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# Report of the Informal Working Group of Experts on Financial Mechanisms for the Implementation of the Montreal Protocol Geneva, 3-7 July 1989

## A. INTRODUCTION

1. The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer at their first meeting in Helsinki (2-5 May 1989) decided in Decision 5:

> to establish an open-ended working group to, inter alia, work out the modalities required by Decision 13.

The Parties decided in Decision 13:

(a) "To recognise the urgent need to establish international financial and other mechanisms to implement article 5, paragraph 2 and 3 in conjunction with articles 9 and 10 of the Montreal Protocol and to enable developing countries to meet the requirements of the present and a future strengthened Protocol, thereby addressing the ozone depletion and related problems."

(b) "To establish an open-ended working group of the Contracting Parties to develop modalities for such mechanisms which do not exclude the possibility of an international fund and to report the results of their deliberations to the Parties at their second meeting."

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2. An open-ended working group will be convened from 21-25 August 1989 at the UNEP Headquarters in Nairobi to develop modalities for financial and other mechanisms to enable developing countries to meet the requirements of the Montreal Protocol.

3. In preparation for this Open-ended Working Group, an informal meeting meeting of experts (from World Bank, UNDP, UNCTAD, EEC and some experts in their personal capacity) was convened from 3 to 7 July 1989 at the UNEP Regional Office for Europe, Geneva, to discuss the basis, nature and scope of financial mechanisms. The meeting was held under the chairmanship of Mr. Y.J. Ahmad, UNEP. The list of participants is attached as Annex I to this report.

## B. RATIONALE

4. Concern over the likely impact of atmospheric pollutants on the stratospheric ozone is a significant item on the world environment agenda. To address the problem of the ozone layer depletion the world community adopted in March 1985 The Vienna Convention for the Protection of the Ozone Layer, and in September 1987 The Montreal Protocol on Substances that Deplete the Ozone Layer. The latter has currently 46 signatories of whom 39 are Parties. Current theories suggest that protection of stratospheric ozone requires the phasing out of a series of man-made chemicals, especially CFCs. This would ensure that future generations would inherit a biosphere with assets and conditions that are as productive and healthy as the ones currently available in accordance with the basic objective of sustainable development.[1]

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1. World Commission on Environment and Development. "Our Common Future", Oxford University Press, 1988.

5. The use of CFCs and halons in certain production processes results in these substances being emitted into the atmosphere, where they have a residence time of around 100 years, long enough to allow their drift to the stratosphere. Here, they are responsible for damage to the ozone layer, thus allowing more of the harmful ultraviolet radiation to reach the earth. The consequences of this would include increase in the incidence of eye cataracts, skin cancers, impairment of natural immunity systems and climatic effects. Thus, in permitting further emissions of CFCs and halons, mankind would be creating an environmental hazard that is truly global and potentially devastating.

6. The present requirement of the control measures under the Montreal Protocol include:

(a) that developed countries would reduce by 50% of 1986 levels, the calculated levels of consumption of the controlled CFCs by 30 June 1999 and also freeze halon consumption[2] at 1986 levels by 1 February 1992.

(b) developing countries were allowed to delay their compliance with the above regulations for a period of 10 years during which they could increase their consumption of CFCs up to a limit of 0.3 kg/capita/year "for its basic domestic needs".

7. In accordance with Article 6 of the Montreal Protocol, the control measures in the Protocol are currently being reviewed based on the findings of the assessment panels established under that Protocol. As reflected in the Helsinki Declaration of May 1989, many countries now support the total phase out of CFCs and halons by the year 2000. The likely amendments of the control measures are: (a) an 85% reduction in CFCs by 1998 and (b) a complete phase out by 2000. However, a very small level of emissions (about 2% of current levels) would be inevitable for production processes in which the use of CFCs is essential.

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2. Consumption here means production + imports - exports. The percentage reductions and the consumption restrictions apply to the 1986 levels.

8. As far as developing countries are concerned, there are very few who have ratified the Protocol (only 10 out of the 124 countries generally classified in this category). Furthermore, the major producers and users of CFCs among the developing countries (Brazil, China, India, South Korea, etc.), are not signatories to the Protocol. For the Protocol to be fully effective in its purpose of controlling the emissions of CFCs and halons, all countries must become Parties.

9. The following questions need to be addressed in order to develop modalities for financial mechanisms to enable the developing countries meet the requirements of the Montreal Protocol:

(a) What are the costs to the developing countries of participating in the Protocol?

(b) What institutional arrangements are appropriate for mobilizing technical and financial resources?

(c) What administrative organization and structure would most facilitate such a process?

This report provides an initial attempt at answering these questions. In many cases, however, there is simply not enough information for providing all answers at this stage. However, gaps have been identified, various options presented as far as practicable and recommendations made for further work, where appropriate.

## C. COSTS OF COMPLIANCE FOR DEVELOPING COUNTRIES

12. The costs of complying with the Protocol relate to the following reasons:

(a) Developing countries would have to acquire the requisite technology (including patents and royalties) from companies in developed countries to shift away from ozone-depleting CFC production;

(b) The use of non-depleting CFCs and CFC substitutes and associated capital equipment is often more expensive and would add to the foreign exchange burden in some developing countries;

(c) The purchase of goods and equipment made in developed countries that do not use CFCs may be more expensive; and

(d) There would be costs of transition to the changed production processes, including costs of training, retooling etc, now and in the future.

11. These costs would impinge on different countries in different degrees. Item (a) above would be particularly relevant to developing countries that are producers of CFCs - for example, Brazil, China, India and the Republic of Korea. Item (b) would particularly affect countries like Egypt that import CFCs for use in the domestic production of air conditioners, refrigerators and the like; and item (c) would affect countries which import the assembled equipment. Finally, item (d) affects all developing countries. It should be noted that many developing countries have future plans for development of such industries.

12. No serious attempt has been made to cost these items for developing countries. Clearly, the calculation is a complex one, including projections of demand for CFCs by country, as well as projections of the prices of CFCs and their substitutes. In addition, it should be noted that the costs of compliance will depend on what level of consumption of CFCs is permitted in these countries. This may seem obvious, but there is some doubt as to whether a period of 10 years when consumption is permitted at 0.3 kg/capita/year in these countries is environmentally acceptable (see para. 8(b) above and Article 5 of the Montreal Protocol). If a stricter regime is imposed, the cost will be correspondingly higher.

13. An initial "ball-park" figure presented to the Group for the costs of compliance by developing countries was about $400 million annually to the year 2000. This was taken from the Interim Report on Funding Mechanisms for Protecting the Global Atmosphere[3] prepared by McKinsey & Co. for the Dutch Government. It appears to be based on the following assumptions:

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3. Protecting the Global Atmosphere: Funding Mechanisms. Interim Report to Steering Committee for Ministerial Conference on Atmospheric Pollution and Climate Change (The Netherlands, 1989), McKinsey & Co.

(a) that the cost of substituting CFCs in the Netherlands is, on average, $4000/ton of CFC/year,

(b) that developing countries total production of CFCs is 108 kilo tons/year.

14. In the opinion of this group, this figure is not valid, even as an initial estimate for developing countries. First, the costs of reduction are taken from the Netherlands, which is not typical, and the kinds of changes required to meet the standards are very different in the developing countries from those in developed countries. Secondly, the reductions would be different in future years, when the potential use of CFCs in the developing countries is expected to grow and the prices of CFCs and their substitutes are expected to change. Thirdly, this does not take account of the transitional costs referred to in 12(d) above. For all these reasons, the costs of compliance could vary from this figure by a very considerable amount.

15. Since a more accurate estimate of this cost is critical to the institutional, financial and administrative steps that need to be taken, it is recommended that an attempt be made to obtain a more accurate assessment. Some basic information relevant to this already exists, but it needs to be evaluated. It would be useful if this could be done by a suitable consulting firm before the open-ended working group meeting in August 1989 (see para. 2). The co-operation of the developing countries is crucial in this connection. (The terms of reference for the work are attached as Annex II).

D. INSTITUTIONAL ARRANGEMENTS FOR TECHNICAL AND FINANCIAL ASSISTANCE

16. Noting the agreement in the Helsinki Declaration that appropriate funding mechanisms for the transfer of technologies should be developed, the group reviewed a number of such mechanisms, which are summarized below. Before considering these, it is useful to list four desiderata that the group identified as being relevant to the success of any financial institution that is selected.

17. The first point to be emphasized is that in the final analysis, what is required is a recognition of the global nature of the problem and the imperative of interdependence. The stakes are high for both the rich and the poor, the developed and the developing countries. It is essential that there should be a solid partnership between them if this crucial problem is to be solved. In this partnership an institution weighted in favour of the developed countries in terms of overall control would be unacceptable to the developing countries.

18. The second point is that the financial resources required for the compliance of the developing countries would be unacceptable to many of them if they were offerred on usual loan terms. In a sense, this is obvious: such terms are already available to many of these countries and they cannot afford taking advantage of them to comply with the Protocol. Another way of viewing this issue is to recognize that many developing countries argue strongly for transfer of resources on equity grounds. The justification for these transfers is that: (a) their costs of compliance with the Protocol are probably much higher relative to their benefits, as compared with those of the developed countries which, after all, have managed to use CFCs for long periods with no special cost imposed on them and (b) the magnitude of the present problem is very largely the result of CFC production in the developed countries.

19. The third point is that acceptability of this programme would be low if developing countries viewed the funding for it as reducing the funds available from the donor countries for general economic and social development purposes. In other words, it is important for this programme to be seen as additional to the existing aid programmes and not in lieu of part of them.

20. Finally, it is worth bearing in mind that the mechanism designed for this purpose could be a forerunner to the institution that would have to deal with the much larger problem of greenhouse gases in general. The latter would, of course, require much larger volumes of funding and would demand innovative financial instruments, such as a carbon tax. Nevertheless, the lessons learnt from dealing with CFCs would be extremely helpful in this regard.

21. Bearing these points in mind, we may envisage a number of institutional arrangements. The most straightforward of these would be a trust fund to which a number of the donor countries would pledge contributions. The Contracting Parties of the Protocol would form the council responsible for the overall policy management of the fund. This council would establish an executive board from its members, which would be supported by a financial and technical secretariat. The secretariat, which is discussed further in Section E, is envisaged as being quite small, but drawing upon consultants, and bilateral and multilateral agencies as and when required. A proposal along these lines is already being considered by some major developed countries. Hence, it has the merit of having some broad interest among the developed countries.

22. Two alternative schemes that might be worth considering are among those proposed by the World Resources Institute in conncection with a review of the potential scheme for funding investments in biodiversity[4]. The first is referred to as the International Environment Facility (IEF). Its functions include:

(i) to identify the unfunded part of the Third World's urgent conservation agenda;

(ii) to help arrange co-financing for overall project packages from multilateral, bilateral and private sector (corporations, foundations, NGOs) sources; and

(iii) to ensure concessionality of the funding blend in line with the economic rate of return of the project package.

As the name suggests, this would be an organization designed to facilitate the funding of capital in given areas. OECD governments and multilateral agencies would commit funds to finance projects identified through the IEF.

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4. The International Conservation Financing Project, World Resources Institutes, 1989.

According to their report, the IEF may be set up by a few leading bilaterals and multilaterals (founding sponsors) and may be housed at one of its sponsor multilateral organizations e.g. the World Bank. Its programme will be guided by a governing council which will include representatives of sponsor organizations and Third World governments. For IEF to be effective, its programme may start with a commitment for the first five years by the OECD governments to finance on the order of $3 billion in additional conservation projects. It would operate through expert staff, who would identify suitable projects and then 'persuade' the national governments and appropriate multilateral organizations to support them. The funds for doing this, however, would already exist within the budgets of these organizations.

23. The IEF is envisaged as an institution with a catalytic role that would enable it to:

(i) deliver various intermediary services to governments;

(ii) secure project finance from one or more sources;

(iii) build up international inventory of information relevant to conservation world-wide; and

(iv) set emergency action plans for critical "hot spots" that require immediate action.

The structure would differ significantly from the proposed trust fund mainly because, while the IEF would assist in project indentification, preparation and financing, the resulting financial transfers and project implementation activities would ultimately be the responsibility of the sponsoring national and international agencies.

Its Secretariat would be small but efficient, with staff combining technical and financial expertise.

24. A second scheme[5] put forward by the World Resources Institute is a Conservation Pilot Investment Programme (ECOVEST). This combines (i) a programme of conservation activities that are capable of generating flow of revenue, yet cannot readily attract private commercial capital or development finance, and (ii) an intermediary mechanism capable of securing financing by

5. See Footnote 4 of this page.

blending concessional (grant) funds, commercial finance and private direct investment. Its operation will demonstrate how a financial catalyst can contribute to sustainable development. Once the viability of the pilot project (first five year programme) has been shown, replication on a larger scale could be developed and incorporated in national development plans.

25. ECOVEST could be affiliated with an existing institution and have internal staff capabilities in fields of conservation project planning and design and of project financing and management.

26. The fourth type of institutional structure is detailed in a UNEP study[6]: an international financial corporation that would provide financing for anti-desertification projects with non-commercial rates of return, that are "incapable of bearing interest costs even on highly concessional terms presently available from IDA and similar financing institutions". The corporation is envisaged to have an equity capital (contributions from member countries); could borrow directly by issuing notes or bonds and could blend this with concessionary loans and grants. This will enable the corporation to combine hard and soft loans with grant funds. This corporation could be established as an affiliate or subsidiary of an existing institution (e.g. World Bank, OPEC, IFAD) or as an independent body.

E. ADMINISTRATIVE STRUCTURE

27. As far as the administrative structure is concerned, the group made the following observations:

(a) The institution would need a well qualified, competent secretariat that would be capable of providing technical and financial and legal advice and in appraising and monitoring programmes;

(b) Given the diverse nature of skills required, however, it would be better to keep the permanent professional staff of the secretariat small and draw on short term consultants and other international agencies' expertise as and when necessary; and

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6. Feasibility Studies on, and Detailed Modalities for Financing the Plan of Action to Combat Desertification, A/36/141.1 October 1981

(c) The staff would have to be experienced in their respective fields as well as having an understanding of the industrial problems of developing countries and of the practices and procedures of the donor agencies.

28. What remains to be determined for such a secretariat is:

(a) where it would be located;

(b) whether it would be under the administrative umbrella of some existing organization, or totally independent;

(c) on what terms it would operate and how it would disburse its funds; and

(d) what its acceptability would be among the developing countries.

## F. SUMMARY AND CONCLUSIONS

29. The hazards related to the depletion of the stratospheric ozone represent one of the environmental issues with global and potentially devastating dimensions. The world has started to address it through the Vienna Convention (1985) and the Montreal Protocol (1987). Implementation of these legal instruments requires a programme of action and mechanisms for managing and financing their implementation.

30. There is need for additional resources to assist developing countries to comply with the requirements of these international agreements. The costs the developing countries are likely to incur need to be estimated in order to determine the mechanisms required to mobilize and to transfer the necessary resources. A study will be conducted under UNEP to estimate these costs.

31. A mechanism designed for the implementation of an ozone related programme of action would be a forerunner for a more elaborate mechanism that would be needed to address the problems of greenhouse gases and climatic change.

32. Four possible institutional arrangements for providing financial support to developing countries are as follows:

(i) trust fund;

(ii) international environmental facility;

(iii) pilot investment programme; and

(iv) an international financial corporation.

The common feature of these mechanisms is the ability to finance the requirements of the developing countries as they adhere to the Vienna Convention and the Montreal Protocol.

# A N N E X I

## Meeting Expert Group on Financial Mechanisms
## Geneva, 3-7 July 1989

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ANNEX II

## ESTIMATING THE COSTS OF COMPLIANCE WITH THE MONTREAL PROTOCOL FOR DEVELOPING COUNTRIES

### Terms of Reference

#### Preamble

1. A key problem that has arisen with regard to the international attempts to control the emissions of CFCs has been the hesitation on the part of many developing countries in view of the costs involved to be Parties to the Montreal Protocol. Moreover, many of them are large potential producers of CFCs. Hence, their participation in the Montreal Protocol is critical to the long term success of that Protocol.

2. Within the Montreal Protocol and its follow-up meeting in Helsinki in May 1989, it has been explicitly acknowledged that developing countries are likely to incur substantial costs if they do ratify the Protocol and that they should be provided with technical and financial assistance. (Articles 5, 9 and 10 of the Montreal Protocol and Decision 13 of the Helsinki Meeting).

3. In order to assist this process, a working party of experts met in Geneva in July 1989 to identify the appropriate financial mechanisms for the provision of such assistance. Their report is attached to these terms of reference. However, one major problem they had was to obtain an estimate of the magnitude of the problem. How large would the transfer of funds have to be to assist the developing countries to meet the requirements of the Protocol? A very rough estimate provided by one consulting firm was $400 million a year. However, the basis of this estimate was unacceptable to the group of experts.

Objective

4. The objective of this study would be to provide an estimate of the order of magnitude of the costs of compliance with the Montreal Protocol for the developing countries. It is understood that a precise figure is well beyond the scope of a study conducted within the short time-frame proposed for this study. Hence, the aim here is to (a) identify the main legitimate items in the costs of compliance and (b) to give a very rough estimate of their cost.

5. The consulting firm would have access to the reports of the economic and other panel established under the Montreal Protocol as well as relevant information collected by UNEP. The firm would not be expected to gather new data. However, he would evaluate critically existing estimates and use them as appropriate.

6. The time available for the study is circumscribed by the need for an estimate before the meeting of an open-ended working group to be convened from 21 to 25 August at the UNEP Headquarters in Nairobi to develop modalities for financial and other mechanisms to enable developing countries to meet the requirements of the Montreal Protocol. Hence, the paper would have to be produced by the consulting firm by August 14th, 1989.