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FOURTH MEETING OF THE PARTIES TO THE
MONTREAL PROTOCOL ON SUBSTANCES THAT
DEplete THE OZONE LAYER

Copenhagen, 23-25 November 1992

**THE REPORTING OF DATA BY THE PARTIES TO THE MONTREAL PROTOCOL
ON SUBSTANCES THAT DEplete THE OZONE LAYER**

Report of the Secretariat

I. INTRODUCTION

1. The present report contains information received by the Secretariat (as at 14 August 1992) pursuant to Articles 7 (Reporting of Data) and 9 (Research, Development, Public Awareness and Exchange of Information) of the Montreal Protocol on Substances that Deplete the Ozone Layer. It also contains information received from the Parties on the implementation of the provisions of Article 4 (Control of Trade with Non-Parties) of the Protocol. The report is prepared by the Secretariat in accordance with Article 12(c) of the Protocol for presentation to the Fourth Meeting of the Parties (Copenhagen, 23-25 November 1992).

2. Article 7 of the Montreal Protocol states that:

"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."

3. Article 9, paragraph 3 of the Montreal Protocol states that:

"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."

4. At their Second Meeting in London (27-29 June 1990), the Parties to the Montreal Protocol adopted the adjustments and Amendment (the "London Amendment") to the Protocol, as contained in the Report of the Second Meeting of the Parties (UNEP/OzL.Pro.2/3). The adjustments entered into

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force on 7 March 1991. The control measures provided for in Article 2 of the Protocol were adjusted to phase out, in stages, the production and

consumption of each group of controlled substances in Annex A of the Protocol. The phase-out schedule is based on the 1986 calculated levels of production and consumption of each group of such substances and is summarized as follows:

CFCs:	Freeze at 1986 level from July 1989 50 per cent reduction of 1986 level by 1995 85 per cent reduction by 1997 Total phase-out by 2000
Halons:	Freeze at 1986 level by 1992 50 per cent reduction by 1995 Total phase-out by 2000

5. Under the London Amendment to the Protocol, which entered into force on 10 August 1992, ten additional CFCs, as well as methyl chloroform and carbon tetrachloride, which are listed in Annex B of the London Amendment, will also be phased out according to the following schedules:

Ten additional CFCs:	20 per cent reduction of 1989 level by 1993 85 per cent reduction by 1997 Total phase-out by 2000
Carbon tetrachloride:	85 per cent reduction of 1989 level by 1995 Total phase-out by 2000
Methyl chloroform:	Freeze at 1989 level by 1993 30 per cent reduction by 1995 10 per cent reduction by 2000 Total phase-out by 2005

II. STATUS OF RATIFICATION OF THE MONTREAL PROTOCOL AND THE LONDON AMENDMENT

6. As at 14 August 1992, 82 States and the EEC had ratified the Montreal Protocol (Figure 1) and 30 States and the EEC had ratified the London Amendment (Figure 2).

III. REPORTING OF DATA FOR 1986, 1989 AND 1990

7. The Parties have been requested to report to the Secretariat the data for each year, as required by Articles 7 and 9 of the Protocol. Three reminders to report were sent in 1989 and two reminders were sent each year in 1991 and 1992. The format to be used for reporting data was also sent to the Parties.

8. The status of reporting of data by the Parties under Article 7 is shown in Table 1.

Table 1

STATUS OF REPORTING OF DATA BY THE PARTIES

		Year		
		1986	1989	1990
Non-Art.5 Parties	Required to report	37	31	36
	Fulfilled reporting	29	22	23
	Incomplete report	2	0	2
	No report	6	9	11
Art. 5 Parties	Required to report	41	16	29
	Fulfilled reporting	18	6	9
	Incomplete report	10	2	3
	No report	13	8	17

9. Only twenty-seven Parties (21 non-Article 5, and six Article 5) have provided complete data for all the three years (i.e. 1986, 1989 and 1991).

Eleven Parties (six non-Article 5 and five Article 5) did not report at all for the three years or replied giving reasons for not providing data. Some Parties did not give any reason for not reporting. Any Party which does not report its data on time as prescribed by Article 7, fails to discharge its obligations under the Protocol. In addition, in the case of Parties not operating under Article 5, their discharge of their obligations under Article 2 to freeze and reduce production and consumption of controlled substances cannot be verified if they do not submit complete data under Article 7. Further discussion on this issue is contained in paragraphs 21 to 36 of the present report.

10. While the reporting period under Article 7 is based on a calendar year, the control periods under Article 2 of the Protocol are (1) 1 July 1989 - 30 June 1990; (2) 1 July 1990 - 30 June 1991; and (3) 1 July 1991 - 31 December 1992 until 1 January 1993, from which time the control period will be based on a calendar year. Thus, the Parties are expected to report both for the calendar years and the control periods until 31 December 1992 and on a calendar year basis only thereafter. However, the number of Parties reporting for the non-calendar year reporting periods noted above has been very small. Only two Parties reported for the period from 1 July 1989 to 30 June 1990, and only eight Parties reported for the period from 1 July 1990 to 30 June 1991.

IV. COMPLIANCE WITH CONTROL MEASURES

11. The compliance with the control measures under Article 2 by those Parties which have reported may be seen from Table 2 (data for the year 1989), Table 3 (data for the year 1990) and Table 4 (data for the control period July 1990-June 1991), all of which are attached to the present report. The only obligation of the Parties not operating under Article 5 for the years 1989 and 1990 is to freeze the production and consumption of CFCs in Group I of Annex A at the 1986 levels. The decline in production and consumption of CFCs by many of the Parties not operating under

Article 5 has been very high, far beyond what is called for by the control measures of the Protocol. The highest reduction in consumption of CFCs (76 per cent) has been achieved by Austria. However, Czechoslovakia, which ratified the Protocol in October 1990, showed a slight increase in its production of CFCs in 1990. The CFC consumption by Spain in 1990 also increased by 18.98 per cent. However, whether Spain's increase in consumption constitutes a violation of the Protocol cannot be determined, because the EEC has not reported community-wide consumption data for the year 1990, as is required. With regard to halons, although the Protocol requires only a freeze in production by 1992, many Parties have already substantially reduced both production and consumption of these substances.

12. All Parties operating under Article 5 have reported per capita annual consumption levels of less than or equal to 0.3 kilograms. Brazil, Mexico and Venezuela are the only Parties operating under Article 5 which have reported production for the year 1990. Their production has declined: sixteen per cent for Brazil, and eight per cent for Venezuela. However, there has been a ten per cent increase by Mexico. The consumption of CFCs by only five Parties operating under Article 5 (Brazil, Chile, Philippines, Venezuela and Yugoslavia) has been reduced in comparison to 1986 consumption levels, with the percentage of reduction varying from six to thirty-four per cent. However, the increase in consumption of CFCs by all the other Parties operating under Article 5 has increased from 25 per cent (Tunisia) to 190 per cent (Thailand). Only three Parties operating under Article 5, Malaysia, Yugoslavia and Venezuela, have reduced halon consumption significantly. All other such Parties have increased their halon consumption by amounts ranging from 200 percent to 3,000 per cent.

13. Table 5 shows production and consumption for individual controlled substances for 1990, as compared to 1986, for those 27 Parties which reported complete data for the two years. The consumption data exclude those of the EEC, which has not yet reported its consumption data for 1990. For Parties not operating under Article 5, the data indicate an overall decline of 32.59 per cent in consumption of controlled substances with a 34.43 per cent decline for Group I substances (CFCs) and 23.62 per cent decline for Group II substances (halons).

14. For Parties operating under Article 5, the data show an overall increase in consumption of 50.21 per cent, with a 39.18 per cent increase for Group I substances (CFCs) and an increase of 141.84 per cent for Group II substances (halons).

V. POPULATION DATA

15. As population data are used to calculate the per capita consumption of the controlled substances for each of the Parties, such data need to be updated every year. It is suggested that Parties should include current population data along with their reports of production and consumption data. For the present report, per capita calculations were made using population data for the year 1990 contained in the Population and Vital Statistics Report, published by the Department of Economic and Social Development of the United Nations.

VI. STATUS OF DEVELOPING COUNTRIES AS PARTIES OPERATING UNDER ARTICLE 5

16. As of 14 August 1992, 48 Parties out of the total 83 Parties to the Protocol had been classified as developing countries under Decision I/12 (E) of the First Meeting of the Parties. Of those, four Parties (Bahrain, Malta, Singapore and United Arab Emirates) had been classified as not operating under Article 5, because their consumption exceeds 0.3 kilograms per capita; and 24 Parties were categorized as operating under Article 5 of the Protocol, because they have a consumption of less than 0.3 kg per capita of the controlled substances in Annex A (Appendix 1). The 20 developing countries which have provided incomplete or no data have been temporarily classified as operating under Article 5 (see Appendix 2).

However, their status will be re-evaluated after receipt of complete data. Republic of Korea, however, has been classified as not operating under Article 5, on the basis of the data furnished by the Government of that country prior to its ratification of the Protocol in 1992.

VII. CONFIDENTIALITY OF DATA

17. Parties are required to report complete data on each of the controlled substances. However, the control measures apply only to certain groups of these substances. According to Decision II/9, adopted by the Second Meeting of the Parties, only production, import and export data but not consumption data are treated as confidential. Therefore, in the present report the data are expressed only by groups of substances and groups of Parties, and not by individual substances for each country.

VIII. REPORTING STATUS UNDER ARTICLE 4

18. Article 4 deals with control of trade with non-Parties. While Article 4 does not impose any reporting obligation, Decision III/16 of the Third Meeting of the Parties encouraged the Parties to inform the Secretariat of the implementation of Article 4 of the Protocol. The information furnished by 25 Parties in that regard is summarized in paragraph 19 below.

19. AUSTRALIA - Enacted legislation to implement the original Article 4. Amending legislation is to put into effect the amended Article 4. No controlled substances have been imported into Australia from a non-Protocol country since January 1990. Efforts to implement paragraphs 5 and 6 of Article 4 include the establishment of environment sections in Government Departments with responsibility for trade, international development aid and manufacturing industries. Australian legislation currently bans the import of dry-cleaning machinery using a controlled substance; do-it-yourself automotive air-conditioning recharging kits; disposable containers of controlled substances; polystyrene products used for packaging and thermal insulation which contain or were made with a controlled substance; aerosol products which contain or were made with a controlled substance; and rigid polyurethane foam products used for packaging which contain or were made with a controlled substance. Further bans are expected in the future.

CANADA - Issued Ozone-depleting Substances Regulations: No. 1 (chlorofluorocarbons) 1989; No. 2 (certain bromofluorocarbons), 1990; and No. 3 (products), 1990, respecting the manufacture, import, offering for sale or sale of certain products made with or containing ozone-depleting substances. Published a Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air-Conditioning Systems in March 1991.

CZECHOSLOVAKIA - Did not export technology or CFCs produced in Czechoslovakia and regulated by the Protocol. Did not provide export subsidies, aid, credits, guarantees or insurance programmes for products, equipment, plants or technology that would facilitate the production of controlled substances.

DENMARK - EEC Regulations No. 3322/88 and No. 594/91 in effect. Implementation of paragraphs 5 and 6 has been left to industry. Statutory Order No. 28 of 19 January 1990 for banning the use of certain chlorofluorocarbons includes the sale of imported products containing these substances. The Order is under revision to strengthen the timetable for CFC reduction and include other substances regulated under the Protocol.

EEC - Implementation of EEC Regulation No. 594/91 of 4 March 1991 that applies to the importation, exportation, production and consumption of controlled substances.

FIJI - Does not export or import controlled substances from States which are not Parties to the Montreal Protocol. Will take strong measures to ensure the proper implementation of Article 4 paragraphs 5 and 6 of the Protocol.

FINLAND - Implemented trade restrictions required by paragraph 1 of Article 4. Banned import of controlled substances from countries not party to the Montreal Protocol by a decision based on the Air Pollution Control Act, 1990. Does not produce or export technology to produce controlled substances. Banned the use of CFCs in the production of certain products such as aerosols and certain plastic materials on the basis of the Air Pollution Control Act.

FRANCE - Implementing EEC Regulation 594/91 of 4 March 1991.

IRELAND - Implementing EEC Regulation 594/91 of 4 March 1991.

JORDAN - Does not produce any CFC or halon substances and imports CFCs and halons from Parties to the Protocol.

KENYA - Expects to update its 1990 country study by the end of February 1992. This update will contain information detailing which products containing controlled substances are supplied by non-Parties. Following this update, the necessary legal and legislative action will be taken to implement the requirements of the Montreal Protocol.

LUXEMBOURG - Implementing EEC Regulation 594/91 of 4 March 1991. Is not producing controlled substances. Does not export technology to produce controlled substances.

MALTA - Adopted the Aerosol Spray Order, 1990, that restricts the import, manufacture, export, use and sale of aerosol spray products.

MEXICO - Consumption of substances that deplete the ozone layer is regulated by the Secretariat for Urban Development and Environment, which is responsible for authorizing imports and exports of substances controlled under the Protocol.

NEW ZEALAND - Prohibits the import of controlled substances from countries not Party to the Protocol or any country that has been determined not to be in full compliance with Articles 2 and 4 of the Protocol under the Ozone Layer Protection Act, 1990. The Act also prohibits the import of goods containing or manufactured using controlled substances. Does not provide new subsidies, aid, credits, guarantees or insurance programmes for the export of products, equipment, plants or technology that would facilitate the production of controlled substances. Difficulties in implementing Article 4, paragraph 5 have arisen because of failure to identify effective methods of discouraging such exports. Implementation of paragraph 6 is consistent with the general economic policy of the Government. Parts II, III and IV of the Ozone Layer Protection Act, 1990, place prohibitions on the import, manufacture and sale, respectively, of certain goods containing or made with controlled substances.

NORWAY - Adopted regulations concerning the manufacture, import, export and use of CFCs and halons which prohibit import and export of CFCs as pure commodities or in mixtures from/to countries that are not Parties to the Montreal Protocol as of 21 January 1991. The regulations also apply to products containing CFCs and halons if they have their own commodity number in the Norwegian Customs Tariff. Since Norway does not produce any controlled substances, no action has been taken with respect to paragraphs 5 and 6 of Article 4.

POLAND - Substances controlled by the Protocol are not produced in Poland and are only imported from Parties to the Protocol. Issued a decree that

prohibits, among other things, the import of aerosol cosmetics that do not state whether they are ozone-friendly.

SINGAPORE - Does not manufacture CFCs. Set up policies to curb the use of controlled CFCs in various industries. Such policies provide the direction and pace for the affected industries. Imposed a ban on the import and manufacture of non-pharmaceutical aerosol products containing controlled CFCs, polystyrene sheets and products made using controlled CFCs. Measures are under consideration to prohibit the use of controlled CFCs in new air-conditioning and industrial refrigeration equipment and existing equipment. Also under consideration are measures to ensure the proper servicing, maintenance, commissioning and decommissioning of air-conditioning and refrigeration equipment to minimize the release of controlled CFCs into the atmosphere.

SOUTH AFRICA - Imposed customs duty and contra tariff duty on CFCs and halons.

SPAIN - Implementing EEC Regulations No. 3322/88 and 594/91, which are obligatory. Does not pursue any type of trade in substances controlled by the Protocol with non-Parties or engage in activities related to technical assistance or technology transfer aimed at promoting the production of controlled substances in other countries that are not Parties to the Montreal Protocol.

SWEDEN - Banned the import and export of CFCs and halons under the Ordinance of 8 May 1991. Swedish agencies responsible for providing aid, credits, guarantees or insurance programmes have been instructed to refrain from cooperation with States not Party to the Montreal Protocol if such cooperation would facilitate production or utilization of substances controlled by the Protocol. The import of certain products containing controlled substances has been banned.

SWITZERLAND - Adopted administrative regulations to curb the production of controlled substances.

UNITED KINGDOM - Implementation of paragraphs 1 and 2 is through European Community legislation, which is directly applicable in United Kingdom law. The export Credit Guarantee Department and United Kingdom producers of controlled substances have undertaken not to transfer production technology to non-Parties.

UNITED STATES - The Environmental Protection Agency (EPA) adopted regulations that ban the import of controlled substances from non-Parties. EPA and other federal agencies also took action to discourage the export of technologies that produce or use controlled substances to non-Parties. These actions include regulations and policies aimed at discouraging loan credits and subsidies for government-controlled activities.

VENEZUELA - In 1990 the Ministry of Environment and Natural Resources issued a regulation requiring importers or exporters of controlled substances to obtain prior authorization from the Ministry.

IX. REPORTING STATUS UNDER ARTICLE 9

20. Article 9 provides for the Parties to cooperate in promoting research, development and information exchange on alternative technologies, substances and control strategies. The Parties must also cooperate in promoting public awareness of the environmental effects of emissions of ozone-depleting substances. Every two years, each Party shall provide to the Secretariat a summary of its activities under Article 9. The information provided by thirty Parties as at 14 August 1992 is summarized

below.

AUSTRALIA - Research is under way on CFC and halon destruction technology. Alternatives for CFCs and halons are being developed. A product-labelling scheme to raise public awareness was introduced in October 1991. The Australian International Development Assistance Bureau is preparing a report examining the capacity of Australian industry to transfer ozone-benign technology to developing countries in the region.

CANADA - Published a Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems.

CZECHOSLOVAKIA - A summary of activities provided for in Article 9 is contained in a "Programme of the Czech and Slovak Federal Republic for Regulating Substances that Deplete the Ozone Layer". A copy was sent to the Ozone Secretariat.

DENMARK - Under the umbrella of the Nordic Council of Ministers, Denmark, Norway, Sweden and Finland have jointly funded projects aimed at reducing emissions of ozone-depleting substances. The Danish Agency of Environmental Protection is funding projects in private enterprises with the aim of utilizing substitutes for CFCs and halon substances. Publication of pamphlets, articles and convening public meetings are all intended to raise public awareness of the problem of ozone depletion.

EEC - The new programme on environmental research, 1991-1994, will be open for the submission of research proposals on recycling technologies. The Commission of the EC has funded a study to identify existing recycling/destruction practices and their technical and economic characteristics. Within the research programme of 1989-1992, the Commission has promoted a research project dealing with the tropospheric oxidation of halogenated compounds which are proposed as substitutes for current used CFCs. There are also study programmes concerned with identifying chemical and non-chemical alternatives to ozone-depleting substances and with appropriate technologies for transfer to developing countries. The EEC, in cooperation with the Philippines, has commissioned and funded a country study to determine the costs and benefits of phasing down ozone-depleting substances in that country.

EGYPT - The Egyptian Environment Affairs Agency and the United States Environmental Protection Agency jointly undertook a national study to (a) estimate current and future demand for CFCs, halons and other ODS; (b) analyse the specific uses of these substances; and (c) evaluate control options and costs of reducing the use of these substances in Egypt.

FIJI - In August 1991, the Fiji Chapter of the Australian Institute of Refrigeration, Air Conditioning and Heating conducted two industrial seminars on the Montreal Protocol. Fiji also participated in the UNEP Workshop on the Implementation of the Montreal Protocol.

FRANCE - Techniques as being developed for substitution of fluids used in refrigeration. The prototype for a halon substitute has been designed by a French manufacturer. French manufacturers will be in a position to market substitutes for refrigeration (HFC 134) and foams (HCFC 141b) starting in 1992. Concerning exchange of information, France contributed to the financing and organization of a UNEP colloquium in France in January 1991. A document related to substitution of controlled substances was also published.

FINLAND - Jointly with other Nordic countries, published reports on CFCs in polymeric foams, including analytical methods for tracing CFC residues in plastic products and the destruction of halons in the Nordic countries. Copies of reports were sent to the Secretariat. Investigated the options for transfer and disposal of CFC wastes from domestic refrigerators and

freezers.

HUNGARY - No remarkable results in research and development activities because of reduced state subsidies for research. No CFCs are produced in Hungary, therefore the country is awaiting the development of substitute substances and technologies from other countries. Developed a spray propellant using cleaned atmospheric air.

JAPAN - Has conducted a series of technical cooperation programmes since 1989. Sponsored seminars on Ozone Layer Protection in the Asia - Pacific Region and on the Promotion of Ozone Layer Protection in Asian countries. Conducted a training course on Measures to Reduce the Use of Ozone-Depleting Substances - a copy of the course content was sent to the Secretariat.

JORDAN - A field survey on the use of CFCs and halons conducted with assistance from the Multilateral Fund, will be continued to update the available information.

KENYA - Reported measurements taken from the Total Ozone Observing Station located at Chiromo Campus, University of Nairobi, to the Ozone Science Research Managers Meeting.

LUXEMBOURG - Member of EEC and takes part in activities of the EEC.

MALTA - Carried out a campaign against local producers of aerosol sprays and advised them to use propane/butane mixtures as propellants instead of CFCs. Due to limited resources, no research work is being carried out on technologies involving CFCs. Technical and financial assistance are needed to start a project on recovery, recycling or destruction of controlled or transitional substances.

MEXICO - Concluded agreements with producers of CFCs and halons which have resulted into a 40-per cent reduction in the consumption of CFCs and halons. Eleven ozone protection projects have been proposed to recycle CFCs, adopt substitutes and conduct training programmes for retrofitting, substitute management and acquisition of trained staff and technicians. A Technological Information Centre has been set up to coordinate the Mexican Programme of Action to control the production, consumption and emissions of controlled substances over the next 10 years.

MALAYSIA - The Canadian International Development Agency has provided assistance for a country study. The Swedish International Development Agency has initiated discussion on possible programmes for halon elimination and information and technology transfer.

NEW ZEALAND - New Zealand takes an active role in the Ozone Working Group of the Australia-New Zealand Environment Council, designed to exchange information relating to ozone-depleting substances and technological developments in reprocessing, recycling and disposal schemes. It is also investigating ways of providing assistance to Pacific Island nations in this field.

NETHERLANDS - Presented to the Ozone Secretariat a Draft CFC Action Cooperation Report between government and industry, 1990.

NORWAY - In July 1990, Norwegian authorities, in cooperation with industry, started a project for collecting used CFC-refrigerants to prevent emissions. Industry projects to develop alternative technology include development of a heat-pump, using ammonia as a refrigerant, for the drying of lumber; development of an alcohol-based cleaning system for electronic components; and replacement of halons through developing and carrying out a test programme to investigate the use of foam to extinguish engine room oil fires on ships. Developed rules and regulations on the use of foam to extinguish oil fires in engine rooms for inclusion in the Norwegian

Maritime Directorate, with the ultimate goal of obtaining international acceptance through IMO.

POLAND - A programme to reduce emissions of substances that deplete the ozone layer is under preparation, in cooperation with UNDP and EPA. The Government is implementing a law regulating the import of controlled substances and products made with controlled substances and aiming to reduce the production of substances in Annex B of the Protocol.

SINGAPORE - Introduced a quota allocation system which sets the amount of controlled CFCs available for use. Provides technical consultancy services to industry to encourage conservation or recycling of controlled CFCs or a switch to the use of non-CFC alternatives. Provides general tax and financial incentives for industry to use non-CFC substitutes and provides public education on ozone layer protection. Also imposed a ban on the import and manufacture of non-pharmaceutical aerosol products containing controlled CFCs, polystyrene sheets and products manufactured with controlled CFCs. Many electronics companies are already practising in-house conservation and recycling measures to reduce the consumption of controlled CFCs. Measures are under way to prohibit the manufacture and use of new air-conditioning and industrial refrigeration equipment using controlled CFCs and to phase out the use of controlled CFCs in existing equipment.

SWITZERLAND - Adopted a more rigorous plan for phasing out the controlled substances than that contained in the London Amendment, including for substances in Annex B. Legislation to this effect was to be passed in 1991. Additional measures on promotion of alternative technologies are to be adopted. International activities for the evaluation and promotion of alternative technologies in the field of solvents and fire protection is carried out by experts engaged by the Government. Other activities include promotion of alternative technologies in all sectors, publications on CFC and halons alternatives and a study on the elimination of halons and refrigeration fluids.

SOUTH AFRICA - Formulated a policy for the protection of the ozone layer and adopted a national strategy to phase out CFCs. Commissioned a study on the use, import and export of CFCs, as well as methods to replace CFCs. Background measurements of trace gases, including CFCs, has been carried out at Cape Point since 1979. Investigations are under way to upgrade this station to a full global ozone observing system.

SWEDEN - Pursuant to Article 9 (1) (a), a study was published in English and distributed abroad on the subject of Refrigeration Equipment and Heat Pumps using CFC/HFCs, and a study on the disposal of old refrigerators. Pursuant to Article 9 (1) (b), prepared the list of Parties which reported information under Article 9 of the Montreal Protocol.

THAILAND - Held several conferences on ozone-depleting chemicals and transfer of technology to protect the ozone layer. Application of alternatives for CFCs in various industries is gradually increasing. Industry is engaged in reducing solvent emissions by recovery and recycling techniques. The Government is promoting research and development on CFC reduction and phase-out in Thailand, in cooperation with SIDA/UNEP.

UNITED STATES - The Handbook for Reducing and Eliminating Chlorofluorocarbons in Flexible Polyurethane Foams, the purpose of which is to introduce different technologies and techniques to reduce and eliminate the use of CFC-11 in the manufacture of flexible polyurethane foam, was published jointly by the United States Environmental Protection Agency and the Polyurethane Foam Association. An international database, OZONET, designed by the Industry Cooperative for Ozone Layer Protection, provides information on CFC substitutes and current regulations regarding CFCs worldwide. EPA has compiled a series of manuals on CFC-113 and methyl chloroform which are used as solvents. Participated in the World Recycling

Conference and Exposition from 4-6 June 1991, the purpose of which was to discuss compliance issues with industry leaders regarding the implementation of the Clean Air Act Amendments of 1990. EPA and the Alliance for Responsible CFC Policy organizes an annual International Conference on CFC and Halon Alternatives to cover the latest trends in available alternatives and research and development in the different end-use sectors for ozone-depleting chemicals, such as commercial refrigeration and electronics cleaning. EPA designed the Multiple Pathways to Super Efficient CFC-Free Refrigerators/Freezers, in order to collect information on the diverse methods and technologies utilized to manufacture efficient and ozone-safe refrigerators. Conducted a Regulatory Impact Analysis (RIA) to estimate the costs and benefits of the phase-out of ozone-depleting chemicals under the Clean Air Act Amendments of 1990.

UNITED KINGDOM - Supports civil research through financial assistance to collaborative projects involving companies and academia - but has no specific scheme covering ozone-depleting substances. The Department of Trade and Industry (DTI) is providing funding of 1.8m sterling to assist in the restructuring and development of courses in air conditioning and refrigeration at selected colleges. DTI is also funding one-third of the cost of a project to assess alternative defluxing technologies suitable for replacing CFC solvents used in electronics manufacturing and to disseminate results to about 3,500 small and medium enterprises. Industrial research establishments have taken an active role in stimulating the switch to substitute chemicals or technology. Concerning awareness, DTI provided speakers for various industry-sector conferences. In 1991, 17 regional road shows highlighted the adoption of a "CFC-free" strategy. Two reports from independent consultants - "Chlorinated Solvent Cleaning: the Impact of Environmental and Regulatory Controls", and "CFCs and Halons: Alternatives and the Scope for Recovery, Recycling and Destruction" were published in 1990 and copies were distributed free of charge to all delegations to the Second Meeting of the Parties to the Montreal Protocol in June 1990. The Department of the Environment and the British Standards Institute are exploring the possibility of eliminating dependence on any of the controlled substances and of substituting for halon use. Is participating fully in international conferences and the UNEP Assessment Panels in preparation for the review of the Protocol in 1992. The British Overseas Development Administration supported the Government of India in analysing, by sector, the demand for ozone-depleting substances in India to the year 2010. The Overseas Development Administration has also commissioned a review of the global costs of CFC substitution to developing countries, based on the country studies completed to date.

VENEZUELA - Modified the customs schedule governing the import of products and made necessary a permit for the import of substances listed in the Protocol. Adopted regulations which were to enter into force in June 1991, prohibiting the use of CFCs in aerosols, except for essential uses. Regulations were planned by the end of 1991 for controlling the consumption of CFCs in synthetic foams in manual halon-based extinguishers. Meetings, lectures and exhibitions have been held on the Amendment to the Montreal Protocol. Research on the measurement of ultraviolet rays, etc. is under way, although the project lacks some instruments necessary for measurement.

YUGOSLAVIA - Yugoslavia developed a system of permits for the import of substances which deplete the ozone layer and a programme for adjusting its economy to the requirements of the Montreal Protocol.

X. PROBLEMS OF PARTIES IN REPORTING DATA

21. The Parties not operating under Article 5 have generally not reported any difficulties in data reporting. However, Belarus and Ukraine have not reported and claim that their data were included in those of the former USSR. The former USSR has reported the same data for the years 1986, 1989 and 1990. Greece, Portugal and Italy have not provided any production data at all.

22. Liechtenstein has not reported either production or consumption data. Ireland has reported that it does not produce controlled substances and that its consumption data is to be reported by the EEC. However, the EEC has not reported any consumption data for 1990. The reasons for these Parties' failure to report are not known.

23. Five developing countries (Fiji, Maldives, Syrian Arab Republic, Uganda and Zambia) have expressed particular difficulties in reporting. The Secretariat has referred all such cases to the implementing agencies and the Interim Multilateral Fund for necessary technical and financial assistance to enable these Parties to collect and report data.

24. At their Second Meeting, the Parties to the Montreal Protocol established, by Decision II/9, an ad hoc group of experts to consider the reasons for the difficulties faced by some countries in reporting the

required data and to recommend possible solutions to the Parties concerned and report on its progress to the Third Meeting of the Parties. The Ad Hoc Group of Experts on the Reporting of Data met in Nairobi on 6 and 7 December 1990. The report of the meeting is contained in document UNEP/OzL.Pro/WG.2/1/4.

25. The Group of Experts identified the following problems in data reporting as the most critical which had to be overcome:

(a) The Harmonized Commodity System is currently not adequate to ensure accurate data reporting, because it does not distinguish between individual substances;

(b) Data based on customs statistics are not accurate or complete. Customs officers often do not have sufficient information and training to identify controlled substances. Controlled substances are often imported under trade names as bulk chemicals and in mixtures;

(c) Information from importing companies is often not available, because they treat the data as confidential;

(d) In some cases, importing companies do not have enough knowledge to provide accurate data;

(e) In some countries, government authorities lack the technical and financial resources to carry out data gathering.

26. The following options for facilitating data reporting were identified by the Group of Experts:

(a) Import control with the help of customs regulations and the Harmonized Commodity System codes;

(b) Licensing of imports and exports of controlled substances;

(c) Legislation on the reporting of data;

(d) A special survey of consumption, carried out by a consultant or official body, preferably with the cooperation of industry;

(e) A special survey of data as a part of a country study in a developing country; and

(f) An international panel of manufacturing companies that can supply data for larger regions comprising many countries.

XI. MEETING OF THE IMPLEMENTATION COMMITTEE

27. The Implementation Committee met in Geneva on 11 April 1992 and considered the earlier report of the Secretariat on data (UNEP/OzL.Pro/ImpCom/3/2). The Committee made the following observations:

(a) Many Parties failed to report data on time, while many others had serious difficulties in gathering their data. Repeated cases of failure to report generally involved the same Parties and were based on the same sets of problems.

(b) The Committee noted the failure to report and the submission of incomplete data by Parties operating under Article 5 and those not operating under Article 5. In particular, the Committee noted the difficulties of developing countries in reporting and wished to be fully informed of the country studies being carried out or planned under the Interim Multilateral Fund. In connection with the case of a country correcting the data previously supplied by it, some members suggested that specific procedures should be developed to enable a Party to make corrections to data which it has previously submitted.

XII. STEPS TAKEN TO ASSIST IN REPORTING DATA

28. Various steps have been taken to assist the developing countries in the collection and reporting of data. These include:

(a) The organization of regional training workshops by UNEP under the programme of the Interim Multilateral Fund. All issues related to the Montreal Protocol have been discussed with developing countries with the assistance of experts. In these discussions, specific emphasis has been given to the problems and solutions in meeting reporting requirements.

Three regional workshops have been held so far: Asia and Pacific Region (Bangkok, November 1991); Arabic-speaking countries (Cairo, December 1991); Latin American and Caribbean Region, (Caracas, May 1992).

A workshop for Africa is planned in Nairobi in December 1992. The Secretariat has actively participated in these workshops and explained the provisions on reporting the difficulties and possible solutions in meeting the requirements;

(b) The implementing agencies of the Interim Multilateral Fund - UNDP, UNEP and the World Bank - are conducting studies in the countries operating under Article 5, listed below, with a view to developing country programmes to implement the Montreal Protocol. As part of their studies, the implementing agencies have been requested by the Secretariat to collect data on controlled substances and to recommend systems for data collection to these Parties.

- | | |
|--------------|---|
| UNDP - | Bangladesh, China, Costa Rica, Iran, Kenya, Sri Lanka and Trinidad and Tobago. |
| UNEP - | Burkina Faso, Cameroon, Fiji, Gambia, Ghana, Malawi, Maldives, Syrian Arab Republic, Togo, Uganda and Zambia. |
| World Bank - | Argentina, Brazil, Chile, China, Ecuador, Egypt, Iran, Jordan, Malaysia, Mexico, Nigeria, Philippines, Thailand, Tunisia, Turkey, Venezuela and Yugoslavia. |

The results of the studies carried out by the implementing agencies are to be considered by the meeting of the Implementation Committee in September 1992.

XIII. HARMONIZED COMMODITY SYSTEM

29. At the request of UNEP, the Harmonized System (HS) Committee of the

Custom Co-operation Council (CCC), Brussels, decided on 9 April 1990 to create new classification categories in the Harmonized System, which is its multipurpose international goods nomenclature, in order to identify the controlled substances listed in the Montreal Protocol and facilitate the collection and comparison of data on the international movement of these substances.

30. On 26 June 1990, the Committee adopted a formal amendment to the Harmonized System, under which subheading 2903.40 is used to cover all Annex A substances and subheading 2823.90 is used to cover mixtures. It also recommended that all member administrations and Contracting Parties to the HS Convention take action to reflect the above subheadings in their national statistical nomenclature as soon as possible.

31. In accordance with Decision II/12, adopted at the Second Meeting of the Parties (London, 27-29 June 1990), on 17 October 1990 UNEP requested the CCC to further assist by considering the adoption of subheadings for individual substances under Annexes B and C of the Amended Protocol. In response, the HS Committee expressed the view that it would not be possible or desirable to modify the Harmonized System each time the Montreal Protocol is amended. However, it agreed to consider amendment of the Council's 26 June 1990 recommendation (see UNEP/OzL.Pro.3/3/Add.1).

32. In November 1991, the Secretariat of the CCC prepared a draft amendment to the Council's 26 June 1990 recommendation to include substances from Annexes B and C. With the exception of carbon tetrachloride and methyl chloroform, which are classified in subheadings coded 2903.14 and 2903.19 respectively, under the draft amendment all other controlled substances in Annex B and other transitional substances in Annex C are to be classified under the subheading of 2903.40. The draft amendment was later revised to reflect two alternatives: Alternative I: to list all transitional substances individually under a subheading enabling each country to assign additional digits identifying specific substances at their option; and Alternative II: to list all transitional substances collectively under the subheading "other derivatives of methane, ethane or propane halogenated only with fluorine and chlorine". During the ninth session of the HS Committee, held in Brussels on 6 April 1992, the Committee adopted Alternative II for the amendment "in view of the length of the list of transitional substances and their minor importance".

33. However, these transitional substances may be used in large quantities after the phasing out of the currently controlled substances and they may become "controlled" substances in the near future. Consequently, UNEP requested the HS Committee to reconsider adoption of the amendment, favouring Alternative I rather than Alternative II. The HS Committee is currently considering this issue.

34. While the assistance of the CCC is appreciated, the objective of assigning a different number for each individual controlled substance cannot be achieved without extending the numbering to more than 6 digits. In spite of the fact that the Harmonized System cannot be amended without completing an extended legal procedure when the numbering system is extended beyond six digits, accurate reporting under the Protocol is impossible unless individual numbers are assigned to each transitional substance.

35. However, Parties such as Canada, Germany, Japan, New Zealand, Singapore and the United States have developed systems where the first 6 digits are based on the Harmonized System, while the last few digits are assigned by the countries for their own convenience for statistical reporting purposes. If such a statistical reporting system is adopted, it may be appropriate to standardize it so that a uniform nomenclature is used for all countries. The Secretariat has obtained the system adopted by New Zealand and will circulate it to all the countries for their information, so that each country can devise its own system.

36. Obviously, custom coding systems developed by individual Parties will not be legally binding on other countries. Such a system may be adopted by the Parties to the Montreal Protocol voluntarily if they consider it useful for their reporting requirements.

Table 2

COMPLIANCE WITH CONTROL MEASURES ON PRODUCTION & CONSUMPTION
REPORTING PERIOD: JANUARY-DECEMBER 1989

PARTIES NOT OPERATING UNDER ARTICLE 5

(Note: Production is unweighted and consumption is Ozone Depleting Potential - weighted)

Party	Production (tonnes)	1986 Baseline Production (tonnes)	Percentage Change	Consumption (tonnes)	1986 Baseline Consumption (tonnes)	Percentage Change	Per Capita Consumption (kilograms)
AUSTRALIA							
							(Population*: 16765 1986 figure from DIESA/UN**)
G I	17613.00	15403.00	14.35	13915.00	14290.40	-2.63	0.83
G II	0.00	0.00		0.00	4270.00	-100.00	0.00
SUB-TOTAL	17613.00	15403.00	14.35	13915.00	18560.40	-25.03	0.83
AUSTRIA							
							(Population: 7585 1986 figure from DIESA/UN)
G I	0.00	0.00		5860.00	7760.00	-24.48	0.77
G II	0.00	0.00		490.00	1650.00	-70.30	0.06
SUB-TOTAL	0.00	0.00		6350.00	9410.00	-32.52	0.84
C.I.S.							
							(Population: 280144 1986 figure from DIESA/UN)
G I	120410.00	120410.00	0.00	110654.00	110654.00	0.00	0.39
G II	4242.00	4242.00	0.00	28752.00	28752.00	0.00	0.10
SUB-TOTAL	124652.00	124652.00	0.00	139406.00	139406.00	0.00	0.50
CANADA							
							(Population: 26310 1986 figure from DIESA/UN)
G I	17952.00	19525.00	-8.06	18843.00	19958.20	-5.59	0.72
G II	0.00	0.00		2767.00	3218.00	-14.01	0.11
SUB-TOTAL	17952.00	19525.00	-8.06	21610.00	23176.20	-6.76	0.82
DENMARK							
							(Population: 5184 1986 figure from DIESA/UN)
G I	0.00	0.00		4018.00	5528.00	-27.32	0.78
G II	0.00	0.00		1095.00	1425.00	-23.16	0.21
SUB-TOTAL	0.00	0.00		5113.00	6953.00	-26.46	0.99
EEC							
							(Population: 342500 1986 figure from DIESA/UN)
G I	372490.00	456619.00	-18.42	227323.54	317070.40	-28.31	0.66
G II	14150.00	13942.00	1.49	49928.00	42608.00	17.18	0.15
SUB-TOTAL	386640.00	470561.00	-17.83	277251.54	359678.40	-22.92	0.81

FINLAND		(Population: 4964 1986 figure from DIESA/UN)						
G I	0.00	0.00		1886.02	3301.00	-42.87	0.38	
G II	0.00	0.00		886.10	598.00	48.18	0.18	
SUB-TOTAL	0.00	0.00		2772.12	3899.00	-28.90	0.56	
FRANCE		(Population: 55993 1986 figure from DIESA/UN)						
G I	58299.00	73157.00	-20.31	55205.60	71018.40	-22.27	0.99	
G II	5266.00	4318.00	21.95	38443.00	34465.00	11.54	0.69	
SUB-TOTAL	63565.00	77475.00	-17.95	93648.60	105483.40	-11.22	1.67	
GERMANY		(Population: 77292 1986 figure from DIESA/UN)						
G I	106530.00	130979.00	-18.67	104095.80	131045.80	-20.57	1.35	
G II	3906.00	3940.00	-0.86	17803.00	19749.00	-9.85	0.23	
SUB-TOTAL	110436.00	134919.00	-18.15	121898.80	150794.80	-19.16	1.58	
HUNGARY		(Population: 10567 1986 figure from DIESA/UN)						
G I	0.00	0.00		4848.00	5468.00	-11.34	0.46	
G II	0.00	0.00		1300.00	1883.00	-30.96	0.12	
SUB-TOTAL	0.00	0.00		6148.00	7351.00	-16.37	0.58	
ICELAND		(Population: 243 1986 figure from DIESA/UN)						
G I	0.00	0.00		139.68	195.12	-28.41	0.57	
G II	0.00	0.00		76.50	80.90	-5.44	0.31	
SUB-TOTAL	0.00	0.00		216.18	276.02	-21.68	0.89	
JAPAN		(Population: 123190 1986 figure from DIESA/UN)						
G I	146746.00	131658.00	11.46	132580.00	118134.00	12.23	1.08	
G II	3306.60	3310.00	-0.10	60156.00	16955.00	254.80	0.49	
SUB-TOTAL	150052.60	134968.00	11.18	192736.00	135089.00	42.67	1.56	
NETHERLANDS		(Population: 14828 1986 figure from DIESA/UN)						
G I	44533.00	45859.00	-2.89	41293.60	42330.80	-2.45	2.78	
SUB-TOTAL	44533.00	45859.00	-2.89	41293.60	42330.80	-2.45	2.78	
NEW ZEALAND		(Population: 3343 1986 figure from DIESA/UN)						
G I	0.00	0.00		1005.30	2088.00	-51.85	0.30	
G II	0.00	0.00		936.00	490.00	91.02	0.28	
SUB-TOTAL	0.00	0.00		1941.30	2578.00	-24.70	0.58	
NORWAY		(Population: 4203 1986 figure from DIESA/UN)						
G I	0.00	0.00		907.60	1313.00	-30.88	0.22	
G II	0.00	0.00		872.00	1411.00	-38.20	0.21	
SUB-TOTAL	0.00	0.00		1779.60	2724.00	-34.67	0.42	

SINGAPORE		(Population: 2674 1986 figure from DIESA/UN)						
G I	0.00	0.00		679.40	4052.00	-83.23	0.25	
G II	0.00	0.00		812.00	2439.00	-66.71	0.30	
SUB-TOTAL	0.00	0.00		1491.40	6491.00	-77.02	0.56	
SOUTH AFRICA		(Population: 33221 1986 figure from DIESA/UN)						
G I	9047.00	11300.00	-19.94	10156.00	12789.80	-20.59	0.31	
G II	0.00	0.00		3807.00	3290.00	15.71	0.11	
SUB-TOTAL	9047.00	11300.00	-19.94	13963.00	16079.80	-13.16	0.42	
SPAIN		(Population: 39416 1986 figure from DIESA/UN)						
G I	33079.00	34896.00	-5.21	30833.40	19832.00	55.47	0.78	
SUB-TOTAL	33079.00	34896.00	-5.21	30833.40	19832.00	55.47	0.78	
SWEDEN		(Population: 8485 1986 figure from DIESA/UN)						
G I	0.00	0.00		2552.20	4962.00	-48.57	0.30	
G II	0.00	0.00		320.00	1831.00	-82.52	0.04	
SUB-TOTAL	0.00	0.00		2872.20	6793.00	-57.72	0.34	
SWITZERLAND		(Population: 6611 1986 figure from DIESA/UN)						
G I	0.00	0.00		4023.00	7960.00	-49.46	0.61	
G II	0.00	0.00		706.00	1050.00	-32.76	0.11	
SUB-TOTAL	0.00	0.00		4729.00	9010.00	-47.51	0.72	
UNITED STATES OF AMERICA		(Population: 241596 1986 figure from DIESA/UN)						
G I	242486.00	328760.00	-26.24	231083.60	305963.60	-24.47	0.96	
G II	8925.00	7949.00	12.28	45694.00	57803.00	-20.95	0.19	
SUB-TOTAL	251411.00	336709.00	-25.33	276777.60	363766.60	-23.91	1.15	
UNITED KINGDOM		(Population: 57027 1986 figure from DIESA/UN)						
G I	79081.00	106129.00	-25.49	74177.60	102014.40	-27.29	1.30	
G II	5097.00	5500.00	-7.33	15291.00	16500.00	-7.33	0.27	
SUB-TOTAL	84178.00	111629.00	-24.59	89468.60	118514.40	-24.51	1.57	
TOTAL	1293158.60	1517896.00	-14.81	1346214.94	1548196.82	-13.05	0.99	

THAILAND				(Population: 55517 1986 figure from DIESA/UN)				
G I	0.00	0.00		4595.00	2300.00	99.78		0.08
G II	0.00	0.00		120.00	60.00	100.00		0.00
SUB-TOTAL	0.00	0.00		4715.00	2360.00	99.79		0.08
VENEZUELA				(Population: 19244 1986 figure from DIESA/UN)				
G I	4211.00	4400.00	-4.30	3450.12	3879.60	-11.07		0.18
G II	0.00	0.00		282.00	324.00	-12.96		0.01
SUB-TOTAL	4211.00	4400.00	-4.30	3732.12	4203.60	-11.22		0.19
YUGOSLAVIA				(Population: 23707 1986 figure from DIESA/UN)				
G I	0.00	0.00		5779.00	7379.50	-21.69		0.24
G II	0.00	0.00		2360.00	9200.00	-74.35		0.10
SUB-TOTAL	0.00	0.00		8139.00	16579.50	-50.91		0.34
TOTAL	21063.80	23226.95	-9.31	50777.10	54390.70	-6.64		0.09

Key: * In thousands of inhabitants.

** Department of International Economic and Social Affairs/United Nations.

Table 3

COMPLIANCE WITH CONTROL MEASURES ON PRODUCTION AND CONSUMPTION
REPORTING PERIOD: JANUARY-DECEMBER 1990

PARTIES NOT OPERATING UNDER ARTICLE 5

Party	Production (tonnes)	1986 Baseline Production (tonnes)	Percentage Change	1986 Consumption (tonnes)	1986 Baseline Consumption (tonnes)	Percentage Change	Per Capita Consumption (kilograms)
AUSTRALIA							
							(Population: 17086 1990 figure from DESD/UN**)
G I	8263.00	15403.00	-46.35	7204.04	14290.40	-49.59	0.42
G II	0.00	0.00		18.00	4270.00	-99.58	0.00
SUB-TOTAL	8263.00	15403.00	-46.35	7222.04	18560.40	-61.09	0.42
AUSTRIA							
							(Population: 7791 1990 estimate; DESD/UN)
G I	0.00	0.00		1801.86	7760.00	-76.78	0.23
G II	0.00	0.00		56.60	1650.00	-96.57	0.01
SUB-TOTAL	0.00	0.00		1858.46	9410.00	-80.25	0.24
C.I.S.							
							(Population: 280144 1986 figure from DIESA*/UN)
G I	120410.00	120410.00	0.00	110654.00	110654.00	0.00	0.39
G II	4242.00	4242.00	0.00	28752.00	28752.00	0.00	0.10
SUB-TOTAL	124652.00	124652.00	0.00	139406.00	139406.00	0.00	0.50
CANADA							
							(Population: 26603 1990 figure from DESD/UN)
G I	12113.00	19525.00	-37.96	13173.60	19958.20	-33.99	0.50
G II	0.00	0.00		2128.00	3218.00	-33.87	0.08
SUB-TOTAL	12113.00	19525.00	-37.96	15301.60	23176.20	-33.98	0.58
CZECHOSLOVAKIA							
							(Population: 15661 1990 Figure from DESD/UN)
G I	1978.00	1886.00	4.88	5870.20	6649.62	-11.72	0.37
G II	0.00	0.00		159.70	138.80	15.06	0.01
SUB-TOTAL	1978.00	1886.00	4.88	6029.90	6788.42	-11.17	0.39
DENMARK							
							(Population: 5140 1990 figure from DESD/UN)
G I	0.00	0.00		2473.00	5528.00	-55.26	0.48
G II	0.00	0.00		803.00	1425.00	-43.65	0.16
SUB-TOTAL	0.00	0.00		3276.00	6953.00	-52.88	0.64
FINLAND							
							(Population: 4986 1990 figure from DESD/UN)
G I	0.00	0.00		1859.00	3301.00	-43.68	0.37
G II	0.00	0.00		516.00	598.00	-13.71	0.10
SUB-TOTAL	0.00	0.00		2375.00	3899.00	-39.09	0.48

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FRANCE			(Population: 55993 1986 figure from DIESA/UN)				
G I	41658.00	73157.00	-43.06	38988.80	71018.40	-45.10	0.70
G II	3373.00	4318.00	-21.89	23776.00	34465.00	-31.01	0.42
SUB-TOTAL	45031.00	77475.00	-41.88	62764.80	105483.40	-40.50	1.12
GERMANY			(Population: 79479 1990 estimate; DESD/UN)				
G I	80683.00	130979.00	-38.40	78470.00	131045.80	-40.12	0.99
G II	3384.00	3940.00	-14.11	15910.00	19749.00	-19.44	0.20
SUB-TOTAL	84067.00	134919.00	-37.69	94380.00	150794.80	-37.41	1.19
HUNGARY			(Population: 10365 1990 figure from DESD/U)				
G I	0.00	0.00		4390.00	5468.00	-19.71	0.42
G II	0.00	0.00		2628.00	1883.00	39.56	0.25
SUB-TOTAL	0.00	0.00		7018.00	7351.00	-4.53	0.68
ICELAND			(Population: 255 1990 estimate; DESD/UN)				
G I	0.00	0.00		132.66	195.12	-32.01	0.52
G II	0.00	0.00		33.10	80.90	-59.09	0.13
SUB-TOTAL	0.00	0.00		165.76	276.02	-39.95	0.65
IRELAND			(Population: 3503 1990 estimate DESD/UN)				
G I	0.00	0.00		0.00	0.00		0.00
G II	0.00	0.00		0.00	0.00		0.00
SUB-TOTAL	0.00	0.00		0.00	0.00		0.00
JAPAN			(Population: 123537 1990 estimate; DESD/UN)				
G I	122486.00	131658.00	-6.97	97723.20	118134.00	-17.28	0.79
G II	2839.00	3310.00	-14.23	22351.00	16955.00	31.83	0.18
SUB-TOTAL	125325.00	134968.00	-7.14	120074.20	135089.00	-11.11	0.97
LUXEMBOURG			(Population: 381 1990 estimate DESD/UN)				
G agg	0.00	0.00		136.00	0.00		0.36
SUB-TOTAL	0.00	0.00		136.00	0.00		0.36
NETHERLANDS			(Population: 14952 1990 estimate; DESD/UN)				
G I	36757.00	45859.00	-19.85	16248.80	42330.80	-61.61	1.09
G II	0.00	0.00		1360.00	0.00		0.09
SUB-TOTAL	36757.00	45859.00	-19.85	17608.80	42330.80	-58.40	1.18
NEW ZEALAND			(Population: 3347 1990 estimate; DESD/UN)				
G I	0.00	0.00		558.40	2088.00	-73.26	0.17
G II	0.00	0.00		637.00	490.00	30.00	0.19
SUB-TOTAL	0.00	0.00		1195.40	2578.00	-53.63	0.36

NORWAY		(Population: 4241 1990 estimate; DESD/UN)					
G I	0.00	0.00		722.40	1313.00	-44.98	0.17
G II	0.00	0.00		1332.00	1411.00	-5.60	0.31
SUB-TOTAL	0.00	0.00		2054.40	2724.00	-24.58	0.48
POLAND		(Population: 38180 1990 estimate; DESD/UN)					
G I	0.00	0.00		4939.00	6656.00	-25.80	0.13
G II	0.00	0.00		330.00	3900.00	-91.54	0.01
SUB-TOTAL	0.00	0.00		5269.00	10556.00	-50.09	0.14
SINGAPORE		(Population: 3003 1990 estimate; DESD/UN)					
G I	0.00	0.00		3166.60	4052.00	-21.85	1.05
G II	0.00	0.00		1151.00	2439.00	-52.81	0.38
SUB-TOTAL	0.00	0.00		4317.60	6491.00	-33.48	1.44
SOUTH AFRICA		(Population: 35282 1990 estimate; DESD/UN)					
G I	6639.00	11300.00	-41.25	6841.39	12789.80	-46.51	0.19
G II	0.00	0.00		28.17	3290.00	-99.14	0.00
SUB-TOTAL	6639.00	11300.00	-41.25	6869.56	16079.80	-57.28	0.19
SPAIN		(Population: 38959 1990 estimate; DESD/UN)					
G I	25438.00	34896.00	-27.10	23596.40	19832.00	18.98	0.61
G II	0.00	0.00		0.00	600.00	-100.00	0.00
SUB-TOTAL	25438.00	34896.00	-27.10	23596.40	20432.00	15.49	0.61
SWEDEN		(Population: 8559 1990 estimate; DESD/UN)					
G I	0.00	0.00		1818.00	4962.00	-63.36	0.21
G II	0.00	0.00		396.00	1831.00	-78.37	0.05
SUB-TOTAL	0.00	0.00		2214.00	6793.00	-67.41	0.26
SWITZERLAND		(Population: 8559 1990 estimate; DESD/UN)					
G I	0.00	0.00		2920.20	7960.00	-63.31	0.34
G II	0.00	0.00		473.40	1050.00	-54.91	0.06
SUB-TOTAL	0.00	0.00		3393.60	9010.00	-62.34	0.40
UNITED STATES OF AMERICA		(Population: 249924 1990 estimate; DESD/UN)					
G I	185100.00	328760.00	-43.70	185393.20	305963.60	-39.41	0.74
G II	8190.00	7949.00	3.03	33853.00	57803.00	-41.43	0.14
SUB-TOTAL	193290.00	336709.00	-42.59	219246.20	363766.60	-39.73	0.88
UNITED KINGDOM		(Population: 57411 1990 estimate; DESD/UN)					
G I	62519.00	106129.00	-41.09	58080.60	102014.40	-43.07	1.01
G II	5012.00	5500.00	-8.87	15036.00	16500.00	-8.87	0.26
SUB-TOTAL	67531.00	111629.00	-39.50	73116.60	118514.40	-38.31	1.27

TOTAL	731084.00	1049221.00	-30.32	818889.32	1206462.84	-32.12	0.75
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PARTIES OPERATING UNDER ARTICLE 5

Party	Production (tonnes)	1986 Baseline Production (tonnes)	Percentage Change	Consumption (tonnes)	1986 Baseline Consumption (tonnes)	Percentage Change	Per Capita Consumption (kilograms)
BRAZIL							
							(Population: 150368 1990 estimate; DESD/UN**)
G I	8581.00	10218.00	-16.02	8538.80	10973.50	-22.19	0.06
SUB-TOTAL	8581.00	10218.00	-16.02	8538.80	10973.50	-22.19	0.06
CHILE							
							(Population: 13137 1990 Figure from DESD/UN)
G I	0.00	0.00		683.96	730.40	-6.36	0.05
G II	0.00	0.00		238.60	61.00	291.15	0.02
SUB-TOTAL	0.00	0.00		922.56	791.40	16.57	0.07
ECUADOR							
							(Population: 9647 1986 figure from DIESA/UN)
G I	0.00	0.00		709.20	384.80	84.30	0.07
SUB-TOTAL	0.00	0.00		709.20	384.80	84.30	0.07
GHANA							
							(Population: 15028 1990 figure from DESD/UN)
G I	0.00	0.00		0.42	0.00		0.00
SUB-TOTAL	0.00	0.00		0.42	0.00		0.00
JORDAN							
							(Population: 4010 1990 estimate DESD/UN)
G I	0.00	0.00		540.00	301.50	79.10	0.13
G II	0.00	0.00		255.00	48.00	431.25	0.06
SUB-TOTAL	0.00	0.00		795.00	349.50	127.47	0.20
KENYA							
							(Population: 24032 1990 estimate DESD/UN)
G I	0.00	0.00		230.00	136.00	69.12	0.01
G II	0.00	0.00		15.50	0.00		0.00
SUB-TOTAL	0.00	0.00		245.50	136.00	80.51	0.01
MALAYSIA							
							(Population: 17756 1990 estimate; DESD/UN)
G I	0.00	0.00		3384.16	2190.20	54.51	0.19
G II	0.00	0.00		809.50	1650.00	-50.94	0.05
SUB-TOTAL	0.00	0.00		4193.66	3840.20	9.20	0.24
MEXICO							
							(Population: 86154 1990 estimate; DESD/UN)
G I	9474.30	8608.95	10.05	11117.30	8805.30	26.26	0.13
G II	0.00	0.00		3676.00	116.70	3049.96	0.04
SUB-TOTAL	9474.30	8608.95	10.05	14793.30	8922.00	65.81	0.17

NIGERIA		(Population: 88000 OZONE Sec. estimate)					
G I	0.00	0.00		934.02	0.00		0.01
SUB-TOTAL	0.00	0.00		934.02	0.00		0.01
PHILIPPINES		(Population: 61480 1990 estimate; DESD/UN)					
G I	0.00	0.00		2877.00	4299.00	-33.08	0.05
G II	0.00	0.00		185.00	60.00	208.33	0.00
SUB-TOTAL	0.00	0.00		3062.00	4359.00	-29.75	0.05
THAILAND		(Population: 56098 1990 estimate; DESD/UN)					
G I	0.00	0.00		6660.20	2300.00	189.57	0.12
G II	0.00	0.00		324.00	60.00	440.00	0.01
SUB-TOTAL	0.00	0.00		6984.20	2360.00	195.94	0.12
TUNISIA		(Population: 8074 1990 estimate; DESD/UN)					
G I	0.00	0.00		730.00	584.00	25.00	0.09
G II	0.00	0.00		3.00	3.00	0.00	0.00
SUB-TOTAL	0.00	0.00		733.00	587.00	24.87	0.09
VENEZUELA		(Population: 19735 1990 estimate; DESD/UN)					
G I	4036.60	4400.00	-8.26	3036.90	3879.60	-21.72	0.15
G II	0.00	0.00		166.00	324.00	-48.77	0.01
SUB-TOTAL	4036.60	4400.00	-8.26	3202.90	4203.60	-23.81	0.16
YUGOSLAVIA		(Population: 23809 1990 estimate DESD/UN)					
G I	0.00	0.00		4870.00	7379.50	-34.01	0.20
G II	0.00	0.00		2360.00	9200.00	-74.35	0.10
SUB-TOTAL	0.00	0.00		7230.00	16579.50	-56.39	0.30
TOTAL	22091.90	23226.95	-4.89	52344.56	53486.50	-2.14	0.09

Key: *Department of International Economic and Social Affairs/United Nations.

**Department of Economic and Social Development/United Nations.

Table 4

COMPLIANCE WITH CONTROL MEASURES ON PRODUCTION & CONSUMPTION
REPORTING PERIOD: JULY 1990 - JUNE 1991

PARTIES NOT OPERATING UNDER ARTICLE 5

Party	Production	1986		Consumption	1986		Per Capita Consumption
		Baseline Production	Percentage Change		Baseline Consumption	Percentage Change	

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	(tonnes)	(tonnes)		(tonnes)	(tonnes)		(kilograms)
AUSTRALIA			(Population: 17086 Estimate from DESD/UN**)				
G I	7952.00	15403.00	-48.37	7029.80	14290.40	-50.81	0.41
G II	0.00	0.00		879.50	4270.00	-79.40	0.05
SUB-TOTAL	7952.00	15403.00	-48.37	7909.30	18560.40	-57.39	0.46
CANADA			(Population: 26603 Estimate from DESD/UN)				
G I	8124.00	19525.00	-58.39	10135.20	19958.20	-49.22	0.38
G II	0.00	0.00		2128.00	3218.00	-33.87	0.08
SUB-TOTAL	8124.00	19525.00	-58.39	12263.20	23176.20	-47.09	0.46
DENMARK			(Population: 5140 Estimate from DESD/UN)				
G I	0.00	0.00		2242.20	5528.00	-59.44	0.44
G II	0.00	0.00		907.00	1425.00	-36.35	0.18
SUB-TOTAL	0.00	0.00		3149.20	6953.00	-54.71	0.61
JAPAN			(Population: 123537 Estimate from DESD/UN)				
G I	113044.00	131658.00	-14.14	89035.80	118134.00	-24.63	0.72
G II	2839.00	3310.00	-14.23	22351.00	16955.00	31.83	0.18
SUB-TOTAL	115883.00	134968.00	-14.14	111386.80	135089.00	-17.55	0.90
NEW ZEALAND			(Population: 3347 Estimate from DESD/UN)				
G I	0.00	0.00		761.20	2088.00	-63.54	0.23
G II	0.00	0.00		117.00	490.00	-76.12	0.03
SUB-TOTAL	0.00	0.00		878.20	2578.00	-65.93	0.26
SOUTH AFRICA			(Population: 35282 Estimate from DESD/UN)				
G I	6237.00	11300.00	-44.81	6287.12	12789.80	-50.84	0.18
G II	0.00	0.00		1374.00	3290.00	-58.24	0.04
SUB-TOTAL	6237.00	11300.00	-44.81	7661.12	16079.80	-52.36	0.22
SPAIN			(Population: 38959 Estimate from DESD/UN)				
G I	22384.00	34896.00	-35.86	20813.40	19832.00	4.95	0.53
SUB-TOTAL	22384.00	34896.00	-35.86	20813.40	19832.00	4.95	0.53
UNITED STATES OF AMERICA			(Population: 249924 Estimate from DESD/UN)				
G I	188262.00	328760.00	-42.74	185757.00	305963.60	-39.29	0.74
G II	0.00	7949.00	-100.00	6606.00	57803.00	-88.57	0.03
SUB-TOTAL	188262.00	336709.00	-44.09	192363.00	363766.60	-47.12	0.77
TOTAL	348842.00	552801.00	-36.90	356424.22	586035.00	-39.18	0.71

Key: **Department of Economic and Social Development/United Nations.

Table 5

COMPARISON OF CONTROLLED SUBSTANCES FOR ARTICLE 5 AND NON-ARTICLE 5 COUNTRIES
REPORTING PERIOD: JANUARY-DECEMBER 1990

PARTIES NOT OPERATING UNDER ARTICLE 5

		1986 Baseline Production (tonnes)	Current Production (tonnes)	Percentage Change	1986 Baseline Consumption (tonnes)	Current Consumption (tonnes)	Percentage Change
G I	CFC-11	335798.00	217147.00	-35.33	355449.80	210771.10	-40.70
G I	CFC-113	209777.00	170297.00	-18.82	169966.40	133635.28	-21.38
G I	CFC-114	16145.00	9177.00	-43.16	16607.50	9847.70	-40.70
G I	CFC-115	11015.00	8348.00	-24.21	8347.74	12023.88	44.04
G I	CFC-12	401031.00	266998.00	-33.42	420970.90	270309.60	-35.79
	Sub-Total	973766.00	671967.00	-30.99	971342.34	636587.56	-34.46
G II	HALON-1211	13378.00	14030.00	4.87	51631.50	41483.40	-19.65
G II	HALON-1301	12399.00	10464.00	-15.61	129468.00	94746.00	-26.82
G II	HALON-2402	3482.00	2546.00	-26.88	17509.20	15470.40	-11.64
	Sub-Total	29259.00	27040.00	-7.58	198608.70	151699.80	-23.62
	TOTAL	1003025.00	699007.00	-30.31	1169951.04	788287.36	-32.62

PARTIES OPERATING UNDER ARTICLE 5

		1986 Baseline Production (tonnes)	Current Production (tonnes)	Percentage Change	1986 Baseline Consumption (tonnes)	Current Consumption (tonnes)	Percentage Change
G I	CFC-11	3414.45	4258.20	24.71	5088.15	7292.50	43.32
G I	CFC-113	0.00	0.00		1575.46	4703.04	198.52
G I	CFC-114	0.00	0.00		19.99	122.10	510.81
G I	CFC-115	0.00	0.00		20.10	83.88	317.31
G I	CFC-12	9594.50	9252.70	-3.56	12087.30	13951.00	15.42
	Sub-Total	13008.95	13510.90	3.86	18791.00	26152.52	39.18
G II	HALON-1211	0.00	0.00		615.00	2827.50	359.76
G II	HALON-1301	0.00	0.00		1641.70	2632.00	60.32
G II	HALON-2402	0.00	0.00		6.00	12.60	110.00
	Sub-Total	0.00	0.00		2262.70	5472.10	141.84
	TOTAL	13008.95	13510.90	3.86	21053.70	31624.62	50.21

Appendix 1

List of Parties categorized as operating under Article 5,
paragraph 1 of the Montreal Protocol

Argentina	
Kenya	
Brazil	
Malawi	
Burkina Faso	
Malaysia	
Chile	
	Mexico
China	
	Philippines
Ecuador	
Thailand	
Egypt	
	Togo
Fiji	
	Tunisia
Ghana	
	Turkey
Guatemala	
Uruguay	
Iran	
	Venezuela
Jordan	
Yugoslavia	

Appendix 2

List of Parties temporarily categorized as operating under
Article 5, paragraph 1 of the Montreal Protocol*

Bangladesh
Libya
Botswana
Maldives
Cameroon
Nigeria
Costa Rica
Panama
Cuba

Slovenia

Cyprus
Sri Lanka
Gambia
Syrian Arab Republic
Guinea
Trinidad and Tobago
India

Uganda

Indonesia
Zambia

* Categorization is temporary pending receipt of complete split data.

TEXT FOR FIGURES

Figure 1

MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER (1987)

Ozone Secretariat

August 1992 GRID

UNEP This map is not authoritative with respect to delineation of political boundaries

Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Botswana, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chile, China, Costa Rica, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Fiji, Finland, France, Gambia, Germany, Ghana, Greece, Guatemala, Guinea, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Kenya, Republic of Korea, Libyan Arab Jamahiriya, Liechtenstein, Luxembourg, Malawi, Malaysia, Maldives, Malta, Mexico, Netherlands, New Zealand, Nigeria, Norway, Panama, Philippines, Poland, Portugal, Russian Federation, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Syrian Arab Republic, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Venezuela, Yugoslavia, Zambia, EEC

Total number of ratifications (including EEC): 83

Figure 2

AMENDMENT TO THE MONTREAL PROTOCOL

Ozone Secretariat

August 1992 GRID

UNEP This map is not authoritative with respect to delineation of political boundaries

Australia, Cameroon, Canada, Chile, China, Denmark, Finland, France, Germany, Ghana, Guinea, India, Indonesia, Ireland, Israel, Italy, Japan, Luxembourg, Maldives, Mexico, Netherlands, New Zealand, Norway, Russian Federation, South Africa, Spain, Sweden, Thailand, United Kingdom, United States, the EEC

Total number of ratifications (including EEC): 31