

OPEN-ENDED WORKING GROUP OF THE PARTIES
TO THE MONTREAL PROTOCOL ON SUBSTANCES
THAT DEplete THE OZONE LAYER

Twenty-first meeting
Montreal, 24-26 July 2001

THE CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN PARTIES
OPERATING UNDER PARAGRAPH 1 OF ARTICLE 5

Draft decision proposed by the European Community

Mindful that the consumption of hydrochlorofluorocarbons should be avoided where other more environmentally suitable alternative substances or technologies are available,

The Thirteenth Meeting of the Parties decides:

To request the Technology and Economic Assessment Panel,¹ after consulting all the relevant entities and reviewing the relevant documents, to:

- (a) To assess the quantitative patterns in the overall and sector-specific consumption of hydrochlorofluorocarbons by Parties operating under paragraph 1 of Article 5 during the period 1995-2000 and to estimate the trends for the period 2001-2010;
- (b) To assess the existing and future availability of non-hydrochlorofluorocarbon alternative substances or technologies to chlorofluorocarbons and to note in particular where sector-specific alternatives are not yet available;
- (c) Using the information obtained in paragraphs (a) and (b), to evaluate technological, environmental, economic and other factors that could influence the ability of these Parties to comply with several hydrochlorofluorocarbons control scenarios to be designed by the Panel including the current control schedule under the Montreal Protocol, while also taking into account decision XI/28;
- (d) To evaluate the impact of each scenario reported in paragraph (c) on the phase-out of chlorofluorocarbons in Parties operating under paragraph 1 of Article 5, including the other elements in paragraphs (a) and (b), to report progress in 2002 and to submit a final report by 30 April 2003 to enable the Parties to consider any further adjustment at the meeting of the Open-ended Working Group in 2003.

¹ See attached explanatory text.

EXPLANATORY TEXT

The Explanatory Text pertains only to this study being undertaken by TEAP, it is without prejudice to future decisions that the Parties might consider and it has no legal standing. The Text is not part of the final Decision and is provided here in order to provide a broader understanding of the intent of each paragraph.

PREVIOUS DECISIONS

Previous Decisions have not specifically focused on obtaining information on the impact of a proposed control measures on HCFCs, particularly their impact on developing countries. The relevant decisions are listed in full at the end of the explanatory text. Many of the earlier reports were based on information accumulated prior to 1994 and they are no longer as relevant as there have been many more alternatives to CFCs and HCFCs commercialised since this time.

These previous decisions can be summarised as follows:

Decision III/12 (Nairobi 19-21 June 1991): Requested the Assessment Panels determine the implications of a 1997 phase out of controlled substances in particular for developing countries; the use of transitional substances in assisting the phase out; and the timetable, costs etc for the phase out of transitional substances.

Decision IV/30 (Copenhagen 23-25 November 1992): Evaluation of alternative substances for the specific uses of HCFCs, identify where alternatives are not available and determine the uses of HCFCs by A5s; the need for an HCFC regulation for A5's consumption of HCFCs; continued MLF funding of HCFCs as replacements for CFCs; and ExCom to report the amount of HCFCs being used by A5s and to update this annually.

Decision V/8 (Bangkok November 1993): Each Party is to consider, in their selection of alternatives to HCFCs, the best alternative with respect to environment, human health and safety, technology, commercialisation, performance, and economic factors; and TEAP is to report annually on the best options.

Decision VI/13 (Nairobi 6-7 Oct 1994): TEAP was asked to report on NIK, IK and alternative technologies for HCFCs and how alternatives compare with respect to energy efficiency, TGWI, flammability, toxicity and the potential impact on the effective use of CFCs and halons.

Decision VIII/13 (San José 25-27 Nov 1996): UNEP was asked to list the possible HCFC sector-specific applications and TEAP provided alternatives that were sector-specific. These results were reported in TEAP 97 (Vol 1) (copy of relevant section attached) and in Montreal MOP in 1997.

Decision XI/28 (Beijing 29 Nov – 3 Dec 1999): TEAP was asked to report by 2003 or sooner on potential problems and options facing A5's that require HCFCs due to a freeze in non-A5(1)s in 2004, especially with respect to quantity, quality and price.

DESCRIPTION OF THE INTENT OF EACH PARAGRAPH

All control measures are subject to review by the Parties on the basis of alternatives becoming available to replace ozone depleting substances and, when implemented, promote the recovery of the ozone layer.

The general concept of this draft Decision is to firstly determine the quantity of HCFCs consumed by a range of Article 5(1) Parties, looking into the past and to the near future. Secondly, to determine non-HCFC alternatives to CFCs available now and in the near future. Thirdly, to examine the ability of Article 5(1) Parties to comply with several control measure scenarios, the first being the existing scenario of freeze in 2016 and phase out in 2040. All scenarios end with 2040, but the freeze date and 'step downs' to 2040 will vary in each scenario. Finally, as the phase out of CFCs is a very important target for Article 5(1) Parties, TEAP is requested to specifically report on the likelihood of each scenario disrupting the phase out of CFCs.

Para 1a: This paragraph requests that TEAP determine quantitative patterns in sector-specific HCFC consumption for A5(1) Parties in the period 1995 to 2000. The year 1995 corresponds to the period when the bulk of non-HCFC alternative MLF-funded projects commenced. The Decision also requests TEAP estimate future trends in HCFC consumption until 2010 when A5(1) Parties are scheduled to eliminate consumption of CFCs. There period between 1995 to 2010 in effect represents the period of greatest potential for HCFC deployment.

Since it will not be possible to include all developing countries in the report, TEAP may wish to consider a number of Parties representative of a range of HCFC consumption – low, medium and high. A trend-based analysis is important for assessing changes in consumption over time and to avoid information biased by one or two years examination.

TEAP may also wish to consider other reports such as a Swedish report on HCFCs submitted to ExCom entitled "A Country Driven Approach to the Phaseout of Ozone-Depleting Substances in Developing Countries" prepared by R. Rasmussen *et al.* and published in 2001.

Para 1b: For these same sectors and Parties selected by TEAP for assessment in paragraph a), to quantify where possible to what extent CFCs and HCFCs are being replaced by alternative substances or technologies. Some Article 5(1) Parties may select HCFCs instead of other alternatives to CFCs and in these instances it would be useful to understand the reasons for this selection.

TEAP should seek to obtain information from appropriate sources including staff in National Ozone Units, consult case study reports on non-HCFCs alternatives as well as reports of workshops and study tours that address alternatives to CFCs and HCFCs. A list of information sources should be provided with the report.

Para 1c: Based on the information derived from the Parties selected by TEAP for assessment in paragraph a) and b), TEAP is requested to generate 3 or 4 control scenarios and then to evaluate technological, environmental, economic and other factors that could affect the ability of these Parties to comply with each scenario.

The current control scenario is freeze in 2016 and phase out in 2040. TEAP may wish to select several other scenarios each consisting of a freeze date, step-down dates and a phase out date of 2040. The analysis needs to consider the ability of the Parties chosen in paragraph a) to comply with each control scenario, based on technological, environmental, economic and other factors.

It would be helpful if TEAP integrated the information from Decision XI/28 with the information that will be obtained for this current draft Decision.

Para d: Reporting by TEAP would consist of a Progress Report at the OEWG in 2002 and then submission of the final report for consideration at the first OEWG in 2003.

PREVIOUS DECISIONS ON HCFCs INVOLVING TEAP

Decision III/12: Assessment Panels

The *Third Meeting of the Parties* decided in *Dec.III/12*:

- (a) to request the Assessment Panels and in particular the Technology and Economic Assessment Panel to evaluate, without prejudice to Article 5 of the Montreal Protocol, the implications, in particular for developing countries, of the possibilities and difficulties of an earlier phase-out of the controlled substances, for example of the implications of a 1997 phase-out;
- (b) taking into account the London Resolution on transitional substances (Annex VII to the report of the Second Meeting of the Parties to the Montreal Protocol) [*See Section 2.11 in this Handbook*] to identify the specific areas where transitional substances are required to facilitate the earliest possible phase-out of controlled substances, taking into account environmental, technological and economic factors, where no other more environmentally suitable alternatives are available. The quantities likely to be needed for those areas of application currently served by transitional substances shall both be assessed;
- (c) to request the assessment panels to identify the transitional substances with the lowest potential for ozone depletion required for those areas and suggest, if possible, a technically and economically feasible timetable, indicating associated costs, for the elimination of transitional substances;
- (d) to request the assessment panels to submit their reports in time for their consideration by the Open-ended Working Group with a view to their submission for consideration by the Fourth Meeting of the Parties;
- (e) to endorse Decision II/2, paragraph 2, of the Second Meeting of the Conference of the Parties to the Vienna Convention.

Decision IV/30: Hydrochlorofluorocarbons (HCFCs)

The *Fourth Meeting of the Parties* decided in *Dec.IV/30*:

1. to request the Technology and Economic Assessment Panel:
 - (a) to evaluate alternative substances and technologies to the application for HCFCs as refrigerant and as insulation gas in rigid foam;

- (b) to identify other applications for HCFCs, if any, where other more environmentally suitable alternatives or technologies are not available; and
 - (c) to submit its findings to the Open-ended Working Group of the Parties to the Montreal Protocol no later than 31 March 1994;
2. to request the Open-ended Working Group to consider the report of the Technology and Economic Assessment Panel with respect to HCFCs; to consider the possible need for specific provisions for the implementation of the regulation on the applications for HCFCs, taking into account the special circumstances of Parties operating under paragraph 1 of Article 5 of the Protocol; and to make any appropriate recommendations for consideration by the Parties at their Meeting in 1994 and following subsequent reviews taking place under Article 6 of the Protocol;
 3. to ensure that, notwithstanding the new status of HCFCs as controlled substances, the incremental costs to Parties operating under paragraph 1 of Article 5 of the Protocol of making the transition from CFCs to HCFCs consistent with the regulation on the applications for HCFCs will continue to be met by the Fund and to request the Executive Committee to function in the light of this decision;
 4. to request the Executive Committee to estimate, on an ongoing basis, the amount of HCFCs required by Parties operating under paragraph 1 of Article 5 of the Protocol and to recommend the methods of meeting such needs in full, simultaneously with the exercise to estimate the amounts of controlled substances needed, as well as to estimate the production available to meet those needs, as requested by the Open-ended Working Group at its seventh meeting.

Decision V/8: Consideration of alternatives

The *Fifth Meeting of the Parties* decided in *Dec.V/8*:

1. That each Party is requested, as far as possible and as appropriate, to give consideration in selecting alternatives and substitutes, bearing in mind, *inter alia*, Article 2F*, paragraph 7, of the Copenhagen Amendment regarding hydrochlorofluorocarbons, to:
 - (a) Environmental aspects;
 - (b) Human health and safety aspects;
 - (c) The technical feasibility, the commercial availability and performance;
 - (d) Economic aspects, including cost comparisons among different technology options taking into account:
 - (i) All interim steps leading to final ODS elimination;
 - (ii) Social costs;
 - (iii) Dislocation costs, etc.
 - (e) Country-specific circumstances and due local expertise;
2. To note that the Executive Committee is taking the above considerations into account as far as information is available;
3. To request the Technology and Economic Assessment Panel and its Technical Options Committees in the context of finalising its report, to provide information on which alternatives and substitutes best satisfied the above considerations, and to update this information on an annual basis;

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*From Copenhagen Amendment (1992):

7. As of 1 January 1996, each Party shall endeavour to ensure that:
- (a) The use of controlled substances in Group I of Annex C is limited to those applications where other more environmentally suitable alternative substances or technologies are not available;
 - (b) The use of controlled substances in Group I of Annex C is not outside the areas of application currently met by controlled substances in Annexes A, B and C, except in rare cases for the protection of human life or human health; and
 - (c) Controlled substances in Group I of Annex C are selected for use in a manner that minimises ozone depletion, in addition to meeting other environmental, safety and economic considerations.

Decision VI/13: Assessment Panels

The *Sixth Meeting of the Parties* decided in *Dec.VI/13* to request the Panels, as an inclusion in their ongoing work, to evaluate, without prejudice to Article 5 of the Montreal Protocol, the technical and economic feasibility, and the environmental, scientific, and economic implications for non-Article 5 countries, as well as Article 5 countries, bearing in mind Article 5, paragraph* 1 *bis*, of the Copenhagen Amendment, of:

- (a) The alternatives to hydrochlorofluorocarbons in so doing, the Technology and Economic Assessment Panel is requested to consider the ozone-depleting substance substitution potential of not-in-kind alternatives, in-kind alternatives, and alternative technologies. In assessing this matter, the Technology and Economic Assessment Panel should consider how available alternatives compare with hydrochlorofluorocarbons with respect to such factors as energy efficiency, total global warming impact, potential flammability, and toxicity, and the potential impacts on the effective use and phase-out of chlorofluorocarbons and halons; in time for consideration by the Open-ended Working Group at its eleventh meeting;
- (b) Alternatives to methyl bromide, in time for consideration by the Open-ended Working Group at its eleventh meeting;

In considering these matters, the Scientific Assessment Panel shall consider, if possible, atmospheric chlorine and bromine loadings and their impact on ozone depletion. The Technology and Economic Assessment Panel and Scientific Assessment Panel evaluations shall be solely for the purpose of discussions by the Parties and shall in no way be construed as recommendations for action.

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*Copenhagen 1 bis paragraph:

1 *bis*

The Parties shall, taking into account the review referred to in paragraph 8 of this Article, the assessments made pursuant to Article 6 and any other relevant information, decide by 1 January 1996, through the procedure set forth in paragraph 9 of Article 2:

- (a) With respect to paragraphs 1 to 6 of Article 2F, what base year, initial levels, control schedules and phase-out date for consumption of the controlled substances in Group I of Annex C will apply to Parties operating under paragraph 1 of this Article;

- (b) With respect to Article 2G, what phase-out date for production and consumption of the controlled substances in Group II of Annex C will apply to Parties operating under paragraph 1 of this Article; and
- (c) With respect to Article 2H, what base year, initial levels and control schedules for consumption and production of the controlled substance in Annex E will apply to Parties operating under paragraph 1 of this Article.

Decision VIII/13: Uses and possible applications of hydrochlorofluorocarbons (HCFCs)

The *Eighth Meeting of the Parties* decided in *Dec. VIII/13*:

1. That UNEP distribute to the Parties of the Montreal Protocol a list containing the HCFCs applications which have been identified by the Technology and Economic Assessment Panel, after having taken into account the following:
 - (a) The heading should read “Possible Applications of HCFCs”;
 - (b) The list should include a chapeau stating that the list is intended to facilitate collection of data on HCFC consumption, and does not imply that HCFCs are needed for the listed applications;
 - (c) The use as fire extinguishers should be added to the list;
 - (d) The use as aerosols, as propellant, solvent or main component, should be included, following the same structure as for other applications;
2. That the Technology and Economic Assessment Panel and its Technical Options Committee be requested to prepare, for the Ninth Meeting of the Parties, a list of available alternatives to each of the HCFC applications which are mentioned in the now available list.

Decision XI/28: Supply of HCFCs to Parties operating under paragraph 1 Article 5 of the Protocol

The *Eleventh Meeting of the Parties* decided in *Dec. XI/28* to request the Technology and Economic Assessment Panel to study and report by 30 April 2003 at the latest on the problems and options of Article 5 Parties in obtaining HCFCs in the light of the freeze on the production of HCFCs in non-Article 5 Parties in the year 2004. This report should analyse whether HCFCs are available to Article 5 Parties in sufficient quantity and quality and at affordable prices, taking into account the 15 per cent allowance to meet the basic domestic needs of the Article 5 Parties and the surplus quantities available from the consumption limit allowed to the non-Article 5 Parties. The Parties, at their Fifteenth Meeting in the year 2003, shall consider this report for the purpose of addressing problems, if any, brought out by the report of the Technology and Economic Assessment Panel.
