

Ronald Reagan Presidential Library
Digital Library Collections

This is a PDF of a folder from our textual collections.

Collection: Bledsoe, Ralph C.: Files (DPC)
Folder Title: 330 – Stratospheric Ozone
[The Montreal Protocol Briefing Book] (1 of 2)
Box: 104

To see more digitized collections visit:

<https://www.reaganlibrary.gov/archives/digitized-textual-material>

To see all Ronald Reagan Presidential Library Inventories, visit:

<https://www.reaganlibrary.gov/archives/white-house-inventories>

Contact a reference archivist at: **reagan.library@nara.gov**

Citation Guidelines: <https://reaganlibrary.gov/archives/research-support/citation-guide>

National Archives Catalogue: <https://catalog.archives.gov/>

Last Updated: 04/10/2024

ALLIANCE FOR RESPONSIBLE CFC POLICY
1901 N. FT. MYER DRIVE, SUITE 1204
ROSSLYN, VIRGINIA 22209
(703) 841-9363

December 28, 1987

Mr. Ralph Bledsoe
Executive Secretary
Domestic Policy Council
Old Executive Office Building
Room 200
Washington, D.C. 20530

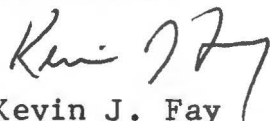
Dear Mr. Bedsoe:

On behalf of the members of the Alliance for Responsible CFC Policy, I am pleased to enclose a copy of "The Montreal Protocol, A Briefing Book." This book has been put together to foster better understanding of the Montreal Protocol and our efforts to support the development of a responsible international policy for protection of the earth's ozone layer.

Alliance members are appreciative of the significant effort put forth by many persons, including yourself, in shaping the outcome of the successful international negotiations. As you know, the Alliance is supporting ratification of the Protocol.

Best wishes for a happy, healthy holiday season. We look forward to working with you in the coming year.

Sincerely,



Kevin J. Fay
Executive Director

Enclosure

KJF:sct

The Montreal Protocol



A Briefing Book

**Alliance For Responsible CFC Policy
December 1987**

The Alliance for Responsible CFC Policy is a coalition of U.S. users and producers of chlorofluorocarbons (CFCs) and representative trade association. Additional copies of the Briefing Book may be purchased from the Alliance at a cost of \$5.00 per copy. To order

Contact: "The Montreal Protocol, A Briefing Book"
Alliance for Responsible CFC Policy
1901 N. Ft. Myer Drive, 12th Floor
Rosslyn, Virginia 22209

THE MONTREAL PROTOCOL

A BRIEFING BOOK

TABLE OF CONTENTS

INTRODUCTION	iii
I. INDUSTRY STATEMENTS	
Remarks of Richard Barnett, Chairman, Alliance for Responsible CFC Policy—September 16, 1986	I-1
Alliance Policy Statement—September 16, 1986	I-3
Remarks of Kevin J. Fay, Executive Director, Alliance for Responsible CFC Policy—September 14, 1987	I-4
Statement of Worldwide Industry Support	I-5
Alliance Press Release—September 16, 1987	I-8
Alliance Remarks to Ozone Forum—October 30, 1987	I-9
II. THE MONTREAL PROTOCOL	
Remarks of Lee M. Thomas, Administrator, U.S. Environmental Protection Agency	II-1
Summary of Provisions	II-3
Text of the Montreal Protocol	II-4
Signatory Countries	II-29
Estimated CFC Production, Consumption, and Growth (by Region)	II-30
Estimated Per Capita Consumption (by Country)	II-32
III. EDITORIAL COMMENTS	
Index of Editorial Comments	III-1
Text of Selected Editorial Comments	III-3
IV. SCIENCE ASSESSMENT	
Introduction	IV-1
Ozone Measurements	IV-2
Antarctic Ozone	IV-3
Model Results:	IV-4
Figure 1—Chlorine in the Atmosphere	IV-5
Figure 2—Comparison of Growth vs. Montreal Protocol	IV-6
Figure 3—Comparison of Global Freeze vs. Montreal Protocol	IV-7
Figure 4—Comparison of Montreal Protocol vs. Protocol Plus Additional U.S. Unilateral Action	IV-8

V. ECONOMIC ANALYSIS

Introduction	
CFC Uses in the United States	V-1
Economic Implications of CFC Restrictions	
Background	V-4
Methodology	V-5
Findings	V-6
Summary of Findings	V-22

INTRODUCTION

The signing of "The Montreal Protocol on Substances that Deplete the Ozone Layer," received widespread attention across the United States and around the world as an unprecedented hallmark of global cooperation among governments, industries, and environmental organizations. The Alliance for Responsible CFC Policy, a broad coalition of industries in the United States concerned with the ozone depletion issue, was the first industry organization to call for the completion of such an agreement and is supporting ratification of the Protocol. This Briefing Book has been produced by the Alliance to assist in better understanding the benefits of the Montreal Protocol and efforts to protect the earth's stratospheric ozone layer.

In September 1980, the Alliance for Responsible CFC Policy was organized to represent the interests of chlorofluorocarbon (CFC) user and producer industries in the United States because of the announced intent of the U.S. Environmental Protection Agency to promulgate further unilateral regulatory measures on CFC compounds. The goals of the Alliance are to ensure the objective review of up-to-date scientific information and the use of such information by EPA in its regulatory decision making; to ensure that any regulatory decision, if deemed necessary, be pursued at the international level rather than unilateral domestic regulation; and to ensure that all CFC users receive fair treatment.

International discussions on an international agreement for the protection of the ozone layer began in 1981 under the auspices of the United Nations Environment Programme (UNEP). The U.S. government participated in these discussions, and was supported by industry and environmental organization representatives. In 1985, more than 20 countries and the European Economic Community signed the Vienna Convention for the Protection of the Ozone Layer to establish an international framework for scientific assessment, research and monitoring, cooperation, and information exchange. The Vienna Convention was ratified by the U.S. Senate in 1986 with the endorsement of the Alliance and environmental organizations.

In 1986, after a careful review of the accumulated scientific and economic information (much of the information developed by or with industry support), the Alliance concluded that, while no significant risk was present from the current worldwide use of CFC compounds, the computer model-calculated effect of uncontrolled growth in the use of some of the currently used CFCs well into the next century had the potential to create significant environmental damage. The Alliance Board of Directors agreed that a new direction was necessary and approved a policy statement that was released in September of that year.

The Alliance for Responsible CFC Policy was the first industry organization to call for the negotiation of an international agreement to limit the rate of growth in the use of the fully-halogenated CFC compounds. The Alliance urged the completion of this agreement under the auspices of UNEP.

The policy statement also recognized and supported efforts to reduce CFC emissions through conservation, recovery, recycling and containment and additional research and development on new CFC compounds and CFC-utilizing technologies.

The premise of the Alliance's position was that no immediate environmental hazard existed, that ample time was available for a reasonable transition to as yet unavailable substitute compounds or emission control technologies, and that the only effective solution to protect the environment and the U.S. economy was a reasonable international accord that included developed and developing nations.

The difficult negotiation process, which began in December 1986, reflected the scientific complexity of the environmental concern and the economic diversity of the participating nations. Alliance representatives participated as observers at all the negotiating sessions, along with observers from the Congress, non-governmental organizations from the U.S. and from other countries.

At the same time, the Alliance communicated with other industry representatives around the world to encourage their support for the negotiation process. The success of this effort is reflected in the "Statement of Worldwide Industry Support" signed by more than 60 industry organizations from 13 nations.

The Montreal Protocol was signed September 16, 1987, exactly one year after the Alliance for Responsible CFC Policy issued its call for the negotiation of an agreement. It is an historic agreement, the significance of which is reflected in the editorial comments we have provided in Section III of the Briefing Book. It must be recognized, however, that the agreement is the result of an arduous negotiation process and therefore not perfect.

Importantly, the Protocol balances the need for environmental protection and the desire for global economic growth and competitiveness. It received the support of most of the key international CFC consuming and producing interests, covers a broad range of chemical compounds, and contains reasonable provisions for enforcement. Finally, the agreement provides for an ongoing international process for assessing the scientific, economic and technological issues involved so that adjustments can be made on the stringency of the agreement.

The Alliance remains concerned that the CFC reduction schedule contained in the agreement attempts to go too far, too fast, before the availability of acceptable substitute compounds. As was indicated when the Alliance issued

its 1986 Policy Statement, the key to protecting the environment and providing the economic stimulus to develop new compounds was the limitation on the growth in the use of the current compounds. The information contained in Sections IV and V of the Briefing Book supports this position. Because of the stringent reduction schedule, the Protocol contains a substantial margin of protection above and beyond what is currently necessary to protect the environment.

In weighing the many factors contained in or affecting the Protocol, the Alliance is supporting ratification of the agreement by the U.S. Senate. It is the most realistic and effective means of addressing the global concern for potential ozone depletion.

In preparing this briefing book, the Alliance also hopes to dispel many of the misconceptions that may have been created during the coverage of the international negotiations. Several commonly asked questions that are frequently answered incorrectly are:

Has global ozone depletion occurred? No.

The Montreal Protocol is the first agreement of its kind to address an environmental problem before it has occurred. The ozone layer fluctuates naturally by a large percentage depending on season, latitude, and events such as solar cycles, and volcanic eruptions. There has been no statistically significant change in the total global ozone over the thirty years that measurements are available.

Is a decrease in ozone responsible for the increasing incidence of skin cancer? No.

While there has been an alarming increase in skin cancer cases in the United States, experts attribute this to changes in lifestyle, not to ozone depletion. Dr. Margaret Kripke, Chairman of EPA's Science Advisory Board, Subcommittee on Stratospheric Ozone, has clearly indicated in correspondence to Congress that "there is at present no evidence that a decrease in the ozone layer is responsible for the recent increase in the incidence of skin cancers." Since there has been no global ozone depletion it is not correct to ascribe any deleterious health or environmental effects to this issue.

Isn't an 85 percent reduction necessary to stabilize the ozone layer? No.

The ozone layer is affected by several chemicals besides CFCs, including carbon dioxide, nitrous oxide and methane, in a complex interaction. Some of these compounds encourage ozone creation, some do not. It has been stated that an 85 percent reduction of current CFC emissions may be required in order to prevent the buildup of any additional chlorine in the atmosphere. This does not mean that CFC emissions must be reduced by 85 percent to protect the ozone layer. (See Section IV) Although some have advocated a cleansing of chlorine from the atmosphere, it is not necessary (or feasible) for protection of the ozone layer.

Has the ozone layer over Antarctica disappeared? No.

The phenomenon sometimes referred to as the Antarctic "ozone hole" is a seasonal reduction in the measured level of ozone at certain altitudes for a short period of time, 30-60 days. Two scientific expeditions to the region have produced significant amounts of measurements and data that will require further analysis. The preliminary report from the 1987 expedition's participants indicated that the "evidence strongly suggests that both chemical and meteorological mechanisms perturbed the ozone. Additionally, it is clear that meteorology sets up the special conditions required for the perturbed chemistry." While it appears that chlorine chemistry plays some role in this phenomenon, the Antarctic meteorological conditions, which are unique to that region alone, clearly are a contributing factor. It now appears possible that some reduction would be occurring in the ozone layer over the Antarctic even if CFCs were never introduced into the atmosphere.

Does the Antarctic ozone reduction threaten the Antarctic ecosystem? Not known.

Additional work must be conducted to determine whether any significant environmental effects will occur as a result of this phenomenon. It should be noted, however, that even with the measured ozone reductions, the level of UVB radiation exposure at noon on an October day in the Antarctic is less than the level of exposure at noon on a summer day in Washington, D.C.

Are CFCs used frivolously in the United States? No.

CFCs are used widely in the United States because of their unique combination of characteristics. The compounds are non-flammable, non-corrosive, non-carcinogenic, non-toxic and very energy efficient in their critical applications. They are essential to many critical industries in the United States, including air conditioning and refrigeration, electronics, automotive, food processing and retailing, plastic foam, medical and others. CFCs are important to these industries because of the value the compounds add to the product and services they are utilized in and because of the environmental and health protection they provide to workers and consumers.

Are substitutes readily available for all CFC uses? No.

While some current CFCs, HCFC-22 for example, may be substituted for the fully-halogenated compounds, the percentage is very small. In the near-term, in order to comply with the Montreal Protocol, CFC consumers will be required to use the current CFC compound more efficiently, i.e., through conservation, containment and recycling, and to make limited substitutions where feasible. In the long-term, compliance with the Protocol will require identified, but as yet unavailable substitutes for the current compounds. Candidate replacement products, such as CFC-123, CFC-134a, and CFC-141b, which will require toxicology testing before they can be made commercially available. This is a five to seven year process. An international consortium of CFC producers is being organized to jointly complete the toxicological testing program. Incorporation of new CFC chemicals by user industries will take several additional years.

In the final analysis, the Montreal Protocol is a recognition that environmental protection and economic concerns can and must coexist, not just in the United States, but worldwide. To the extent that the agreement attempts to establish a level playing field among world competitors, it is imperative that the U.S. remains committed to the framework provided.

The Alliance is confident that the Protocol will be ratified by the required countries in order for it to take effect on schedule. The Alliance is supporting the ratification of the treaty by the U.S. Senate.

The U.S. EPA has already issued proposed rules to implement the Protocol in the United States. The EPA proposal is consistent with and no more stringent than the Protocol. Alliance members will participate in the rulemaking and Final rules are expected by August 1988.

The success of the Montreal Protocol will require a continuation of the cooperative spirit displayed by government, industry, and environmental organization representatives that produced this historic agreement, and a faithfulness to the international process it establishes. Only then will the world know the benefit of this endeavor for protection of the earth's ozone layer and its usefulness as a blueprint for addressing future environmental issues.

**STATEMENT
OF
RICHARD BARNETT
CHAIRMAN
ALLIANCE FOR RESPONSIBLE CFC POLICY**

**September 16, 1986
National Press Club
Washington, D.C.**

Good Morning Ladies and Gentlemen:

I have a brief statement that I will read after which I will be happy to answer your questions.

The Alliance for Responsible CFC Policy was organized six years ago to represent the interests of users and producers of chlorofluorocarbons (CFCs). This was in response to what we considered to be an unwarranted proposal by the U.S. Environmental Protection Agency (EPA) to cap and eventually reduce production of this unique family of chemicals which have contributed so significantly to the quality of life of all Americans and to people around the world. The proposed EPA action was based on the theory that CFCs are emitted into the atmosphere and, because of their unique stability, eventually reach the earth's protective ozone layer, where they may deplete the ozone through a complex series of reactions.

In the belief that government ought not regulate based on an unproven or unverified theory, Alliance members established some basic goals with regard to the ozone depletion theory, CFC usage, and potential government policies.

First, it was our desire to encourage the pursuit of adequate credible scientific research on this important environmental issue, and then to ensure that any government policy be based on the best and most current scientific information;

Second, it was our goal to encourage efforts to resolve this issue in the international arena because of its global scope and to prevent any unproductive, harmful, unwarranted unilateral domestic regulatory program that would injure U.S. industry to the benefit of our international competition;

Third, it was our goal to amend the Clean Air Act to provide greater international emphasis on this issue and to give better guidance to the EPA Administrator regarding stratospheric ozone protection activities and the need for regulation.

In the six years that have gone by, we feel that much has been accomplished to obtain our goals, but we believe that much remains to be done.

We have seen wide swings of findings from conflicting scientific reports regarding CFCs and ozone depletion. With as much as we have learned from the intensive scientific scrutiny, we have also learned that there is a lot we still do not know. We believe the scientific research must continue.

In the intervening years, the Alliance has informed our political leaders, administrative officials, and the public-at-large, as to the many benefits that CFCs offer to our society, in comfort control, food preservation and preparation, energy efficiency, cleaning and sterilization processes, and many other uses, as well as the tremendous contribution to worker and consumer health and safety.

Additionally, we have been an active participant in efforts to promote greater international cooperation, as exemplified by our support for the Vienna Convention for Protection of the Ozone Layer, and our participation in domestic and international efforts to address ozone protection issues such as the recently concluded series of workshops sponsored by EPA and the United Nations Environment Programme.

As you can imagine, the Alliance's activities as a coalition require the active physical as well as financial participation of our member companies. We have worked to live up to our name and be an Alliance for *Responsible* CFC Policy. To do so requires a constant evaluation of the complex scientific, economic, and environmental policy issues confronting us and maintaining and, if necessary, adjusting our position in accordance with the most current information available to us.

In 1980, the Alliance urged that at least 3 to 5 years was necessary to allow the scientific research to continue and to gather critical monitoring information regarding the projections being made by computer models. Therefore, the 1986 release of the NASA/WMO science assessment on stratospheric ozone was an important event with regard to our own continuing evaluation process.

In general, I want to stress that the Alliance does not believe that the scientific information demonstrates any actual risk from current CFC use or emissions. We recognize, however, the growing concern for potential ozone depletion and climate change as a result of large future growth of CFC emissions and the buildup of many other trace gases in the atmosphere, and the concern with the discovery of unexplained phenomena such as the large reductions in ozone levels during the Antarctic spring.

The science is not sufficiently developed to tell us that there is no risk in the future. In fact, all of the computer models calculate that large future growth in CFC emissions may contribute to significant ozone depletion in the latter half of the next century.

We support further scientific research and believe that regulatory policies should be periodically reexamined in the light of additional research findings.

On the basis of current information, we believe that large future increases in fully halogenated CFCs (the most durable ones, thought to contribute most to ozone depletion) would be unacceptable to future generations and, in our view, it would be inconsistent with the goals of this Alliance to ignore the potential for risk to those future generations.

The Alliance, therefore, believes that a responsible policy is necessary that meets four criteria. The policy must

- provide some assurance that we never reach the “doomsday” scenarios that have been put forth;
- foster the spirit of international cooperation needed to reach scientific consensus on this issue and the need for an appropriate global response;
- fulfill our responsibilities as businessmen and women to our shareholders, employees, and customers; and
- recognize the substantial contributions that CFCs make to the quality of our lives, and to the health, safety, and economic benefit of workers and consumers alike.

I am pleased to announce to you today, that the Alliance Board of Directors approved the following policy statement on September 4th. We believe this policy statement meets the criteria I have just stated.

Further, we believe that this policy is a significant step in the direction of developing a positive approach to the issue of global ozone protection and the responsible use of CFCs. We recognize that the process of developing these prudent precautionary measures and establishing specifics will not be easy. As a coalition of many companies and industries, we may expect more specific policy suggestions from our members. We look forward to contributing to the development of the broader consensus on this issue, and hope that others will join us in a spirit of international cooperation as we pursue the difficult tasks necessary to achieve a global policy consensus in the months and years ahead.

Thank you.

ALLIANCE FOR RESPONSIBLE CFC POLICY
1901 N. FT. MYER DRIVE, SUITE 1204
ROSSLYN, VIRGINIA 22209
(703) 841-9363

September 16, 1986

POLICY STATEMENT

Chlorofluorocarbons (CFCs) are widely used by industry and the general public and contribute significantly to the quality of life in the United States and around the world because of their unique and beneficial combinations of functional properties and excellent safety characteristics. The Alliance for Responsible CFC Policy was organized in 1980 to ensure that government policies regarding the further regulation of CFCs are responsible and that any such policies are based on sound scientific facts. It was a further objective of the Alliance to encourage that efforts be pursued on an international basis to resolve the scientific uncertainties pertaining to the ozone depletion theory, the role of CFCs, and the need, if any, for global action to protect the ozone layer. Since 1980, significant research has been conducted concerning the ozone depletion theory, the greenhouse effect, and the role of CFCs. Significant scientific uncertainties remain, however, and the research needs have grown much more complex. Based on the theory, current scientific understanding, and reasonable assumptions about future emissions of substances that may modify the ozone layer, no significant modification of the ozone layer is expected during the next few decades, therefore, there is not imminent threat to human health and the environment from current CFC use or emission. On this basis, the Alliance believes that the following position statement provides an outline for responsible U.S. policy with regard to CFCs compatible with current scientific understanding and consistent with the original goals of the Alliance:

- Recognizing the global nature of the ozone depletion theory, the Alliance supports international resolution of the issue. Additional unilateral regulation of CFCs by the United States would provide little, if any, environmental protection, injure U.S. industry to the benefit of international competition, and may undermine efforts to obtain an international resolution.
- Additional scientific research is essential. The Alliance supports the atmospheric research recommendations contained in the January, 1986 NASA/World Meteorological Organization Science Assessment.
- Voluntary conservation in CFC end use should be continued and expanded where economically and technologically practical.
- Regulation of specific uses of CFCs is ineffective and discriminatory.
- Responsible policy dictates, given the scientific uncertainties, that the U.S. government work in cooperation with the world community under the auspices of the United Nations Environment Programme to consider establishing a reasonable global limit on the future rate of growth of fully halogenated CFC production capacity.
- Development of alternative products and processes should be encouraged to utilize suitable alternatives to fully halogenated CFCs.
- Research should be continued and expanded to develop substitutes for fully halogenated CFCs.
- Development of new products and end uses should be encouraged to utilize suitable alternatives to fully halogenated CFCs.
- Additional scientific research is essential.

**STATEMENT
OF
KEVIN J. FAY
EXECUTIVE DIRECTOR
ALLIANCE FOR RESPONSIBLE CFC POLICY
UNITED NATIONS ENVIRONMENT PROGRAMME
CONFERENCE OF PLENIPOTENTIARIES
FOR THE PROTOCOL ON CHLOROFLUOROCARBONS
MONDAY, SEPTEMBER 14, 1987
MONTREAL CANADA**

Good morning:

On behalf of more than fifty industry associations worldwide and their thousands of member companies that either use or produce chlorofluorocarbon chemicals, we welcome you to this Diplomatic Conference on ozone protection. When this treaty is signed this week, we believe that this will establish a precedent for future cooperation among industry, governments, and environmental organizations, on this issue as well as for new endeavors to preserve and protect the global environment we share.

Exactly one year ago this week, the Alliance for Responsible CFC Policy issued its call for a global solution to the concerns for potential ozone depletion.

Based on our belief that no one nation could address these concerns, we urged those attending the initial UNEP meeting in Geneva to develop a global protocol that would both offer protection against potential ozone depletion and provide for ongoing scientific evaluation of the stratosphere. We also reminded those attending that first meeting that we must all be mindful of the economic impact of their actions.

The treaty that is being currently considered does, to a large extent, address these concerns.

But the CFC Alliance has not been alone among its industry colleagues worldwide. As exemplified by the Statement of Industry Support for a Reasonable CFC Accord we are releasing today, industry users and producers worldwide have recognized the need for this action and pledged their commitment to pursue the technological developments necessary to address the present environmental concerns.

We believe the consensus exhibited by these organizations on this complex environmental and economic issue to be unprecedented and fully expect support for this statement to continue to grow in the next several months.

It is appropriate for us to express our thanks to Dr. Mostafa Tolba and the entire staff of the United Nations Environment Programme for allowing for and encouraging industry participation in these negotiations as official observers. We also appreciate the hospitality of the Canadian government in hosting this Diplomatic Conference.

While there are many issues still to be resolved in the course of the work to be completed this week, we urge that an agreement be reached that is simple, fair, and enforceable. To be effective, such an agreement should obtain the broadest possible participation of countries, including the major CFC user blocs as well as the developing nations.

We urge the diplomats attending here this week to pursue this spirit of global cooperation mindful that their success will signify not an endpoint, but a transition into a period requiring major technological change and innovation with important economic implications in the name of environmental protection.

Thank you.

STATEMENT OF WORLDWIDE INDUSTRY SUPPORT FOR REASONABLE INTERNATIONAL ACCORD ON CFCs

The undersigned organizations, representing worldwide industrial users and producers of chlorofluorocarbon chemicals (CFCs), hereby urge delegates to the United Nations Environment Programme (UNEP) Ad Hoc Working Group for the Protection of the Ozone Layer to take into account the following factors in their negotiations on a protocol for the control of CFCs:

- CFCs have contributed substantially to essential improvements in health, safety and quality of life for consumers around the world;
- Reliable recent scientific assessments indicate that there is no significant threat to human health and the environment at or near the current levels of use of CFCs;
- There are only limited acceptable substitutes for current CFCs. The development of other CFC substitutes will take 7-10 years;
- The value of installed equipment relying on CFCs presently in use is valued in the hundreds of billions of dollars (US dollars).

They should also take into account the following considerations:

- A limit to the worldwide growth in the rate of emissions of the fully-halogenated CFC compounds should be agreed upon until such time as scientific evidence indicates that there is no significant threat to the earth's protective ozone layer or that more stringent measures are fully justified;
- On the basis of scientific evidence, there is time for a reasonable transition period for the development and testing of new CFC compounds;
- Too rapid or excessive control measures on current CFC uses could create short-term, undesirable economic disruption and risks to the health and safety of workers and consumers;
- User and producer industries are pursuing efforts to develop new CFC compounds and technologies to conserve, recapture and recycle CFCs being used today.

With these considerations in mind, we encourage the UNEP delegates to negotiate an international protocol to:

1. Freeze emissions of the fully-halogenated compounds at or near current levels;
2. Avoid near-term reduction measures that will produce little or no environmental benefit and create unnecessary economic disruptions;
3. Provide for timely periodic scientific, economic and technological assessment of the need for and the timing of further ozone protection measures;
4. Take into consideration the different ozone depletion potentials of the various fully-halogenated CFC compounds in administering the protocol;
5. Obtain the broadest participation of nations including current CFC producer and user nations as well as developing nations;
6. Provide limited exemption for increased domestic consumption by developing nations with the understanding that such countries will be encouraged to utilize new CFC compounds and technologies as they are developed;
7. Allow fair trade among complying signatory nations of CFC bulk chemicals and products containing or made with CFCs;
8. Provide appropriated enforceable trade restrictions for non-signatories and non-complying nations.

Industry has contributed substantially to the development of scientific understanding through the funding of research on ozone depletion, has implemented extensive precautionary measures, and has promoted the development of responsible global policies for ozone protection including the negotiation of a CFC protocol under the auspices of the United Nations Environment Programme.

User and producer industries will continue their efforts to maintain the integrity of our environment by reducing inadvertent emissions, by recycling or destroying used products, and by conducting the difficult and costly research into new substitute products and their application technology.

***LIST OF THE ASSOCIATIONS THAT SUPPORT THE "STATEMENT OF
WORLDWIDE INDUSTRY SUPPORT FOR REASONABLE INTERNATIONAL ACCORD ON CFCs"**

AUSTRALIA

Aerosol Association of Australia
Pacific Chemical Industries PTY, Ltd
Association of Fluorocarbon Consumers and Manufacturers (AFCAM)
Australian Council Institute of Refrigeration and Air Conditioning Service Engineers

AUSTRIA

Osterreichische Aerosol-Vereinigung

BELGIUM

Cosmetics Manufacturers' Association (COLIPA)

CANADA

Canadian Advisory Committee for Responsible CFC Regulation
Heating, Refrigerating and Air Conditioning Institute of Canada
Electrical and Electronic Manufacturers Association of Canada

FINLAND

The Construction Polyurethane Industry

FRANCE

Syndicat National des Plastiques Alveolaires
Comite Francais des Aerosols

F.R. GERMANY

Industrie Verband Polyurethan - Hartschaum e.v. (IVPU)
Schaumstoffburo
Verband Kunststoffherzeugende Industrie e.v. (VKE)
Deutscher Kaelte - und Klimatechnischer Verein e.v.
Gesamtverband Kunststoffverarbeitende Industrie e.v.

GREAT BRITAIN

Electronic Components Industry Federation
British Aerosol Manufacturers Association
Federation of British Electrotechnical and Allied Manufacturers (BEAMA)
British Rubber Manufacturers' Association
Association for the Instrumentation, Control and Automation Industry in the UK (GAMBICA)
British Refrigeration Association (BRA)
Federation of Environmental Trade Associations (FETA)
Heating and Ventilating Contractors Association (HVCA)
British Urethane Rigid Foam Manufacturers Association
Fabric Care Research Association

ITALY

Associazione Itallana Aerosol

JAPAN

Japan Flon Gas Association

NETHERLANDS

Nederlandse Aerosol Vereniging
Vereniging van Werkgevers in de Chemische Wasserijen
Nederlandse Vereniging van Polyurethaan Hardschulm Fabrikanten (NVPU)
Nederlandse Philips Bedrijven b.v.

SWEDEN

The Federation of Swedish Wholesalers Importers
The Swedish Plastics Federation

UNITED STATES

Air Conditioning Contractors of America
Air Conditioning & Refrigeration Institute

UNITED STATES (continued)

Air-conditioning and Refrigeration Wholesalers
Alliance for Responsible CFC Policy
American Frozen Food Institute
Association of Home Appliance Manufacturers
American Meat Institute
Chemical Specialties Manufacturers Association
Commercial Refrigeration Manufacturers Association
Grocery Manufacturers of America
International Mobile Air Conditioning Association
Mechanical Contractors Association of America
National Association of Manufacturers
National Commercial Refrigeration Sales Association
National Fisheries Institute
National Grocers Association
National Mechanical Equipment Service and Maintenance Bureau
Polyisocyanurate Insulation Manufacturers Association
Polyurethane Foam Association
Refrigeration Service Engineers Society
Society of the Plastics Industry

INTERNATIONAL

Association of Plastics Manufacturers in Europe (APME)
BIT Spathfluor
Federation of European Rigid Polyurethane Foam Association
Flexible Polyurethane Manufacturers' Association (EUROPUR)
International Confederation of Refrigeration and Air Conditioning (CIFCA)
European Fluorocarbon Technical Committee (EFCTC - CEFIC Sector Group)

*Collectively, these organizations represent thousands of member companies.

ALLIANCE FOR RESPONSIBLE CFC POLICY
1901 N. FT. MYER DRIVE, SUITE 1204
ROSSLYN VIRGINIA 22209
(703) 841-9363

For Immediate Release

CFC ALLIANCE COMMENDS SIGNING OF GLOBAL CFC ACCORD

Rosslyn, VA, September 16, 1987—The Alliance for Responsible CFC Policy, the coalition of United States users and producers of chlorofluorocarbons (CFCs), commended the signing today of a protocol for the protection of the ozone layer as an “unprecedented step to protect the global environment and spur global scientific, economic and technological advancement”. The protocol was signed today, exactly one year after the Alliance had called for the negotiation of such an agreement, at a United Nations Environment Programme Diplomatic Conference. More than 20 nations, including all of the major CFC producer blocs—United States, Canada, European Community, Japan—signed the agreement.

Richard Barnett, Chairman of the Alliance, said the Alliance will now review the agreement to determine whether or not it meets the goals stated by the industry when it announced its policy statement last year. “We are certainly pleased that so many nations with such diverse economic conditions were able to work in cooperation with industry and environmental organizations to reach consensus on the scientifically complex issue of ozone depletion. The efforts over the past year to reach this agreement are the strongest recognition ever that principles of environmental protection and economic responsibility can co-exist”.

“It appears that the agreement addresses many of the criteria established by the Alliance including broad coverage of the fully-halogenated compounds, extensive participation by countries, ongoing scientific, economic, and technological assessment and limitation on the growth of global production capacity,” said Barnett.

The Alliance has indicated concern with the reduction schedule contained in the agreement, however, which would reduce consumption of the chemicals by 50 percent in ten years. Industry representatives have repeatedly urged that short term reduction measures were scientifically unnecessary and could create problems for both industry and consumers. Barnett said that industry representatives will have to analyze the impact of the reduction schedule before a decision is made whether or not to support ratification of the agreement by the U.S. Senate. “No environmental or economic impact statement has yet been prepared for the agreement, but we expect to have the opportunity to comment on those statements (to be prepared by EPA and the State Department) prior to the ratification process.”

“Today, however, is a day to compliment the negotiators who were able to reach consensus, and the many other non-governmental organizations that participated in the process. “They have recognized that the ozone issue affects us all and that a global cooperative effort is essential,” said Barnett.

Barnett also stated that many of the industries in the U.S. have already begun research and development programs for ozone protection technologies. “The cost of the technological innovations required for this effort will total billions of dollars during the next ten years which is why it is important that global cooperation rather than unilateral action by the U.S. be pursued. We hope that the U.S. Congress will be patient with this international effort.”

**REMARKS
OF
KEVIN J. FAY
EXECUTIVE DIRECTOR
ALLIANCE FOR RESPONSIBLE CFC POLICY
FORUM ON THE
IMPACT OF OZONE LAYER DEPLETION
HOUSE CHAMBER OF THE
MASSACHUSETTS GENERAL COURT
STATE HOUSE
BOSTON, MASSACHUSETTS
OCTOBER 30, 1987**

Good Morning Ladies and Gentlemen:

It is a pleasure for me to be with you today to talk about the issue of stratospheric ozone protection, what we can expect as a result of the Montreal Protocol, and implications for handling other important global environmental issues, such as climate change, in the years to come.

On September 16, 1986, the Alliance for Responsible CFC Policy issued a Policy Statement calling for the negotiation of an international agreement to limit the rate of growth of chlorofluorocarbon production capacity, the establishment of industry efforts to reduce CFC emissions through conservation and recycling, the pursuit of research and development of alternative CFC compounds and emissions reducing technologies and processes, and the continued research on the effect of CFCs in the atmosphere.

That Policy Statement was developed after a thoughtful review of the available scientific information and assessment of the policies necessary to protect the environment as well as the quality of our lives in the United States and elsewhere. Alliance members, through their Board of Directors, were concerned that the potential for a significant environmental risk existed if the rate of emissions of CFC compounds were to grow uncontrolled well into the next century.

The Alliance believed then, and still believes now, that the current use of the compounds presents no significant risk to health or the environment. Further, it was our belief that a global process, and a global agreement were necessary if we were to successfully address the environmental concerns and also address the economic concerns as we charted a course for a reasonable transition into new CFCs or CFC utilizing technologies.

Today, I am pleased to be able to talk with you knowing that exactly one year after the CFC Alliance issued its Policy Statement, the Montreal Protocol was signed by 24 nations representing most of the significant CFC user and producer nations and several developing nations. The unprecedented cooperation among governments, industry and environmental organizations is, I hope, a hallmark for future cooperative efforts on other environmental issues.

We should not kid ourselves, however, into thinking that the Montreal Protocol is perfect, nor should we let ourselves believe that the fair implementation of this accord will be easy. Significant challenges remain ahead for all involved—to take this blueprint known as the Montreal Protocol and turn it into a true structure of responsible environmental protection. As in any building process, this will take great efforts to insure that the blueprint is followed, that each cornerstone is properly laid, and that the foundation is sturdy before additional floors are built. We must also have the patience to insure that these steps are taken in their proper order.

First, based on our current scientific understanding, the Montreal Protocol provides a substantial margin of protection for the earth's ozone layer. As has been stated before, a true global freeze limits any changes in the ozone to within the range of natural variability that has been detected over the last 30 years. The Alliance remains concerned that the reduction schedule included in the agreement attempts to go too far, too fast, and far beyond that which is necessary based on current scientific understanding. The reduction schedule could result in problems for consumers in the United States as we attempt the difficult transitions into new, but as yet in most cases, unavailable technologies and CFC compounds. Our current estimates of the cost of implementing the Protocol are in the range of \$5-10 billion, or nearly equivalent to the cost of Superfund.

The Protocol has many good provisions as well. It has gained the broad coverage of CFC compounds and the Halons, the broad participation of CFC user and producer nations, and establishes a process for ongoing scientific, economic and technological assessment that can be used to alter the provisions of the Protocol. In a sense, this blueprint of an agreement also provides the mechanism for alterations and additions.

We fully expect that the Protocol will be ratified by the United States Senate and by other countries so that the accord will take effect in 1989. It is significant as well that the first scheduled scientific assessment is also scheduled to begin at the same time.

Second, in implementing the Montreal Protocol here in the United States, the Alliance believes that EPA's regulations should be simple, fair and enforceable and in no way should they attempt to go outside the provisions of the Protocol. To the extent that the agreement attempts to establish a level playing field among world competitors, we must remain committed to the framework provided.

EPA's program should also meet several other criteria. The rules should:

- encourage the development of CFC substitutes and emission control technologies;
- be easily administered;
- not single out a specific CFC product or user industry; and
- minimize to the extent feasible through market forces the potential for adverse economic impacts on users as a result of the Protocol's supply reduction schedule.

This is a challenging task, but one that must be pursued if we are to remain faithful to the blueprint we have before us. The Alliance believes that this can be accomplished if the cooperative spirit among government, industries and environmental organizations can be maintained.

Finally, what meaning does this have for other global issues such as climate warming, acid rain and others. The potential for significant accomplishment is great, but so is the potential for failure. Our industries have attempted to assess the ozone depletion issue in a very pragmatic way. We assessed the science, identified a potential problem, and established a goal of responsible environmental protection policy. We also assessed what was necessary to accomplish our goal in an efficient manner that also protects the quality of our lives, and our economy. And we agreed to work with others in an attempt to create the plan, the blueprint, of how we achieve success.

Now we have that blueprint. The process was not always pleasant, and to some extent we are still not dealing in an atmosphere of complete trust among the many factions within the government, industry and environmental interests. In order for this process to work, however, and in order for this effort to be an example of how we can resolve other troubling global environmental issues, we must nurture and build on the relationships of trust that do exist.

Whether we are talking about politicians, scientists, industry leaders or environmental activists, we must remain focused on the goal of a responsible global environmental policy at a cost-effective price. As I alluded to earlier, the building process requires patience. All of us must try to be patient with the Montreal Protocol as we now begin to build. This means working within the framework of the Protocol to seek changes if they are deemed necessary; not rushing to create fear by preliminary interpretation of very complex science; recognizing the difficult task before the industries who are now challenged to come up with the technological solutions; and maintaining the delicate balance between the desire for a safe environment and the need for worldwide economic growth.

In the final analysis, the Montreal Protocol is a recognition that environmental protection and economic concerns can and must coexist, not just in the United States but worldwide. If we succeed in our building process and remain faithful to our blueprint then the world's population will have gained an immeasurable resource, a cooperative spirit that will serve us well in future environmental endeavors. If we stray from our blueprint, only to serve our own selfish interests and destroy the necessary trust we must have, then our building will crumble.

But today, we have reason to be optimistic. I hope that in the future we can say, to paraphrase Robert Frost, that when we came upon where two roads diverged in a wood, that we took the one less traveled by, and that has made all the difference.

Thank you.



Conference of Plenipotentiaries on
Protection of the Ozone Layer

Statement by
The Honorable Lee M. Thomas
Administrator
U.S. Environmental Protection Agency
Wednesday, September 16, 1987
Montreal Canada

Mr. President, Distinguished Delegates, Ladies and Gentlemen,

One year ago I had the privilege of meeting many of you in Leesburg, Virginia, where we explored a range of possible measures for protecting the earth's fragile ozone layer.

Today, a mere twelve months later, we have adopted a protocol that will surely be viewed as a milestone in the evolution of international environmental cooperation.

This protocol is indeed unprecedented. It represents the first time the nations of the world have joined forces to address an environmental threat in advance of fully established effects. It also reflects an unprecedented degree of cooperation in balancing environmental protection and economic development interests.

Within the United States and elsewhere, government, industry, and the environmental community have come together to safeguard the ozone layer in a manner virtually impossible a decade ago. Clearly, it has not been easy. Curtailing use of economically-valuable chemicals that have served mankind well has inherent difficulties.

Thus, difficult compromises have had to be made, compromises which leave each interest group and party to these negotiations short of their preferred ideal solution. I am certain, however, that each of us will take well-justified pride in our contributions to the final product.

The degree of cooperation manifest throughout our negotiations over the past year has been remarkable. My government has been especially heartened by the support for this protocol displayed by the developing nations. They have been justifiably concerned about the implications for their own societies. Nonetheless, the developing world has consistently supported the concept of a global response to a global problem. On our part, the United States and other industrialized nations have been strong advocates of incorporating into the protocol special provisions to assist developing nations to bridge the transition to new chemicals and alternative technologies.

Throughout the past year, the United States has exchanged information, ideas and views on the ozone depletion problem with governments around the world. We carried out especially active dialogue with the European Communities and its member governments. Throughout, EC Director General Laurens Brinkhorst has exhibited a quality of leadership and advocacy for the Communities' positions that has earned him our respect. While we have not always seen eye to eye, his frankness and willingness to present and consider new approaches have contributed to the creation of a workable and equitable accord.

I wish to pay tribute to three other individuals who have made particularly outstanding contributions throughout the negotiations. To our distinguished President, Ambassador Winfried Lang of Austria, we extend our profound gratitude for bringing to our deliberations his skills as a diplomat, negotiator and leader. Ambassador Essam-El-Din Hawas of Egypt, who has provided such wise counsel and direction in the exceptionally complex area of trade and developing country issues, has similarly earned admiration and appreciation of my Government.

And, Dr. Mostafa Tolba, the outstanding Executive Director of the United Nations Environment Programme, we salute you for your herculean efforts on behalf of the protocol. We especially appreciate the fact that, in approaching this task, you have resisted the easy road of settling for a minimal, least-common-denominator international accord. Rather, you have pushed, prodded and led us throughout the negotiations to keep our eyes fixed on the ultimate objective, protection of the environment, and to avoid seeking short-term economic gains or political advantages. The product resulting from these efforts will stand as a testament to your personal accomplishments and also exemplify the necessary and effective role the United Nations Environment Programme, and other international agencies, can play in addressing environmental problems today and in the future.

Finally, Mr. President, I wish to extend our deep appreciation to the Government and citizens of Canada, our friend and neighbor to the North, for hosting this Conference. Over the years, Canada has been in the forefront of international efforts to protect the global environment. The "Protocol of Montreal" will assuredly enhance this reputation. Canada's bold step of scheduling this plenipotentiary conference during the early stages of the negotiations proved to be an effective stimulus for keeping our work moving ahead rapidly, and we all owe a debt of gratitude for this foresight.

From the very outset, the United States has pursued a protocol that will be *effective* in protecting the stratosphere, *equitable* in the treatment of the parties, *flexible* in adapting to changes in science and technology, and *capable of attracting* the early, active participation of all nations. I believe that we have achieved these goals.

I also believe that our protocol has implications that far transcend protection of the ozone layer. We have clearly broken new ground in our collective ability to address environmental issues with significant economic dimensions, and which lay outside the realm of any single country or regional grouping of countries. Thus, in achieving our immediate goal of providing necessary protection to the earth's ozone layer, we have also demonstrated the foresight, creativity, political will and cooperation necessary to cope with other environmental challenges.

Our efforts over the past year have been arduous, and the results at times in doubt. Today, however—looking both backward to where we started and ahead to where we can go—this certainly has been a journey worth taking.

SUMMARY

PROVISIONS OF THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER

The United Nations Environment Programme (UNEP) Diplomatic Conference concluded with the signing of the Montreal Protocol on Substances that Deplete the Ozone Layer. The agreement was signed by 24 nations and the European Economic Community (EC). The signing occurred exactly one year from the date the Alliance issued its policy statement in favor of a negotiated international agreement on CFCs.

All major producer and user blocs signed the protocol except the Soviet Union. The Soviet delegation indicated they planned to sign the agreement, but had to bring it home for review.

The agreement provides for the following:

- Covered compounds include CFCs 11, 12, 113, 114 and 115, and Halons 1211, 1301, and 2402;
- Date of entry into force is 90 days after 11 signatory nations representing at least two-thirds of world CFC consumption have deposited instruments of ratification with UNEP, but no earlier than January 1, 1989;
- Freeze consumption and production of the CFC compounds at 1986 levels beginning on the first day of the seventh month after the date of entry into force (EIF);
- Freeze consumption and production of the halon compounds at 1986 levels on the first day of the 37th month after EIF;
- Reduce consumption and production of the CFC compounds to eighty percent (80%) of 1986 levels beginning in the twelve month period of July 1, 1993 to June 30, 1994;
- An additional 10 percent of production will be allowed for purposes of supplying developing nations until June 30, 1998. On July 1, 1998, this percentage increases to 15 percent;
- Further reduce consumption and production of the CFC compounds to fifty percent (50%) of 1986 levels beginning in the twelve month period of July 1, 1998 to June 30, 1999;
- Low-consuming developing nations will be allowed to increase consumption up to 0.3 k/g per capita for a period of ten years. After ten years, the developing nations must follow the reduction schedule agreed upon;
- A limited exemption for CFC production facilities under construction or contracted for prior to September 16, 1987 and provided for in national legislation prior to January 1, 1987;
- Scientific, economic and technological assessment beginning in 1990 and at least every four years thereafter;
- Import of bulk chemicals from non-party states is prohibited one year after EIF;
- Import of products containing CFCs from non-party states will be banned approximately 4 years after EIF. A list of such products will be developed within 3 years;
- Within 5 years after EIF, Parties will determine the feasibility of banning or restricting trade in products made with CFCs;
- Changes in the 50 percent reduction step will require a vote of two-thirds of Parties representing two-thirds of the Parties' calculated level of consumption;
- Other adjustments and reductions require a vote of two-thirds of Parties representing 50 percent of consumption;
- Addition of new compounds to the agreement requires a simple vote of two-thirds majority of Parties.

**MONTREAL PROTOCOL ON
SUBSTANCES THAT DEplete THE OZONE LAYER**

FINAL ACT

1987

FINAL ACT

1. The Conference of Plenipotentiaries on the Protocol on Chlorofluorocarbons to the Vienna Convention for the Protection of the Ozone Layer was convened by the Executive Director of the United Nations Environment Programme (UNEP) pursuant to decision 13/18 adopted by the Governing Council of UNEP on 23 May 1985.

2. The Conference met at the Headquarters of the International Civil Aviation Organization, Montreal, with the kind support of the Government of Canada, from 14 to 16 September 1987.

3. All States were invited to participate in the Conference. The following States accepted the invitation and participated in the Conference:

Algeria, Argentina, Australia, Austria, Belgium, Brazil, Burkina Faso, Byelorussian Soviet Socialist Republic, Canada, Chile, China, Colombia, Congo, Costa Rica, Czechoslovakia, Denmark, Democratic Yemen, Egypt, Finland, France, Germany, Federal Republic of, Ghana, Greece, Indonesia, Israel, Italy, Japan, Kenya, Korea, Republic of, Luxembourg, Malaysia, Mauritius, Mexico, Morocco, Netherlands, New Zealand, Nigeria, Norway, Panama, Peru, Philippines, Portugal, Senegal, Spain, Sweden, Switzerland, Thailand, Togo, Tunisia, Uganda, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela.

4. The European Economic Community also participated.

5. Observers from the following States attended the proceedings of the Conference:

Dominican Republic, Ecuador, Hungary, India, Kuwait, Poland.

6. Observers from the following United Nations bodies, specialized agencies, intergovernmental and non-governmental organizations also attended the Conference:

World Meteorological Organization (WMO), General Agreement on Tariffs and Trade (GATT), International Civil Aviation Organization (ICAO), Organization of African Unity (OAU), Council of the European Communities (CEC), Organization for Economic Co-operation and Development (OECD), International Chamber of Commerce (ICC), Federation of European Aerosol Associations, European Chemical Industry Federation, Chemical Manufacturers Association, Natural Resources Defense Council, World Resources Institute, Environmental Defense Fund, Greenpeace, Friends of the Earth, Seattle Foundation (Canada), Mammoth International Humanitarian Societies Square Projects Inc. (Canada), Watto Laboratories International (Canada), Dr. F.A. Homonnay and Associates (Canada), International Organization of Automobile Manufacturers, Alliance for Responsible CFC Policy, Air-Conditioning and Refrigeration Institute (USA), Environmental Protection Agency (USA), Institute for European Environment Policy, National Fire Protection Association, Dupont Canada, The Beloff Group (Canada), Produits Chimiques Allied Canada Inc., United States Air Force.

7. The Conference was formally opened by Dr. Mostafa K. Tolba, the Executive Director of UNEP. In the course of the inaugural ceremony, the Conference heard a welcoming address by the Honourable Tom McMillan, P.C., M.P., Minister of the Environment, on behalf of the Government of Canada.

8. Dr. Mostafa K. Tolba served as Secretary-General of the Conference and Dr. Iwona Rummel-Bulska (UNEP) served as Executive Secretary.

9. The Conference unanimously elected Ambassador W. Läng (Austria) as its President.

10. The Conference also elected the following officers:

Vice-Presidents: Ambassador E. Hawas (Egypt)
 Dr. V. Zakharov (Union of Soviet Socialist Republics)

Rapporteur: Mr. C.R. Roque (Philippines)

11. The Conference adopted the following agenda:

1. Opening of the Conference.

2. Organizational matters:

- (a) Adoption of the rules of procedures;
- (b) Election of the President;
- (c) Election of Vice-Presidents and Rapporteur;
- (d) Adoption of the agenda;
- (e) Appointment of the members of the Credentials Committee;
- (f) Appointment of the members of the Drafting Committee;
- (g) Organization of the work of the Conference.

3. Consideration of the draft Protocol to the Vienna Convention for the Protection of the Ozone Layer.
4. Report of the Credentials Committee.
5. Adoption of the Protocol to the Vienna Convention for the Protection of the Ozone Layer.
6. Adoption of the Final Act of the Conference.
7. Signature of final instruments.
8. Closure of the Conference.

12. The Conference adopted as its rules of procedure document UNEP/IG.79/2 proposed by the secretariat.

13. In conformity with the rules of procedure, the Conference established the following Committees:

Committee of the Whole:

Chairman: The President of the Conference

General Committee:

Chairman: The President of the Conference

Members: The Vice-Presidents of the Conference, the Rapporteur and the Chairman of the Drafting Committee

Drafting Committee:

Chairman: Mr. Jon J. Allen (Canada)

Members: Argentina
Australia
France
Japan
United Kingdom
United States

Credentials Committee:

Chairman: Ambassador Jose M. Bustani (Brazil)

Members: Finland
Germany, Federal Republic of
Indonesia
Kenya
Mexico
Norway

14. The main documents which served as the basis for the deliberations of the Conference were:

- Seventh Revised Draft Protocol on [Chlorofluorocarbons] [and Other Ozone Depleting Substances], UNEP/IG.93/3 and Rev. 1;
- Reports of the Ad Hoc Working Group of Legal and Technical Experts for the Elaboration of a Protocol on Chlorofluorocarbons to the Vienna Convention for the Protection of the Ozone Layer (Vienna Group), UNEP/WG.151/L.4, UNEP/WG.167/2 and UNEP/WG.172/2.

15. In addition, the Conference had before it a number of other documents that were made available to it by the Secretariat of UNEP.

16. The Conference approved the recommendation of its Credentials Committee that the credentials of the representatives of the participating States as listed in paragraph 3 should be recognized as being in order.

17. On the basis of the deliberations of the Committee of the Whole, the Conference, on 16 September 1987, adopted the Montreal Protocol on Substances that Deplete the Ozone Layer. The Protocol, which is appended to this Final Act, will be open for signature at the Ministry for External Affairs of Canada in Ottawa from 17 September 1987 to 16 January 1988 and at the United Nations Headquarters in New York from 17 January 1988 to 15 September 1988.

18. The Conference also adopted the following resolutions which are appended to this Final Act:

1. Resolution on the Montreal Protocol.
2. Resolution on the exchange of technical information.
3. Resolution on the reporting of data.
4. Tribute to the Government of Canada.

IN WITNESS WHEREOF the representatives have signed this Final Act.

DONE at Montreal, this sixteenth day of September one thousand nine hundred and eighty seven in one original in the Arabic, Chinese, English, French, Russian and Spanish languages, each language version being equally authentic. The original text will be deposited with the Secretary-General of the United Nations.

1. RESOLUTION ON THE MONTREAL PROTOCOL

The Conference,

Having adopted the Montreal Protocol on Substances that Deplete the Ozone Layer,

Noting with appreciation that the Protocol was opened for signature in Montreal on 16 September 1987,

Recalling the Vienna Convention for the Protection of the Ozone Layer, adopted on 22 March 1985,

Bearing in mind the Resolution of the Conference of Plenipotentiaries on the Protection of the Ozone Layer adopted on the same day which urged in the sixth operative paragraph "all States and regional economic integration organizations, pending entry into force of a protocol, to control their emissions of CFCs, inter alia in aerosols, by any means at their disposal, including controls on production or use, to the maximum extent practicable",

1. Calls upon all States and regional economic integration organizations that have not yet done so to implement the sixth paragraph, bearing in mind the special situation of the developing countries;
2. Appeals to all States to become Parties to the Vienna Convention for the Protection of the Ozone Layer;
3. Urges all States and regional economic integration organizations, including those that have not participated in this Conference, to sign and become Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer;
4. Requests the Executive Director of the United Nations Environment Programme to forward this Resolution to the Secretary General of the United Nations and to circulate it to all States and regional economic integration organizations.

2. RESOLUTION ON THE EXCHANGE OF TECHNICAL INFORMATION

The Conference,

Having adopted the Montreal Protocol on Substances that Deplete the Ozone Layer,

Realizing the importance of reducing as quickly as possible the emissions of these substances,

Recognizing the need for an early exchange of information on technologies and strategies to achieve this,

1. Requests the Executive Director of the United Nations Environment Programme (UNEP), pending the first meeting of the Parties, to make appropriate arrangements to facilitate the exchange of information on technology referred to in Articles 9 and 10 of the Protocol;

2. Appeals to interested States and regional economic integration organizations to sponsor, at the earliest opportunity, in cooperation with UNEP, a workshop with the aim of:

- (a) exchanging information on technologies and administrative strategies for reducing emissions of the substances listed in Annex A to the Protocol and for developing alternatives, taking into account paragraph 2 of Annex II to the Vienna Convention for the Protection of the Ozone Layer; and
- (b) identifying areas in which further research and technical development are required,

3. Urges all interested parties to participate in and contribute to such a workshop and to make expeditious use of the information so gained in order to reduce the emissions of those substances and to develop alternatives.

3. RESOLUTION ON REPORTING OF DATA

The Conference,

Having adopted the Montreal Protocol on Substances that Deplete the Ozone Layer,

Convinced that the timely reporting of complete and accurate data on the production and consumption of controlled substances is critical to the effective and efficient implementation of this Protocol,

1. Calls upon all Signatories to take, expeditiously, all steps necessary to acquire data and report on the production, import and export of controlled substances in a complete and timely fashion in accordance with Article 7 of the Protocol and taking into account paragraph 1 of Article 4 of the Vienna Convention for the Protection of the Ozone Layer;
2. Invites Signatories to consult with other Signatories, and to seek advice and assistance from the United Nations Environment Programme (UNEP) and other relevant international organizations, as necessary, in designing and implementing data reporting systems;
3. Calls upon the Executive Director of UNEP to convene, within six months of the adoption of this Resolution, a meeting of governmental experts with the assistance of experts from relevant international organizations to make recommendations for the harmonization of data on production, imports and exports to ensure consistency and comparability of data on controlled substances.

4. TRIBUTE TO THE GOVERNMENT OF CANADA

The Conference,

Having met in Montreal from 14 to 16 September 1987 at the gracious invitation of the Government of Canada,

Convinced that the efforts made by the Government of Canada and by the civic authorities of Montreal in providing facilities, premises and other resources contributed significantly to the smooth conduct of its proceedings,

Deeply appreciative of the courtesy and hospitality extended by the Government of Canada and the City of Montreal to the members of the delegations, observers and the secretariat attending the Conference,

Expresses its sincere gratitude to the Government of Canada, to the authorities of Montreal and, through them, to the Canadian people and in particular to the population of Montreal for the cordial welcome which they accorded to the Conference and to those associated with its work and for their contribution to the success of the Conference.

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 paragraph 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 subparagraph (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

- - - - -

ANNEX A

CONTROLLED SUBSTANCES

Group	Substance	Ozone Depleting Potential *
Group I		
	CFC1 ₃ (CFC-11)	1.0
	CF ₂ Cl ₂ (CFC-12)	1.0
	C ₂ F ₃ Cl ₃ (CFC-113)	0.8
	C ₂ F ₄ Cl ₂ (CFC-114)	1.0
	C ₂ F ₅ Cl (CFC-115)	0.6
Group II		
	CF ₂ BrCl (halon-1211)	3.0
	CF ₃ Br (halon-1301)	10.0
	C ₂ F ₄ Br ₂ (halon-2402) (to be determined)	

* These ozone depleting potentials are estimates based on existing knowledge and will be reviewed and revised periodically.

COUNTRIES THAT SIGNED THE MONTREAL PROTOCOL

**Belgium
Canada
Denmark
Egypt
Finland
France
Federal Republic of Germany
Ghana
Italy
Japan
Kenya
Mexico
Netherlands
New Zealand
Norway
Panama
Portugal
Senegal
Sweden
Switzerland
Togo
United Kingdom
United States of America
Venezuela
European Economic Community**

Estimated CFC Production*
(thousand metric tons)

<u>Region</u>	<u>11/12</u>	<u>113/114/115</u>	<u>Unweighted</u>	<u>Weighted**</u>
North America	245	95	340	321
European Community	360	70	440	416
Other Western Europe			0	0
Developed AP/ME/Af	95	65	160	147
Developing but > .3/capita	20		20	20
Eastern Bloc < .3/capita	50	5	55	54
Developing Latin America	40		40	40
Developing Asia Pacific	35	0	35	35
Developing Middle East/Africa			0	0
Unaccounted for			0	0
Subtotal Developing	75	0	75	75
percent	9	0	7	7
Total	845	235	1080	1033

*Estimates are conservatively high, and are based on industry data.

**Weighting assumes 114 and 115 are small compared to 113, and is approximate.

Estimated CFC Consumption*
(thousand metric tons)

<u>Region</u>	<u>11/12</u>	<u>113/114/115</u>	<u>Unweighted</u>	<u>Weighted**</u>
North America	245	75	320	305
European Community	260	50	310	300
Other Western Europe	20	5	25	24
Developed AP/ME/Af	95	55	150	139
Developing but > .3/capita	20	5	25	24
Eastern Bloc < .3/capita	75	10	85	83
Developing Latin America	30	0	30	30
Developing Asia Pacific	30	5	35	34
Developing Middle East/Africa	20	0	20	20
Unaccounted for	5	0	5	5
Subtotal Developing	85	5	90	89
percent	11	2	9	9
Total	800	205	1005	964

*Estimates are based on industry estimates of sales, and may be somewhat low.

**Weighting assumes 114 and 115 are small compared to 113, and is approximate.

All numbers are estimates based on available industry data. Because of different approaches to compiling the data, estimated production exceeds estimated consumption. Actual volumes probably lie within the given range. Weighted totals are determined by multiplying total 113, 114, and 115 by 0.8, since actual separate figures are not available. Because both 114 and 115 are very small, this is a good first approximation.

The assumption that consumption equals production is approximately valid only for the U.S., where imports and exports are both small and approximately equal. The EEC is a major exporter, and most developing regions are significant importers.

ESTIMATED GROWTH RATES*

<u>Region</u>	<u>Estimated Growth Rate</u>
Eastern Bloc < .3/capita	2.9%
Developing Latin America	6.0%
Developing Asia Pacific	5.6%
Developing Middle East/Africa	4.0%

*Estimates are provided only for developing countries where growth is allowed under the protocol.

For developed countries, the customary assumption in the absence of regulation is 2.5 percent per year. Estimates are based on recent market trends, and are applicable only to the next decade or so. No estimates are available beyond that time.

ESTIMATED PER CAPITA CONSUMPTION OF CFCs
 (population data are 1986 estimates based on 1985 reported;
 consumption data are industry estimates)

Less than 0.3 kg per capita:

Bolivia
 Pakistan
 India
 Zaire
 Bangladesh
 Congo
 PRC
 Indonesia
 Burma
 Honduras
 Peru
 Morocco
 Romania
 Paraguay
 Philippines
 Guyana
 Thailand
 Belize
 Haiti
 Togo
 Guatemala
 Gabon
 Kenya
 Nigeria
 Fiji
 El Salvador
 Zimbabwe
 Chile
 Turkey
 Dominican Republic
 Nicaragua
 Columbia
 Iran
 Ecuador
 Surinam
 Brazil
 Ghana
 Egypt
 Senegal
 Costa Rica
 Jamaica
 Mexico
 Liberia
 Ivory Coast
 Uruguay
 Iraq
 Panama
 Algeria
 Tunisia
 Malaysia
 Argentina
 South Korea
 Hungary
 Cuba

Bahamas
 South Africa
 Venezuela
 Bulgaria
 Czechoslovakia
 U.S. Virgin Islands
 USSR
 Poland
 Yugoslavia
 Curacao
 Taiwan
 Luxembourg

Less than 0.5 kg. per capita:

Bahrain
 Norway
 Liechtenstein
 Portugal
 Barbados
 Trinidad
 Saudi Arabia

Greater than or equal to 0.5 kg. per capita:

Iceland
 Greece
 Sweden
 Ireland
 Kuwait
 Puerto Rico
 New Zealand
 Israel
 Spain
 GDR (Ea. Germ.)
 Finland
 Hong Kong
 Canada
 Australia
 Italy
 Singapore
 United Kingdom
 Japan
 France
 United Arab Emirates
 Denmark
 Switzerland
 Netherlands
 USA
 FRG (W. Germ.)
 Belgium