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Steering Committee meeting for the Workshop
on the Control of Chlorofluorocarbons
Second Session

Brussels, 6 December 1985.

REPORT OF THE STEERING COMMITTEE MEETING
INTRODUCTION

1. In accordance with part I paragraph 6 of the Governing Council decision 13/18 dated 24 May 1985, Protection of the Ozone Layer and as decided by members at the first session of the Steering Committee for the Workshop on Chlorofluorocarbons held in London on 18 September 1985, the second session of the Steering Committee was held at the Headquarters of the Commission of the European Communities on 6 December 1985.

I. ORGANIZATIONAL MATTERS

A. OPENING

2. The second meeting of the Steering Committee was opened by a representative of the United Nations Environment Programme. Mr. P. Johnston, Adviser and Head of Division DG XI of the Commission of the European Communities welcomed participants on behalf of the European Communities which hosted the meeting. He expressed the hope that the work of the Steering Committee and at the Workshop would allow the Protocol on Chlorofluorocarbons to be adopted in 1987.

B. ATTENDANCE

3. The second meeting of the Steering Committee was attended by experts from Brazil, Egypt, Japan, Norway, United Kingdom, United States of America, EEC and UNEP (list of participants attached - Annex I to the Report).

C. ELECTION OF OFFICERS

4. At the opening of the meeting, the Steering Committee unanimously elected Miss Fiona McConnell, Head of the Environmental Protection International Division in the Department of the Environment of the United Kingdom of Great Britain and Northern Ireland, as Chairperson.

D. ORGANIZATION OF THE MEETING

5. The following agenda has been adopted by the Steering Committee:

1. Opening of the meeting.
2. Organization of the meeting.
 - (a) Election of Chairman.
 - (b) Agenda and organization of work.
3. Progress report by UNEP Secretariat.
4. Progress report by coordinators of each Workshop topic.
5. Organization of the first part of the Workshop.
 - (a) Logistics (funding, venue, etc.)
 - (b) Subject matter - selection of Chairman and Rapporteurs.
 - (c) Role of the Steering Committee.
 - (d) Handling of the results - Publication.
 - (e) Other organisational matters.
6. Organization of the second half of the Workshop with the discussion of as many of the sub-tropics under point 5 as possible.
7. Handling of papers not specifically commissioned.
8. Report and recommendations.
9. Closure.

E. PROGRESS REPORT BY THE UNEP SECRETARIAT

6. Prior to the commencement of discussions, the UNEP Secretariat reported on the responses received to UNEP's invitation to States and organizations to participate in the planned Workshop. A paper prepared by the UNEP Secretariat on this subject was distributed to the Steering Committee members, and is attached as UNEP/137/4 dated 22 November 1985.

F. PROGRESS REPORT BY COORDINATORS FOR EACH WORKSHOP TOPIC

7. The representatives of those countries and organizations appointed as coordinators for submissions of manuscripts and information for each of the Workshop topics reported the progress made in the preparation for each of the Workshop topics. The main points of the progress reports are attached to this report as:

- Annex II - progress report by the Commission of the European Communities.
- Annex III - progress report by the USA.
- Annex IV - progress report by the UK.

UNEP reported that as of 1 December 1985 no contribution had been received by it concerning Topic I.

G. ORGANIZATION OF THE FIRST PART OF THE WORKSHOP

(a) Logistics

8. Following a report by the representative of the EEC that Italy, one of the member States of the Community, was prepared to host the first part of the Workshop, it was agreed that the first part of the Workshop would be held in Italy. The Chairman expressed the meeting's appreciation to the EEC and Italy for the generous offer. The representative of the EEC expressed his or organizations willingness, in association with the Government of Italy, to meet the financial expenses of the meeting and also to provide some support to the participation in the Workshop by developing country representatives (approximately for 5 experts).

9. It was agreed that the EEC, the Italian Government and UNEP would co-operate in organization of the Workshop and that representatives of the two organizations should arrange to meet with representatives of the Italian Government, particularly the Institute of Health in Rome, to finalize for the meetings.

(b) Subject matter. Selection at an appropriate time nearer the date of the first Workshop of Chairman and Rapporteurs

10. It was agreed that all experts for the Workshop should be bound by the terms of reference, which are attached to this Report as Annex V:

11. It was decided that UNEP should sent the invitation to the states and the UN agencies. The non-governmental and other governmental organizations wishing to participate in the Workshop should contact UNEP through their countries or groups of countries.

12. It was decided that each topic should be introduced by the co-ordinator designated by the Steering Committee. The Workshop would carry out its work in sub-groups: - each of the sub-groups addressing a single topic-during the first four days. During the fifth day of the Workshop the transition from Phase I to Phase II of the Workshop should be determined based on the sub-group reports

The Chairman of each of the sub-groups would be a representative of the country or organization co-ordinating the particular topic under discussion. The rapporteur of the sub-group should be chosen from representatives of the co-ordinators of the other sub-group topics.

13. It was suggested that a senior representative of UNEP should chair the final period of the first part of the Workshop concerned with integration process. It was suggested that the Assistant Executive Director of the United Nations Environment Programme could fulfil this function and the UNEP representative was asked to ascertain if this was possible.

14. It was decided that integration process would need two rapporteurs and it was suggested that one might be from the United States of America and one from the EEC.

The Final choice of rapporteurs would be identified by UNEP in consultation with the Steering Committee.

The representatives of Brazil and Egypt also signified their countries willingness to act the rapporteurs during discussions of the various sub-topics.

(c) Role of the Steering Committee

15. The participants noted the responsibility of the Steering Committee with regard to GC decision 13/18 particularly in respect of its role as advisory body to the Secretariat through both parts of the Workshop. The meeting also thought it would be advisable to convene additional Steering Committee meeting between the two sessions of the Workshop.

It was agreed that priority should be given to supporting experts from Egypt, Brazil and India to participate in the Workshop and to take parts in the Steering Committee meeting.

(d) Handling the results. Publication.

It was decided that the results of the first part of the Workshop should be widely distributed. The final results of both parts of the Workshop should be published. USA offered the facilities to support publication of the Workshop.

(e) Other organizational matters.

16. The Steering Committee agreed on the procedure from peer review process which is attached to this report as Annex VI.

17. After discussion it was decided that the end of April should be the deadline for the preparation of overview papers for the Workshop. Although concern was expressed that the schedule of activities was concentrated in too short a timeframe to easily accomplish, it was decided that the timetable agreed during the 1st session of Steering Committee meeting in London should be adhered to as far as possible.

F. ORGANIZATION OF THE SECOND HALF OF THE WORKSHOP

18. It was decided that the papers for the second half of the Workshop should be circulated in early August. The second half of the Workshop should be held during the second week of September.

19. The Representative of the United States of America expressed his country's willingness to develop a paper on the possible computer model to discuss methodology options with a view to reaching common agreement on methodologies to be employed for assessing social and economic consequences of control strategies. The appropriate paper would be presented by the US at the first part of the Workshop and would contain the structure and process of the model. It was suggested that the paper could be a subject of preliminary discussions in Europe or in Washington in about January 1986, to assess the value of the proposed model.

G. HANDLING OF PAPERS NOT SPECIFICALLY COMMISSIONED

20. It was decided that papers submitted to the Workshops but which had not specifically been commissioned could be tabled.

H. REPORT AND RECOMMENDATIONS

21. It was decided that the Report of the meeting would be drafted by the UNEP Secretariat and sent to the Steering Committee members for their comments.

I. CLOSURE

Following the customary exchange of courtesies Ms. McConwell declared the session closed at 6 p.m. on Friday 6 December 1985.

LIST OF THE PARTICIPANTS

COUNTRY	NAME	FUNCTION
Brazil	Nelson Antonio Tabajara de Oliveira	Ministry of Foreign Affairs Division For the Sea, Antarctic and Space Matters
Egypt	Essam El-Din Hawas Minister Plenipotential	Deputy Director, Department of International Organizations
Italy	Giampiero Massolo	Permanent Representative of Italy to EEC
Japan	Makoto Sonai	Ministry of International Trade and Industry
Japan	Akiva Kojima	Secretary, The Misssion of Japan to the EEC
Norway	Per M Bakken	Ministry of Environment
United Kingdom	Alan Howson	Department of Trade and Industry
United Kingdom	Steve Bickel	Department of Trade and Industry
United Kingdom	David Perridge	Department of the Environment
United Kingdom	Fiona McConnell	Chairman (DOE)
United States of America	William Mansfield	Environmental Protection Agency
United States of America	Ambassador Richard E. Benedick	Dputy Assistant Secretary of State
United States of America	John S. Hoffman	Chairman, Stratospheric Protection Task Force, EPA
Council of the European Communi- ties	Goffredo Del Bino	DG X I
"	Tanino Dicorrado	DG X I
"	George Strongylis	DG X I
"	Anver Ghazi	DG X II/G
UNEP	Peter Usher	Environmental Assessment Service
UNEP	Iwona Rummel-Bulska	Environmental Law Unit

ANNEX II

PROGRESS REPORT BY THE COMMISSION OF THE
EUROPEAN COMMUNITIES

The following papers have been announced to the EEC to date:

Sponsor Title, Expert

Topic 4:

EEC Identification and appraisal of technological options for reducing emissions of CFCs in the main application sectors.

C.F.P. Bevington, Metra Consulting Group Ltd.,
London, U.K.

British Aerosol Manufacturers' Assoc.
(BAMA) Alternatives to CFCs in aerosols and their potential costs/benefits (BAMA)

U.S.A. Analysis of the costs and effectiveness of technically available control options. RAND Corporation in conjunction with E.P.A.

Topic 6b:

EEC The effects of controlled emission scenarios of trace gases on stratospheric ozone.
Prof. Guy Brasseur, Institut d'Aeronomie Spatiale de Belgique, Brussels, Belgium.

U.S.A. An analysis of the effects of emission reductions on the atmosphere and the environment.
E.P.A.

Topic 2:

France Critical study of the prospective evolution regarding the demand of fluorinated compounds in developing countries and new approaches (Translation of the French, title: Etude critique des évolutions prospectives en matière de composés fluorés dans les pays en développement et nouvelles propositions).
Prof. Piganiol, Université de Paris.

ANNEX III

PROGRESS REPORT BY THE UNITED STATES

The following papers have been announced to the United States of America to date:

Topic 1: Current CFC patterns:

a) Federal Republic of Germany

Dr. Wolfgang Gierke
Referat UII 2
Bundersministerium Des Innern
Grauheindorfer Strasse 198
Postfach
5300 Bonn 1
011-49-(228)-681-4480

b) Sweden (with other Nordic countries)

Rune Loenngren, Pharm. D.
National Products Control Board
Box 1302
S-171 25 Solina, Sweden
08-799 10 00

c) United States

1. Historical CFCs production data.
2. Comparison of U.S. engineering standards with EC Code of Practice.

d) EC

1. Intends to contribute to lead country efforts.

Topic 2: CFC projections:

a) Canada

1. Analysis of long term CFC demand

b) Federal Republic of Germany

1. CFC use projections
2. CFC substitutes

Dr. Wolfgang Gierke
Referat UII 2
Bundesministerium Des Innern
Grauheindorfer Strasse 198
Postfach
5300 Bonn 1
011-49-(228)-681-4480

c) Japan

1. Forecasts of CFC production, use and export for 5 to 10 years.

Kaname Ikeda
Science Counselor
Embassy of Japan
2520 Massachusetts Avenue, NW
Washington, DC 20008
(202) 234-2266

d) Sweden (with other Nordic countries)

1. Conditions relevant to CFC demand.
2. Short and long term projections of CFC use and emissions.

Rune Loenngren, Pharm. D.
National Products Control Board
Box 1302
S-171 25 Solina, Sweden
08-799 10 00

e) United Kingdom

1. Long run CFC projections

D. L. Perridge
Department of the Environment
Room A315
Romney House
London, England

f) United States

1. Market period projections
2. Econometric period projections
3. Contingency period analysis
4. Summary of population and GNP growth projections
5. Fluorspar availability
6. Capacity constraints and cost of expansion
7. Toxicity of CFC substitutes
8. Comparative analyses of growth in analagous products.

g) European Federation of Aerosol Associations

1. "Fluorocarbon Usage in Aerosol: A Trend Study, 1984-1995"

Mr. Pierre Costa, Secretary General
European Federation of Aerosol Associations (FEA)
49 Square Marie-Louise
B-1040 Bruxelles (Belgium)
Telex 23167 (For FEA)

h) CEFIC

1. "Halocarbon Trend Study, 1983-1995"

Dr. J.F.D. Mills
c/o ICI Mond Division
P. O. Box 13
The Heath
Runcorn
Cheshire Way 4QF, England
Telex 629655 ICI MOH G

i) EC

1. Intends to contribute to lead country efforts

Topic 3: Effects of current regulations:

a) United Kingdom

1. Economic consequences of aerosol bans
2. Economic consequences of production capacity caps
3. Other papers are possible.

D. L. Perridge
Department of the Environment
Room A315
Romney House
London, England

b) United States

1. Retrospective aerosol ban study
2. Reductions in capacity since 1974

c) EC

1. Contribution to lead country

Topic 4: Technical controls:

a) United States

1. Technologically available options
2. Long run control technologies

b) 1. List & evaluation of technological options

Mr. C.F.P. Bevington
Metra Consulting Group Ltd.
1 Queen Anne's Gate
London, SW 1H 9BT - UK
01-222 9871

Topic 5: Other perturbants

- a) United States
 - 1. Brominated compounds
 - 2. Chlorinated compounds
 - 3. CO
 - 4. CO₂
 - 5. Methane and N₂O

Topic 6: Regulatory strategies

General topic:

- a) Australia
 - 1. Paper either for 6A or 6D
- b) Canada
 - Vic Baxton
- c) Sweden
 - Rune Loenngren, Pharm. D.
 - National Products Control Board
 - Box 1302
 - S-171 25 Solina, Sweden
 - 08-799 10 00
- d) United Kingdom
 - 1. Evaluation of aerosol bans
 - 2. Evaluation of production capacity caps
 - D.L. Perridge
 - Department of the Environment
 - Room A315
 - Romney House
 - London, England

Other Topics:

- *** a) Effect on demand, production and emissions
- a) Japan
 - Kaname Ikeda
 - Science Counselor
 - Embassy of Japan
 - 2520 Massachusetts Avenue, NW
 - Washington, DC 20008
 - (202) 234-2266

b) United States

1. Alternative control strategies
*** b) Effect on the atmosphere

c) United States

1. Uses of atmospheric models and uncertainty analysis

d) British Aerosol Manufacturer's Association

1. Effects of controls on atmosphere

Prof. Guy Brasseur
Institut d'Aeronomie Spatiale de Belgique
3, avenue Circulaire
1180 Bruxelles - Belgique
02-375 24 62 ext. 755

- *** c) Cost-effectiveness

a) United Kingdom

1. Possible paper

D.L. Perridge
Department of the Environment
Room A315
Romney House
London, England

b) United States

1. Methodology
*** d) Equity, trade and implementation

a) Japan

1. Impartiality, trade and implementation

Kaname Ikeda
Science Counselor
Embassy of Japan
2520 Massachusetts Avenue, NW
Washington, DC 20008
(202) 234-2266

b) United Kingdom

1. Economic efficiency, equity, effectiveness and enforcement.

D.L. Perridge
Department of the Environment
Room A315
Romney House
London, England

c) United States

1. Fairness, trade and effectiveness

Countries Considering General Papers for Workshops

a) Colombia

Dr. Luis Jaramillo
Ingeoinas
Diagonal 53 No. 34-53
Bogota, Colombia
Phone: 221-8471

b) Malaysia

Abdul Bakar Jaffar
Department of the Environment
Malaysia

ANNEX IV

PROGRESS REPORT BY THE UNITED KINGDOM

1. DESCRIPTIONS OF PAPERS ON TOPIC 3:

- a) For the papers offered by Canada, EEC, Italy, Japan, Norway and USA no details are available beyond those notified by telex to fellow SC members and included in SC2/5.
- b) Sweden's paper, which will take account of format (attached) suggested by the U.K. is described:

The paper will cover Swedish experience as to changes in the use of CFCs in aerosols, availability of alternative products or technologies, economic impact on society (to the extent possible), and administrative and legal methodology.

- c) The UK papers are more fully described:

- i) The economic consequences of an aerosol ban

The paper will briefly resume the features of a product-based system of regulation before outlining a coherent framework for assessing the economic costs of an aerosol ban. Basing itself on published studies the paper will estimate the costs of the aerosol ban in the United States and elsewhere, if information is available. Estimates will be made of the costs of extending the ban to other nations, taking account of induced, secondary effect in other markets for CFCs.

- ii) The economic consequences of a production capacity limitation

The paper will briefly resume the features of a production capacity limitation as a system of regulation before outlining a coherent framework for assessing the associated economic costs. The paper will estimate the costs of the limitation in the United Kingdom and elsewhere if the information is available and of extending it to other nations.

2. DESCRIPTION OF PAPERS ON TOPIC 6c

- a) For the papers offered by Italy, Japan and Sweden no further details are available.
- b) The UK papers described in paragraph 3 above will also apply in part to Topic 6c.

c) The USA paper is more described as:

The US intend to develop a methodology and paper related to this topic based on a model currently being developed; this model will integrate demand estimates control costs and effectiveness, atmospheric effects, and health and environmental effects related to increased UV-B exposure and climate change. The US hope to have documentation of this model available for review well before the September 1986 meeting. The US are developing the model in a way that assumptions and inputs can easily be used to examine a full range of economic and scientific uncertainties.

TOPIC 3

"Under the regulations or guidelines applied to date, review of the costs and effects in terms of changes in production, use, emissions, production capacity and trade in CFCs and the demand for other products."

It is suggested that papers under this topic should cover the areas listed below. It would also be helpful if papers were to follow a standard format to help the presentation of papers at the workshop. It was agreed at the first session of the Steering Committee for the workshop that individual papers should not exceed 20 pages in length with any necessary supporting information being attached as annexes. It is suggested that only one paper is produced on each regulation or guideline and that this follows the format shown below. This list is not intended to be exclusive.

- a) A one paragraph summary of the paper.
- b) Description of the regulation or guidelines covering:
 - the nature and level of the control;
 - when it came into effect and how it was implemented;
 - any mechanism for review or amendment including any system for monitoring and collecting data on the control.
- c) Description of the impact of the regulation or guideline covering:
 - i) the effect on costs:
 - to the CFC producing industry;
 - to the user industries by use;
 - to non-industrial consumers, by product, due to higher product prices, etc.
 - ii) the effect on:
 - production;
 - use by type of use;
 - emission, specifying if these are reductions or delays in emission, where they occur and why;
 - production capacity;
 - trade in CFCs and user industry, products;
 - demand for other products, either as substitutes for CFCs, or due to changes in techniques and technology brought about by the regulations or guidelines;
 - research and development, its nature, level and aims.

Throughout the paper the basis for any estimates should be included.

PAPERS FOR TOPIC 3

- From Canada Paper promised, title unavailable.
- From EEC Paper will cover present ten community countries (undertaken by METRA).
- From Italy Economic aspects of CFC regulation (by Professor Rolando Valiane).
- From Japan Costs and effects in terms of changes in production etc. of CFCs and the demand for other products under the present regulation and guidelines.
- From Norway Cost benefit or cost effect analyses of the Norwegian prohibition of the use of CFCs as propellant in aerosol cans or the like.
- From Sweden Cost and effects of current regulations on aerosols in Sweden.
- From United Kingdom Two papers. The economic consequences of an aerosol ban. Also the economic consequences of a production capacity limitation (both by George Yarrow).
- From United States Retrospective analysis of the costs and effectiveness of limiting the use of CFCs in non-essential aerosols.
- Possible paper based on rand study of regulatory options.

PAPERS FOR TOPIC 6C

- From Italy Economic aspects of CFC regulations (by Professor Rolando Valiane)
- From Japan Analysis of costs and economical effects of various possible regulatory strategies.
- From Sweden Paper promised but title not yet available.
- From United Kingdom Two papers. Evaluation of alternative regulatory controls by George Yarrow, and evaluation of the overall economic effect of possible CFC control strategies (by Adrian Sinfield).
- The UK papers for Topic 3 will also be related to this topic.
- From United States Methodology and paper integrating demand estimates, control costs and effectiveness, atmospheric effects, and health and environmental effects.
- From the Federation of European Aerosols Association Paper promised.
Title not yet available.

DESCRIPTION OF UKs PAPER FOR TOPICS 2 AND 4

1. The title of this paper was notified by telex to the US. The paper is more fully described:

The use for policy purposes of very long run economic projections

- i) This will be a short paper considering very long run forecasts of economic variables in general and as applied to CFC output projections.
- ii) It will comprise three parts:
 - a) A general description of the nature of economic systems stressing three factors of particular importance to very long run forecasts: the centralising of existing relevant information, economic innovations, and adaptation of new information.
 - b) An analysis of extrapolative methods and comparisons, based on published studies, between projections and out-turn.
 - c) An outline of what a forecaster needs to know to construct long-run projections of CFC production.

2. For Topic 2 the FEA are supplying a paper.

Fluorocarbon used in aerosols - a trend study 1984-1995 in member countries of the EEC.

This paper will compare predicted growth patterns in aerosol production and in the use of Fluorocarbons as aerosol propellants for the European Economic Community between 1984, 1990 and 1995. The figures used will be an estimate of actual production in 1984 and expert views on changes which can be expected in the forecast years.

The paper will highlight differences in growth which can be expected between various products packed in aerosol form and also the effects of other factors such as pack size and the reliance which is put on fluorocarbon propellants in different sectors of the markets.

The disparity between unit growth and fluorocarbons usage will be shown.

3. The description of the BAMA paper for Topic 4 is attached.

BRITISH AEROSOL MANUFACTURERS' ASSOCIATION
SOCIO ECONOMIC CFC WORKSHOP UNDER UNEP AUSPICES

Paper for Submission under Topic 4

Author/Sponsor: BAMA
Co-ordinating Authority: EEC

Title: "Alternatives to CFCs in aerosols and their Potential costs/benefits"

Synopsis: Introduction: Review of the methods by which the UK industry has achieved at least a 30% reduction on the usage of CFCs 11 and 12 in aerosols based on the year 1976 at a time when production has exceeded the 1976 level.

Blending CFCs with hydrocarbons: The system of the blending will be described. The capital costs, amortisation and increased handling costs will be quantified and set against the cost of a less costly feedstock. The quality of the ensuing products compared with total substitution will be discussed.

Substitution by Dimethylether: The small scale experience of this route will be discussed with some estimate of the increased capital cost in handling this material. An evaluation of product performance and suitability of application of this technology will be made.

ANNEX V

TERMS OF REFERENCE

The aim of the meeting is to bring technical experts of the following kinds and delay in the following subjects to develop a basis for understanding the CFC and Ozone issues:

Workshop: Parts I and II

Economics
Engineering
Chemicals
Technological change
Statistics
Population
Trade
Production infrastructure
Minerals Supply (flurspar)
Control technologies
Manufacturing products
Forecasting
Product Specialists (Eng. Refrigeration, Foam blowing)
Nodeling
Impact Analysts
Development planning
Trace gas estimation
Atmospheric science

Workshop: Part II (Additional Disciplines)

Lawyers
Trade Specialists
Administrative Specialists
Managers
Policy makers

ANNEX VI

PEER REVIEW PROCESS

Each contributor shall have its paper(s) peer reviewed by at least one appropriate qualified expert.

For example, a paper on the subject demand for CFCs' could be reviewed by an economist or marketing researcher.

The reviewer should be asked to review the validity of the technical approach, and whether the conclusions were based on the information presented. The reviewer should also be asked to make any additional points considered necessary. To the extent possible, the papers should be revised by the contributors as necessary taking account of serious reservations by the peer reviewer.

The name of the peer reviewers should be attached at the end of the paper, with a statement as to whether he thinks the paper is worthy of publication.

