric ozone is estimated to increase the incidence of skin cancer in some people by as much as four per cent. In this general latitude, ozone is thought to have been depleted approximately by four per cent.

You have had a thorough discussion today on global climate change -- the scorching phenomenon that we got an unpleasant taste of last summer. I won't address myself to the science of this "greenhouse" effect; you have covered that already. Let me just say that if the requisite remedial steps are not taken, Canadian scientists expect to see within fifty years an increase in the earth's average surface temperature of between 1.5 degrees celsius and 4.5 degrees celsius. Temperatures could rise as much as 15 degrees celsius in the polar regions.

However devoutly a Canadian winter can make us wish for that outcome, we will not like many of the negative consequences; for example: increased frequency and severity of drought; a lowering of the Great Lakes; a global sea-level rise of potentially very significant dimensions; increased forest disease and forest fires. Climate change is an extraordinarily complex problem.

It is always difficult to make decisions with major consequences in the face of uncertainty. But it will help us in our resolve to act if we all bear in mind that, because of the greenhouse gases now in the atmosphere, the earth is already committed to some climate changes. The sun's rays are going to get stronger and the earth is going to get warmer no matter what we do. That makes what the IEB is trying to accomplish today all the more timely and the results all the more critical.

Nor is the emphasis we put on the environment confined to the atmosphere. You will be aware of the recent U.S. Environmental Protection Agency study that shows that in the United States alone over 11 million tons of hazardous substances were disposed of or released into the environment in one year. And we have a special, gathering ecological tragedy made right here in North America.

On the whole, our bilateral environmental record has been impressive -- from the truly visionary Boundary Waters Treaty of 1909 to the renewal of the Great Lakes Water Quality Agreement, the Niagara River Toxics Management Plan, the Porcupine Caribou Herd Agreement and the North American Waterfowl Management Plan of the past couple of years. There remains one anomaly in this otherwise solid record of joint environmental stewardship.

I am referring, of course, to acid rain. Acid rain falls, corrosively and without respect to the values they represent, on the Washington Monument, the White House, the Capitol and the Lincoln Memorial. In Canada, our Parliament buildings are being similarly damaged. These facts symbolize the enormity of the damage our nations have been inflicting on our common heritage.

In Eastern Canada, at least 14,000 lakes are now acid dead. Another 300,000 are damaged or vulnerable. In Nova Scotia, many streams no longer support the salmon for which they were once famous and in Eastern Canada our magnificent forests are being seriously affected, including, tragically, maple forests.

The one thing acid rain does not do is discriminate. It is despoiling your environment as inexorably as it is ours. Your environment from Minnesota to Maine is being damaged. Marine life on the eastern seaboard is threatened.

Acid rain offers a tough lesson in interdependence. Half of the acid rain that falls in Canada -- and in some areas much more than half -- originates in the United States. And up to a quarter of the acid rain that falls in the U.S. northeast originates in Canada.

Nor, I should add parenthetically, is acid rain a stranger in Europe. Eerily faceless statues of the Virgin Mary in Poland, corroding columns of the Parthenon in Greece and the damage to the aquatic systems in Norway -- where the alarm bells went off first -- are evidence of the phenomenon's destructive international credentials.

International environmental problems yield only to international environmental solutions. But environmental responsibility, like charity begins at home.

When we came to power in 1984, we were acutely conscious -- and embarrassed -- that Canada was asking the United States for action on acid rain but that Canadian performance was equally lacking. We set out to clean up our own act. We reached

binding agreements with our seven eastern-most provinces that by 1994 we would cut Canada's sulphur dioxide emissions to 50 per cent of 1980 allowable levels. We are well advanced in our program.

Sulphur dioxide emissions in Eastern Canada are down 40 per cent already; Canadian export of sulphur dioxide to the United States has been reduced by a third; Canadian firms and utilities have embarked on programs to install new processes and technologies which, when completed, will cost $500 million per year.

You will not be surprised to hear that I made these same points to President Bush in February, in Ottawa, and that I repeated them earlier today.

President Bush has given me his assurance that we can expect to see his administration take concrete action on acid rain very shortly. Subsequently, negotiations can begin on an acid rain accord to record our commitments to each other, as we have done on a wide range of other environmental agreements.

I must tell you that I am encouraged by the progressive stance President Bush has taken on acid rain. The world needs the United States in the vanguard of environmental leadership. Progress on the complex of global issues we face can only be made if the United States plays its full part.

I would also like, while I am here in Washington tonight, to acknowledge the progress made in the U.S. Congress on protection of the environment. I wish, especially, to applaud Senate Majority Leader George Mitchell of Maine. There is no doubt in my mind that the changing attitudes we are seeing on acid rain in the U.S. Congress is materially due to his unswerving leadership on this problem.

Solving the environmental issues of our day will take leadership and partnership -- domestically, regionally and globally. And leadership and partnership will need to come from all countries and from all sectors of society.

In Canada, we believe we are making progress on our environmental agenda. We have passed a new Canadian Environmental Protection Act that is among the toughest in the world. We have adopted much stricter standards for handling PCB's. New emission standards, as strict as any in the world for buses and heavy duty trucks, came into effect in December. We have committed ourselves to end, within ten years, and sooner if

possible, the use of CFC's. An additional $125 million will be provided to help clean up the Great Lakes. A further $110 million has been identified to assist in the clean-up of the St.Lawrence.

Under our "Environment Choice" program, we are giving our seal of approval to "environmentally friendly" products so Canadians will know that these products are not harmful to the environment. We plan new legislation on water quality and new regulations on toxic chemicals. We also plan to establish an Environmental Partners Fund to support local-level environmental clean-ups.

Perhaps most significantly, we have committed ourselves to the concept of "sustainable development". We recognize that economic growth and environmental sensitivity are both indispensable. To help translate the theory into practice, we have enlarged the responsibilities and authority of the Minister of the Environment, Lucien Bouchard, who is present tonight. Together, we will ensure that environmental issues are fully weighed in the course of our government's decision-making.

Our international agenda has also been heavy. Montreal was selected by the international community as the site of the landmark 1987 International Conference on Protecting the Ozone Layer. Toronto was the site of the 1988 Economic Summit. The Toronto communiqué was unambiguous in stating the priority that the leaders of the seven major industrial countries put on environmental protection.

A week later, Toronto hosted a conference on the changing atmosphere and its implications for global security, where Prime Minister Brundtland delivered a keynote address of uncommon brilliance and authority.

In September, my colleague the Minister of Finance, presented the World Bank with a plan to ensure that protection of the environment is a major element in the Bank's development projects.

The same month, I announced to the General Assembly of the United Nations the creation of a centre for sustainable development in Winnipeg.

This February, legal experts from around the world gathered in Ottawa to consider the elements of an international convention on the atmosphere.

In March, I attended the Environmental Summit in the Hague. That summit issued a declaration that added further priority to the global environment as a policy issue and further impetus to innovative institutional cooperation. More particularly, the summit participants agreed to develop, within the U.N., a new institutional authority to combat global warming. They also agreed to promote compliance with the authority's decisions. Flora Lewis of the New York Times wrote then: "The environment is being recognized as a global issue. These are profound shifts in the perceptions of the world coming unevenly in spasmodic bursts, but with a momentum reaching the stage of destiny."

The future environmental agenda is very full. We look forward, especially to the 20th anniversary of the Stockholm Conference, where the world will take stock of progress since 1972 and chart a collective course for the future.

For us, the Arctic will be a particular focus of interest. We plan to work with the other circumpolar countries, including Norway and the United States, in acquitting our common responsibility for the region's fragile ecosystem. I anticipate signing an Arctic and Northern exchanges agreement with the Soviet Union when I visit Moscow in the fall.

Shortly, Canada's National Roundtable on the Environment and the Economy will hold its first meeting. The Roundtable will bring together highly qualified Canadians to consider ways to integrate environmental and economic decision-making in Canadian society. The work of this new organization will help us re-think how we make decisions, personally and professionally, that affect our common environment.

If we are to preserve our environment, we need, as Einstein observed in a related context, to change our ways of thinking.

The environment is our destiny. What is needed is a new environmental ethic. We need to value our environment as we value life itself.

We will know that an environmental ethic is accepted when a company's environmental policy statement is as integral to its yearly report as its financial statement. We will know that an environmental ethic is established when industry leads government in the protection of the environment.

I challenge the business leaders here, today, to take the lead, go beyond the letter of the law, fix what ain't

broke before it breaks and the damage is done and the recriminations start, use your genius and know-how in advance of trouble. Multinational corporations, in particular, have it within their power to have an enormously positive impact on the environment around the world.

The world has lost a lot of precious time in the past decade on outmoded ideas about environmental protection. And, sometimes, when some associated with environmental questions insisted on all-or-nothing solutions to problems, the environment had to be satisfied with nothing.

Let us agree that we need economic growth to meet the aspirations of the human family, and that growth must be environmentally sustainable; it is, in fact, part of the solution. Let us also agree that technology is not, itself, usually the issue either. When it is used wisely, we all benefit. Of course, it is when it is used insensitively that the effects can be catastrophic.

The problem is not so much technology as it is short-sightedness. Our nemesis is mankind, itself. The essence of the new environmental ethic does not lie in condemning development and technology. It lies in recognizing the need to balance genius with wisdom, in allowing for sensitivity as well as profitability. Growth is good, if it is harmonious with nature's laws.

Let us join together, private and public sector, rich country and poor, in creating an environmental ethic we all can live with, and which will contribute to a more peaceful and prosperous world.

- 30 -