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1993 UNEP WORK PROGRAMME

This document includes:

- Comments from the Fund Secretariat
- 1993 UNEP Work Programme

**COMMENTS AND RECOMMENDATIONS
FROM THE FUND SECRETARIAT
ON THE 1993 UNEP WORK PROGRAMME**

SECRETARIAT'S COMMENTS

1. UNEP is requesting approval from the Executive Committee for its proposed 1993 Work Programme.
2. The Work Programme has the following main components:
 - Information exchange;
 - Training and networking;
 - Country programme preparation.
3. The cost of the activities for the 1993 calendar year is estimated at US \$2,204,200 including US \$253,600 programme support cost. The breakdown is as follows:

Information exchange	US \$805,000
Training and networking activities	770,000
Country programme preparation	90,000
Advisory group meeting	40,000
Ad hoc experts group meeting	70,000
Travel	100,000
Institutional strengthening in Zambia	75,600
Sub-total	<u>1,950,600</u>
13% programme support costs	<u>253,600</u>
TOTAL	<u><u>2,204,200</u></u>

4. The attached document provides detailed description of the proposed 1993 Work Programme.
5. The draft of the 1993 Work Programme was discussed at the Inter-Agency Co-ordination Meeting held at the Fund Secretariat from 4 to 5 February 1993 in relation to programmes of the other implementing agencies.

General Comments

6. The following comments on the 1993 UNEP Work Programme are based on the information provided in the attached document, discussions at the Inter-Agency Co-ordination Meeting, and exchanges between the Fund Secretariat and UNEP/IEPAC among others.

7. It has been recognized that information exchange and training are key elements for successful phase-out as envisioned by the Montreal Protocol. Consequently 40 training and demonstration activities in the various ODS sectors, costing more than \$4.5 million have been approved by the Executive Committee to be implemented at the national, regional and global levels. Some of these have been completed and should provide inputs for development of training strategies and materials. Furthermore, most of the approved investment projects have training programmes targeted at technicians at the plant level.

8. As an example the list below provides information on some of the approved training or demonstration activities in refrigeration at the national, regional and global levels.

Level	No of Approved Projects	Remarks
Country	8	Jordan (WB), Chile, China, Ecuador, Ghana, Kenya, Philippines (UNDP), Mexico, Venezuela (US EPA/UNDP)
Regional	12	Six in centrifugal chillers (UNDP) Six in MAC (UNDP)
Global	4	One each in refrigeration, MAC, Halon and Solvent (UNDP, World Bank) Cover several large ODS consuming countries in all regions.

9. A most important need at this point is to consolidate and synthesize information on these numerous training programmes with the view to providing co-ordination and translating outputs from them into a training strategy and training materials relevant to the Article 5 countries situation. The development of a training strategy which is proposed by UNEP, for instance, could be informed by these developments.

10. A well informed, cost-effective training in this complex situation should have as major prerequisites availability of a viable strategy and relevant training materials/manuals. It would therefore be appropriate at this point for UNEP to orient its activities in this direction in the short term. Hence it is proposed that the training strategy be developed, taking into consideration the following elements:

- training and demonstration activities approved by the Committee;
- feed-back from the agencies implementing training and demonstration activities;
- feed-back from the agencies while implementing investment projects;

- the established needs for training in a given country, subregion or region, which will necessitate some reconnaissance work to establish these needs.

11. With regard to networking it may be noted that to date, institutional strengthening projects, i.e. establishment of national focal points, have been approved for only eight Article 5 countries. Eight more have been recommended for approval at the Ninth Meeting. It may however, take several months before the national focal points are established. It may therefore be premature to start the networking at this time.

12. As a first step UNEP may establish a roster of focal points which are officially designated by their countries to act as such. This could streamline and facilitate communication between the Article 5 countries and the organs of the Multilateral Fund.

Specific Comments

Sectoral Training

13. Aerosol sector – In view of the nature of the phase-out activities in this sector plant level, project-related rather than regional training may be more cost-effective. Several Article 5 countries have phased-out the use of ODS in aerosol. Furthermore, all investment projects approved by, or being submitted for the consideration of the Executive Committee have training components. Emphasis should be on the production of the manual which could facilitate this phase-out. Evidence shows that economic incentives have driven the phase-out in this sector in several countries leading to voluntary phase-out by the companies, some even before the countries became Parties to the Protocol.

14. With regard to the Refrigeration Training for Asia and the Pacific Region, it is suggested that it be deferred pending the development of the training strategy as discussed in paragraphs 7-10.

Support to Regional or National Workshops

15. UNEP is proposing a regional workshop on halon and halon bank management to be held in Malaysia at the cost of US \$80,000. However, the following training activities in the halon sector for the Asia region have been approved and/or being conducted:

- workshop on halon substitutes and alternative technologies (China, June 1992) and study tours to U.S. halon research factories, which were organized with the support of US EPA;
- South-East Asia halon training workshop (Okinawa, Japan, March 1992) with the support of US EPA, attended by 40 participants from China, Fiji, Malaysia, Maldives, Philippines and Thailand;
- halon workshop follow-up with the support of US EPA including field-testing and demonstrating of recycling techniques (planned for 1993);

- UNDP is implementing Global Halon project at the cost of US \$390,000 which will develop six halon control system projects including development of training courses, demonstration recycling projects and six demonstration training workshops, presumably in Thailand, Philippines, Malaysia and China. An additional US \$250,000 was approved in support of this project for the purchase of halon recycling equipment.

It demonstrates that a lot of activities are going on in South-East Asia Region in the halon sector. The focused training strategy should be developed to get the maximum benefits from the resources allocated. Halon technical option Committee was requested by the Parties to evaluate the existing recycled bank management programmes and to identify possible means of further facilitating international recycled halon bank management. UNEP/IEPAC, in liaison with the other implementing agencies, was requested to function as clearing house in support of these activities. The Secretariat, therefore does not recommend inclusion of regional workshop on halon and halon bank management in the work programme at this time.

SECRETARIAT'S RECOMMENDATIONS

The Secretariat recommends as follows:

1. To approve the 1993 UNEP Work Programme;
2. To approve the amount of US \$1,673,080 including programme support cost of US \$192,480 for the following activities in the Work Programme:

Information exchange		US \$805,000
Training:		300,000
Training Materials	US \$200,000	
Development of Training Strategy	100,000	
Country programmes		90,000
Institutional strengthening in Zambia		75,600
Other:		210,000
Advisory Group Meeting	40,000	
Ad Hoc Experts Group Meeting	70,000	
Travel	100,000	
Sub-total		1,480,600
13% programme support costs		192,480
TOTAL		1,673,080

1993 UNEP WORK PROGRAMME

Under the Multilateral Fund

UNEP IE/PAC

FEBRUARY 1993

**PROPOSED 1993 UNEP WORK PROGRAMME
UNDER THE MULTILATERAL FUND
(February 1993)**

I - 1993 PROGRAMME OVERVIEW

This document describes the proposed Work Programme for 1993. It has been prepared taking into account:

- mandate given to UNEP IE/PAC as per the Protocol amended in London (Article 10) and Copenhagen (as per the Decision IV/18 Annex IX);
- experience and review of earlier Work Programmes;
- work programmes of other implementing agencies (UNDP and World Bank) as approved by Multilateral Fund;
- needs and requests from countries and regions, as well as the outcome of Regional Workshops and Country Programmes;
- guidelines given by the Executive Committee of the Multilateral Fund and projects approved by the Executive Committee;
- advice from the Informal Advisory Group.

Also, the Work Programme takes into account the new challenges of 1993 arising out of the following facts:

- phase-out dates are advancing rapidly;
- development of substitutes and technologies using them is proceeding rapidly in an attempt to keep pace with the accelerated phase-out dates;
- additional substances are controlled under the Protocol;
- alternatives to phase-out ODS need to be fully evaluated;
- participation of developing countries in the Protocol is growing rapidly and total global participation is imminent.

The results of the 1991-1992 Work Programmes show that there is no need to fundamentally change UNEP IE/PAC's approach, but to adapt the three components of the programme, i.e., dissemination of information, implementation of training/networking and country programme activities in more cost effective and co-ordinated way so that they contribute to faster elimination of significant tonnage of ODS. Coordination with other implementing agencies as well as

bilateral agencies will be further strengthened specifically in activities related to Information Exchange and Training/Networking.

To meet all these challenges, the more focused activities of the clearinghouse leading to substantial reduction in ODS have been envisaged in 1993. These would include, inter alia :

- * The continuation of the Information Exchange component to contribute to the necessary attitudinal changes and foster the decision-making process leading to decision in investments or activities to phase out ODS, through the dissemination of:
 - available options and their advantages/drawbacks in order to select the best alternatives to formulate the projects;
 - experience of others in order to effectively implement policies, activities and projects to phase-out ODS.
- * The strengthening of the Training/Networking component to impart skills that will enable Article 5 countries to :
 - make faster decisions to select ODS alternative solutions and technologies for the country specific needs;
 - catalyze the activities for the phase-out of ODS which, inspite of establishment of Fund, have not yet been initiated by the government and industry;
 - implement within the Protocol's time schedules the approved projects that will lead to substantial ODS-reduction.
- * Co-ordination with other implementing agencies (UNDP, UNIDO and World Bank) to:
 - synchronize the information and training needs with the investment decision;
 - avoid overlapping or duplication and ensure cost-effectiveness.

Apart from the substantive needs which are addressed in the 1993 Work Programme, the following elements have also been considered:

- trustworthy, unbiased and up-to-date information must be compiled and distributed rapidly and widely;
- information needs to be easily accessible, clearly understood;

- information requirement of other implementing agencies need to be integrated;
- activities undertaken in the framework of this Work Programme should catalyze action and projects in Article 5 countries;
- integrated and comprehensive training-strategy is needed to optionally utilize the resources and to coordinate the activities of the implementing agencies and bilateral initiatives;
- cascading effect is needed to utilize capacity built in one developing country in others, in order to achieve cost-effectiveness during the phase-out;
- regional and sub-regional approaches need to be developed for improved synergy and faster phase-out.

1. Content

(i) Information Exchange:

Maintain Information Collection

- continue data collection activities in all five industrial use sectors, accompanied by hardcopy and electronic (i.e., on-line and diskette) dissemination;
- strengthen the OzonAction library to act as repository of all the documents (training manuals, guidelines, etc.) prepared to implement ODS phase-out;
- compile and format the information on case-studies in developed countries and on projects approved by Executive Committee and being implemented by UNDP, World Bank and UNIDO in Article 5 countries;

Maintain Information Dissemination

- publish and disseminate the upgraded OzonAction newsletter, 6 pages long, translated into 5 languages, on a quarterly basis;
- continue query response service for Article 5 users using range of communication modes (telephone, fax, mail) including dissemination of diskettes, on-line system and mailing of hard copies of documents on alternative technologies, products, services, good-practices, legislations, etc.;
- implement *OAIC Pilot Project* for Article 5 countries to test effectiveness and understand barriers by way of training and getting feedback on their needs;
- continue outreach efforts at international conferences and workshops to increase awareness and disseminate information on the OzonAction Programme and

collect data;

- dissemination of existing and new publications;
- survey the type of information needed from other implementing agencies.

New Information Exchange Activities

- establish the International Halon Bank Management Clearinghouse;
- prepare a standard information kit to help Article 5 countries develop their own information campaigns.

(ii) Training and Networking Activities:

Training

- organize regional sectorial training courses beginning with the refrigeration, aerosol sectors;
- provide support to training activities organized by developing countries themselves;
- prepare sectorial and sub-sectorial training manuals.

Networking

- establish and support the Regional Networks of the National ODS focal points who are engaged in implementation as well as formulation of the Country Programmes;
- follow-up to the first series of workshops at the regional and/or sub-regional level;
- prepare a Regional and Sub-Regional strategy for Africa and Caribbean Islands for the implementation of ODS phase-out by taking benefits of existing institutional framework.

(iii) Country Programme activities:

- assist in formulating the country programmes for low-volume ODS-consuming countries. To-date request has been received from Government of Zimbabwe.

(UNEP IE/PAC is also conducting country programmes for non-Party countries, i.e., Algeria (now Party), Bolivia, Ivory Coast, Dominican Republic, Jamaica, Mauritius (now Party), Mozambique, Pakistan (now Party), Senegal, Sudan,

Tanzania and Vietnam. This activity is being supported by the Government of Finland. As and when these countries become Party to the Protocol, up-dating and review of the Programme will be required before submitting to the Executive Committee. It is expected that it would contribute towards saving time as well as cost of preparation of final Country Programme.)

UNEP/IE-PAC had started preparing country programmes for Algeria, Pakistan and Mauritius when these countries were non-Parties. These countries have now become Parties to the Protocol. The preparation of Country Programme for these countries now require updating and formulation of projects as well as their prioritization. The activities in Pakistan related to the ODS-survey has just started and in Algeria ODS-survey is nearing completion.

(iv) Coordination with UNDP, UNIDO and World Bank and other bilateral agencies:

- incorporate the data on activities of other implementing agencies in OAIC (projects, technology reviews, consultants/experts, implementation progress, etc.);
- provide training material when ready for their training activities, projects related to technical assistance, demonstration and investment;
- involve other implementing agencies in the training activities to ensure their complementary features;
- jointly conduct country programmes (e.g. Guatemala with World Bank);
- interact regularly with other implementing agencies to survey their updated needs on information and training;
- participate in the expert-group meetings of other implementing agencies (e.g. OORG of the World Bank) and invite them to similar meetings of UNEP IE/PAC (e.g. Informal Advisory Group, etc.).

2. Organizational Modalities

The Informal Advisory Group established in 1991 will continue to advise UNEP on the execution of OzonAction activities during 1993. Extensive consultation with ad hoc expert groups will continue, for every activity of the Work Programme.

The programme, under the supervision of the UNEP IE/PAC Director, is led by the OzonAction Programme coordinator, paid by UNEP. A secretary, an administrative assistant and a clerk are also paid on the 13% allowance to provide administrative support to the programme. As in 1992, short/fixed-term contracts and consultants will be needed to perform the activities under the programme.

The programme proposes to use expertise of organizations both in developed and developing countries. The experience and expertise in one developing country will be used in other developing countries as part of capacity building.

3. Costs

	US \$	US \$
The cost of the 1993 programme is:		
. information exchange	805 000	
. training and networking activities	770 000	1 575 000
. country programme activities	90 000	90 000
. advisory group meeting	40 000	
. ad hoc experts group meetings	70 000	110 000
. travel	100 000	100 000
. Institutional strengthening in Zambia	75 600	75 600
		1 950 600
with 13 % allowance for programme support	253 600	
		253 600
. the total is		2 204 200

II - PROGRAMME DETAILS

1. Information exchange

1.1 Background

As substitutes and alternative technologies are evolving rapidly to keep pace with the advancing phase-out dates, the information on both new technologies for phasing out the controlled substances and the development of transitional chemicals is proliferating quite rapidly (as has been emphasized in the UNEP Technology and Economic Assessment Panel Report and during the Meetings of the Parties to the Montreal Protocol). Article 5 countries need information on:

- the options available for alternatives;
- advantages (and drawbacks) and cost benefit of the options, in order for those countries to initiate the decision-making process;
- information for the implementation of their decisions (i.e., legal, commercial, etc.).

Hence, it is essential that the information exchange function of the OzonAction Programme be continued in 1993 to efficiently transfer this knowledge to Article 5 countries.

Within each Article 5 country, technical and programmatic information has to reach many target groups, which are directly or indirectly involved in the preparation and implementation of ODS phase-out policies, programmes, and projects. In some sectors the investment for phase-out has taken place but not as quickly as expected, given that alternative technologies and funds are available (e.g. Aerosol Sector where investment for alternatives has taken place in 5 to 6 countries). Information exchange will play an important role in fostering the attitudinal changes required for a fast phase-out of the controlled ODS within the various groups and within various sectors.

It is also imperative that information dissemination should synchronize with the priorities and strategies adopted by countries in their country programmes and dovetail with projects which are approved by the Executive Committee of the Multilateral Fund. Such synchronization will result into focused and effective activity leading to substantial and early reduction of ODS. Combined, the above elements pose a challenge of providing specific information to multiple target groups on priority.

This service will expedite the implementation of approved country programmes as well as catalyze the formulation of new phase-out activities and country programmes, which together are expected to result in a large and early reduction of ODS. The actions proposed in 1993 are described below:

1.2 Activity description

1.2.1 Maintenance of Existing Activities

a) *Maintain Information Collection:*

The OzonAction Programme will continue to collect technical and programmatic information from various sources, for input in the OAIC and/or publication of brochures, as specified below:

- Continue Sectorial Data Collection. The OzonAction Programme will continue its collection of each of the five industrial use sectors, including the solvent sector which was previously handled by the Industry Cooperative for Ozone Layer Protection (OZONET). The data will include up-to-date and essential information on technologies, products, service, events, experts, policies and phase-out programmes from developed and developing countries.
- OzonAction Library. The library should be the repository of all manuals, guidelines etc. produced elsewhere. The library has two vital functions: it is used to respond to requests from Article 5 users who seek the technical information and training material, and it enhances the OzonAction programme's ability to research and abstract the relevant technical information.
- Case Studies from Developed and Developing Countries.
 - The experiences of governments, companies and organizations that have developed and/or implemented successful ODS phase out programmes and projects will help Article 5 countries to expedite their own phase-outs by learning from others. Such experiences will include policies, regulations, monitoring methods and phase-out implementation of other developed and developing countries.
 - Information on the projects being implemented by UNDP and World Bank will also be disseminated in the form of case-studies. UNDP shall provide such information on projects in the format compatible with the OAIC. The technology summaries of the projects approved by the Executive Committee will be prepared in consultation with the World Bank and will be put in format compatible with the OAIC.
- Finalize Technical Brochure Series. The series of five volumes of 'Protecting the Ozone Layer' will be completed with Volume N° 3

(Halong) in March 1993.

b) *Maintenance of Information Dissemination*

Information dissemination will continue in the following segments. The Regional Offices of UNEP will be involved in these activities to support networking (see next section on "Training and Networking Activities").

- Publish OzonAction Newsletter. This 6-page quarterly newsletter reports the latest news on the activities of the MF Executive Committee, the Ozone Secretariat, the implementing agencies, governments, industry and NGOs. It contains news on phase-out progress, the latest scientific findings, effects of ozone depletion, as well as references to technical developments on alternatives. The newsletter will continue to be published in 5 languages. The possibility of extending it to 8 pages will be reviewed later. The newsletter will also contain the news on the meetings of the UNEP Assessment Panels and success stories in developed and developing countries.
- Continue Query-Response Service. Activities include:
 - continue to monitor, research, and respond to technical and programmatic queries submitted to the OzonAction Programme through mail, fax, telephone and on-line computerized system;
 - provide information in the form of catalogues on the alternative technology options available and sources for obtaining additional information about those technologies.
- Undertake Pilot Project on OAIC for Article 5 Countries in cooperation with UNEP regional offices. In order to better understand the informational and operational needs of Article 5 countries with respect to the on-line OAIC, UNEP IE/PAC will work with 4 countries: Egypt, Mexico, Kenya and Thailand. The project is expected to:
 - ensure that they can access the on-line system; and
 - obtain feedback concerning the content and operation of the system (with a goal of improving the system).

These activities will also be supported and coordinated with the UNEP Regional Offices.

- Continue Outreach to Promote the OzonAction Programme. Participate in major international, regional and national conferences and workshops to disseminate information and promote the OzonAction Programme and

the OAIC. These opportunities are also important for collecting information from other participants.

- Dissemination of publications.
 - disseminate both the OAIC diskette version and the User Guide for the on-line OAIC (both developed during the 1992 Work Programme).
 - disseminate technical brochure series.
 - disseminate the new publications (manuals, guidelines, technical directories, etc) of 1993.

1.2.2 New Information Exchange Activities

- Develop International Halon Bank Clearinghouse. Per the decision of the 4th Meeting of the Parties in Copenhagen, UNEP IE/PAC is requested to play a role of clearinghouse for International Halon Bank Management. Activities will involve: gathering data on existing bank management programmes, evaluation of programmes, developing guidelines for Article 5 countries, developing clearinghouse database (electronic as well as other forms) and production of a brochure. The activities will be conducted in close co-operation with UNEP Technical Options Committee for Halons.

The activities will also be co-ordinated with other implementing agencies to encourage Parties to provide pertinent information to the clearinghouse.

- Develop Information Kit. Preparation of a standard information kit to help countries develop their own information campaigns on ozone issues, containing typical press releases, information brochures, slides, overheads transparencies, video, posters as well as an easy-to-follow national campaign manual on different approaches and procedures for the campaign. These information kits will be based on kits/materials already created by developed countries.
- Incorporate the ODS Trade Names. Technology and Assessment Panel report has in 1991 prepared a list of ODS-trade names. In order to help in data collection and the monitoring of phase-out of ODS in Article 5 countries, list of ODS trade names needs to be updated as suggested by Assessment Panel. Up-dated list will be incorporated in the OAIC when completed by the Technology and Assessment Panel.

1.3 Expected outputs:

- . early formulation of phase-out projects in Article 5 countries; Fund);
- . faster implementation of phase-out projects leading to large reduction in ODS use;
- . availability to decision-makers in government and industry in Article 5 countries of constantly updated technical and policy information (including equipment, technologies, expert contacts, programmes, legislation, publications in electronic -diskette and on-line, and hard copy format);
- . a technical query response service, available through the OAIC, mail, telephone, and fax;
- . pilot project training for select Article 5 countries and assessing effectiveness of on-line OAIC;
- . development of Clearinghouse for International Halon Bank Management;
- . quarterly newsletter - source of integrated information on phase out activities;
- . information kits (e.g., slide, videos, posters, campaigns and brochures).

1.4 Management of the activity

Day-to-day management of this programme element will be undertaken by UNEP IE/PAC, with the support of additional assistance from short term technical and information system contracts and consultants. US EPA will continue to assist in maintaining the on-line computerized OAIC.

The present UNEP IE/PAC informal experts working group on the information exchange activity will be extended and formalized to advise on and assist with data collection systems development and preparation of documents on sectorial basis.

The UNEP Technical Options Committees of the Technology and Economic Assessment Panel will continue to be involved in collecting the information and the information exchange process of UNEP IE/PAC. In particular, the UNEP Technical Options Committee for Halons will be closely associated to UNEP IE/PAC's Halon Bank Management clearinghouse.

In addition, UNEP IE/PAC will continue to take part in Ozone Operations Resource Group (OORG) meetings to provide input and to benefit from specific and updated information provided by OORG experts during evaluation of World Bank projects. The activities will also be co-ordinated on regular basis with UNDP and UNIDO.

1.5 Activity requirements

The major part of the workload is still associated with information collection, verification, formatting, retrieval, publication and dissemination, but with a strong emphasis in the latter.

Anticipated costs are:	US \$	US \$
- maintenance of existing activities (1)		
. continue data collection in four sectors (on new technologies, products, equipment services, events, experts, news bulletins, policies, phase-out programmes, etc.) including maintenance of hardware	145 000	
. data collection in solvent sectors (updating of OZONET database)	60 000	
. maintenance of OzonAction library (updating & acquisition)	30 000	
. compiling and formatting the information on case-studies from developed countries and projects approved by Executive Committee including their technology summaries	<u>65 000</u>	
		300 000
- maintenance of information dissemination (1)		
. newsletter (4 issues)	130 000	
. pilot project for Article 5 countries	35 000	
. query response, outreach activities and dissemination of technical brochures, manuals and other documents, etc.	<u>150 000</u>	
		315 000
- new information exchange activities (1)		
. international halon bank clearinghouse function	100 000	
. develop information kit	<u>90 000</u>	
		<u>190 000</u>
Total		805 000

(1) Includes fixed/short term contracts and consultants.

2. Training and networking activities

2.1 Background

The overall objective of the training and networking activities is to help reduce the level of ODS's in developing countries.

The appropriate training approach will depend on the nature of the sector, the state of technology, and the level of knowledge within a country or region. This results in a combination of policy maker "general awareness" workshops, "train the trainer" workshops and sector based training within companies or groups of companies, eg., the aerosol sector.

Networking supports the goals of training and country programmes and helps catalyze initiatives in ODS reduction. It is therefore important to develop a well informed regional network of government, industry, and NGO representatives.

Basic and preliminary awareness-raising and training for decision makers in government and industry for the development of national plans for phase-out has been initiated through the Regional Workshops on the Implementation of the Montreal Protocol carried out already for four regions (Asia and the Pacific, Arabic-speaking countries, Latin America and the Caribbean and Africa).

The first regional training course on a sectorial activity (refrigeration) has also been successfully completed for the African region, in cooperation with UNDP. It was based on a 'train the trainer' approach, with emphasis on practical demonstration. The trainees were selected by UNEP and the Institute of Refrigeration Hanover. The course served as "pilot" case for the "train-the-trainer" approach. UNIDO participated in it as an observer. The comments on improvements/modifications to this course has been prepared by the Co-Chair of the Technology and Economic Assessment Panel.

All these activities were part of a training strategy which was implicit in UNEP IE/PAC's OzonAction Programme. This training strategy is being detailed based on previous experiences as well as based on the programmes of other implementing agencies.

To help foster the implementation of policies to reduce the use of ODS's, there is also a need to establish and support the exchange of experience and cooperation among Focal Points (government officers in charge of the formulation and implementation of the country programmes) in developing countries and their counterparts in developed countries with progressive phase-out programmes. This can be achieved by initiating the creation of regional or sub-regional Networks of Focal Points. Initial support has been extended by SIDA (Swedish International Development Authority) for such a network in Asia. SIDA is prepared to contribute to develop the concept in other parts of the world. Such knowledge-sharing network is considered by UNEP as well as by the countries themselves as a fundamental ingredient to the process of institutional and professional capacity building which has been emphatically highlighted in Agenda 21.

The need for networking has been highlighted in the outcome and recommendations of three workshops, namely the:

- "Agenda for the African Region" (resulting from the Regional Workshop on the Implementation of the Montreal Protocol, Nairobi, 8-12 December 1992);
- "Agenda for the ASEAN Region" (resulting from the ASEAN/UNEP Workshop on Ozone Depleting Substances, Singapore, 8-9 October 1992); and
- "Recommendations of the Participants of the First Regional Training Course on Refrigeration", Nairobi, 2-4 December 1992.

All of the above agenda indicated that the existence of a network of government, industry, and NGO officials, regularly interacting, is important to catalyze the phase-out of ODSs.

One good example of the successful impact of networking by way of informal exchange of experiences and information, is the case of Thailand which has not yet presented its country programme, but where the increasing trend of consumption of ODS in solvent sector (CFC-113) has been stabilized. The informal information exchange activities in the region, within the UNEP/SIDA project, and sharing of the knowledge and experiences with other countries within and outside the region, have certainly been factors, together with the direct action of US EPA and the World Bank, for this reversal of trend.

The preliminary discussion paper on Ozonation Training Strategy, submitted to the Executive Committee, presents an overall approach which is aimed at integrating all the related activities and projects funded by the Multilateral Fund, involving all the implementing agencies; and defining the role of each of these implementing agencies in training.

2.2 Activity description

2.2.1 Sectorial Training

Complementary to 'shop floor' training, which is an integral part of large investment projects, the sectorial training workshops are essential to convert the industry sectors in a country (or a region). For example, in the aerosol sector, the alternatives for conversion are available but the reduction in ODS is not taking place as fast as expected. Information transfer in this sector needs to occur through training workshops aimed directly at the companies in order to initiate investment.

The refrigeration servicing sector is characterized by a large number of companies spread across many different activities. It is therefore necessary to adopt a "train the trainer" approach designed to produce a cascade effect down to the "shop floor" operator level.

This shows the need to assist all stake-holders by way of information and training. These activities will be performed in cooperation with advisers to the World Bank, and the Co-Chair of the UNEP Technology and Economic Assessment Panel, to ensure complementarity to investment related projects.

UNEP proposes to use the existing training manuals in sectors and sub-sectors in developed countries to prepare the manuals for developing countries. These documents will need to be translated to other languages as requested by a number of countries. These activities are proposed to be undertaken by forming sector-based working groups of experts and reviewers.

Refrigeration

Training courses with 'train the trainer' approach, in the refrigeration sector are proposed in the areas of service and maintenance (good practices) recovery and recycling, as well as retrofitting. They will include practical information, demonstrations and hands-on experiences. A pilot training course was conducted in cooperation with UNDP for Africa in December 1992. Participants to this training course found it to be a very enriching experience.

To make these courses cost-effective, they would be aimed at national and regional training institutes and polytechnics in the related fields. The 'trainees' in each region will be carefully selected based on their backgrounds and for their future role as 'trainers'. This approach of "training the trainer" is not only cost-effective but time-saving, given the wide scope to be covered. It also has direct and desirable spin-off related to capacity building in developing countries.

UNEP also desires to use these trainers and their professional capacity in training other developing countries. This activity will hopefully lead to a series of national workshops and training courses of similar nature, which would have to be closely advised, supported and monitored.

One such training course is planned for 1993: for the Asia-Pacific region. The regional training course will be held in close association and support of the regional network of OzonAction Focal Points and other implementing agencies and will be complementary to the training workshops (UNDP) already approved by the Executive Committee (six on centrifugal chillers and six on MAC) which are targeted at plant/building/service station level.

UNEP's training materials (see below) will also be used in projects at the national and global level.

The 'Train the Trainer' programme in the refrigeration sector in Ghana as per the country programme approved by the Executive Committee of the Multilateral Fund will be undertaken by UNEP in second quarter of 1993. UNDP has proposed that UNEP may take the lead in this activity, and it will be conducted in close cooperation with UNDP. (This activity is not costed in

The following training material will be developed in 1993:

- "Training Manual for Trainers", which will be based on the Regional Training Course on Refrigeration in Africa held in December 1992, and will consist of presentations and overhead transparencies which can be used for local training courses.
- Manuals/Guidelines on good maintenance and service practices including recovery and recycling will be prepared separately for following sub-sectors:
 - . small and middle sized refrigeration systems
 - . mobile air conditioning equipment.

The manuals on good maintenance and service practices will be completed on priority. They will be composed based on existing material in the developed countries. The review group consisting of experts working for World Bank, UNDP and UNIDO's projects as well members of Technical Option Committee and industry associations will be constituted to review the manuals for finalization. The manuals can be used locally by the trainers and during the training courses at the plant level (UNDP and WB) already approved by Executive Committee.

The manuals/guidelines will be short and include very clear presentation which could be easily reproduced by the countries for their similar national activities.

- Technical Directory of Recovery and Recycling Machines in Refrigeration incorporating technical guidelines on how to select Recovery and Recycling Machines. The directories will be prepared based on existing directories in various developed countries by keeping requirement of Article 5 countries in mind.

Aerosols

Even though the technology to eliminate CFCs from aerosols already exists, major action is being taken in this sector in not more than 5 to 6 developing countries. The major factor for this appears to be that although information on conversion technology does exist, it is not summarized, organized and disseminated in such a way as to facilitate decision making. Some important areas are undocumented. The areas of difficulty have been identified, and they are:

- Hydrocarbon purification for use as a propellant
- Formulations with hydrocarbon propellants
- Safety in handling hydrocarbon propellants
- Machinery considerations
- Dimethyl ether technology and formulations

- Not-in-kind substitutes
- Manufacture of dimethyl ether

In the aerosol sector, information and training are closely related to decisions and actual conversion. A series of Training Courses on Aerosols aimed at owners and technical entrepreneurs, is proposed to transfer information on conversion technology. These courses will cover the main issues considered to be of relevance for the conversion, as outlined above.

The first Regional Training Course on Aerosols will be conducted in Africa, Middle East or Latin America in late 1993. The course will be evaluated and lessons learned will be used to modify the course.

This training programme will be complementary to investment projects in the Aerosol sector by the World Bank already approved by the Executive Committee. The experts from World Bank and Technology & Economic Assessment Panel of UNEP will be involved in designing these training courses.

The following training material will be developed in 1993:

- A "conversion technology" manual or handbook will be developed for use at the first regional workshop. It will consist of 10 modules dealing with all facets of conversion technology. The modules will be used as the basis of the workshop.
- A manual on safety issues, for manufacturers, fillers and users in the aerosol industry will be developed during 1993 to complement the conversion technology handbook. It will be based on information already available in various manuals. This activity will be co-ordinated with World Bank (project on safety manual already approved by Executive Committee and is not costed in this WP-93).

These manuals will be used -inter alia- for the Aerosol project of World Bank

Halons

As per the 4th Meeting of the Parties, the reduction and phase-out of halons is to be achieved by ceasing the production by 1994, and by optimal use of existing halon banks. This gives rise to the need for training the prescribers and users of halons to select the alternative systems by changes in the system design to reduce the fire hazard.

Training is also needed in the area of fire hazard and analysis of essentiality of halons for a given installation.

Malaysia is planning a regional training workshop for countries in South Asia for the halon sector with emphasis on halon bank management. It is a part of the follow-up activities on the ASEAN agenda referred to in Item 2.1 above. It will be targeted at Fire Authorities, Telecommunication, Defense, Petrochemical industry, Civil Aviation and Equipment suppliers. Malaysia intends to use its expertise as well as facility of

recycling equipment which it will procure and install under their earlier project (approved under 6th Executive Committee meeting) to benefit other countries in the ASEAN region. UNEP IE/PAC is supporting this activity by helping with planning and providing financial support. UNEP IE/PAC will evaluate this workshop before designing a final version of the regional training course for halon which may be proposed as part of a global project being developed by UNDP. The development of training material will be coordinated with the global-project on Halon (UNDP) which significantly concentrates on demonstration and investment project identification.

2.2.2 Networking

The recent ASEAN-UNEP Agenda (Singapore) and African Agenda (Nairobi) conclusively established that there is a need to support networking activities of ODS Focal Points (engaged in implementation as well as preparation of country programmes), as an effective means to catalyze initiatives in ODS phase-out. The concept for such a network has been tested in the 'Pilot Workshop of CFC Officers' in the South East Asia region.

During 1993, UNEP IE/PAC proposes to support the concept of Regional Network Activities for OzonAction/ODS Focal Points through a series of annual regional workshops (restricted to a smaller number of participants as compared to first Workshops) which will be used as a platform/forum to:

- review the progress made on the implementation of the country programmes;
- update participants on the phase-out activities in other participating countries;
- update participants on the latest technical developments, on amendments/adjustments to the Protocol, and on data collection requirements and methods;
- identify areas of common interest and need, and initiate proposals for training;
- promote formal and informal exchange of information and experience among participants throughout the year;
- initiate and catalyze specific activities to solve joint problems, when deemed useful; and
- support the countries in implementation of their country programmes by providing technical assistance.

Workshops/meetings are planned for 1993, for the Asia/Pacific and Latin American regions; the Asia/Pacific workshop/meeting is being supported by SIDA. Emphasis will be on the participants networking together, sharing their experiences of problems and solutions, and therefore helping each other under the overall guidance of UNEP IE/PAC.

2.2.3 Support to regional or national workshops and training courses.

Support from UNEP IE/PAC has been requested by countries for training activities and conferences, both within and outside the country programmes.

UNEP proposes to support the following by assisting participation of neighbouring developing countries and resource persons as well as the organization of the event:

- training and demonstration programme in refrigeration sector in Kenya. (This project was already approved by Executive Committee in its 4th meeting. UNDP has proposed that UNEP should take lead in undertaking this activity. It has not been costed in this Work Programme);

Support activity for the refrigeration workshop in Kenya arises out of a proposal by UNDP to transfer this activity to UNEP for implementation in 1993.

Thailand has expressed an urgent need to hold an exhibition of equipment on substitute ODS technologies at the sub-regional level (ASEAN) as a follow-up activity resulting from the ASEAN Agenda referred to in Item 2.1 above. UNEP IE/PAC proposes to support this activity as countries need such information on equipment to implement their phase-out projects (This is not yet included in the cost).

2.2.4 Round table for small and medium enterprises (SMEs)

SMEs are key players in the phase-out of ODSs. They are characterized by enterprises having no direct links with transnational companies. UNEP, as per its 1992 Work Programme, is preparing a 'Practical Guide to Policy Guidelines for Industry on Management of Phase-out of ODS'. To support this activity, Environment Canada has offered to arrange a round table for personnel from SMEs in developing countries, to share experiences and identify needs in relation to ODS phase-out. (No cost involved for UNEP IE/PAC 1993 programme.)

The activity will be co-ordinated with UNDP and UNIDO who are involved in the various investment and demonstration projects related to SME's.

2.2.5 Development of Regional & Sub-Regional Strategy for implementation of Montreal Protocol.

Low-volume-consuming countries have specific problems related to phase-out activities. The regional and sub-regional approaches of the implementation of the Protocol could be cost-effective to resolve their problem areas. Specific sub-regions would be different based on linguistic and other commonalities. Training and networking activities, demonstration projects, institutional strengthening could be carried out in those defined sub-regions. The existing

institutes (e.g. CARIRI in Caribbean) and organizations (AMCEN, etc. in Africa) can be effectively integrated in such strategy.

This activity will be co-ordinated with Secretariat of Multilateral Fund.

2.2.6 Training Strategy.

UNEP will continue to work to crystallize the training strategy to integrate the training activities of various implementing agencies to optimally utilize the cost, time and human resources.

2.3 Expected outcomes

The training and networking activities are expected to lead to major, and faster, reduction of ODS's in developing countries through:

- . accelerated development of country programmes and projects on ODS as a result of improved awareness and knowledge;
- . accelerated implementation of projects already funded;
- . improved awareness and skills at the country level, particularly for national administrators and industry managers using expertise in developed and developing countries through the 'train the trainer' approach, leading to faster and major reduction of ODS;
- . opportunity for contact between local personnel and international experts. This is particularly important for smaller countries that do not have established linkages on bilateral basis;
- . support to countries to help them run their activities (training of trainers, preparation of training documentation);
- . training manuals, guidelines and safety manuals on sectorial and sub-sectorial activities;
- . creation of regional networks of country focal points and experts for exchange of experience and cooperation among developing countries and their counterparts in developed and developing countries and providing a forum for discussion on common issues with a progressive phase-out programme.
- . regional and sub-regional strategy for implementation of Montreal Protocol.
- . training strategy.

2.4 Management of the activity

The management of the activities will be undertaken in close cooperation with the Regional Offices of UNEP, and with additional assistance from fixed term as well as short term contracted personnel and consultants.

Apart from the close coordination with UNDP, UNIDO and World Bank, the networking activities will be coordinated in close association with UNEP/SIDA project for the South East Asia and Pacific region.

As in 1992, private sector consultants, and industry and government specialists will participate in the various workshops and meetings.

Experts from developed and developing countries will be needed for the training courses and preparation of training manuals.

2.5 Activity requirements

	US \$	US \$
SECTORIAL TRAINING		
(a) Refrigeration		
- Asia-Pacific region	90 000	
(b) Aerosols		
First Regional Training course	90 000	
- Sub-total		180 000
TRAINING MATERIAL (1)		
(a) Refrigeration (4 X 40 000)	160 000	
- Manual for Trainers, based on regional training course		
- Manual/Guidelines on Good Practices		
for small and medium size systems		
for Mobile Air Conditioning Systems		
- Technical Directory of R&R Machines including Guidelines to select R&R Machines		
(b) Aerosols	<u>40 000</u>	
- Conversion manual/handbook		
- Manual on safety issues (2)		
- Sub-total		200 000
NETWORKING		
Support to regional network for Ozonaction/ODS		
Focal Points (annual workshops) (3)		
- Asia-Pacific region (with support from SIDA)	-	
- Latin American/Caribbean region	<u>130 000</u>	
- Sub-total		130 000

SUPPORT TO REGIONAL OR NATIONAL WORKSHOPS

(a) Training Activities In Countries/Region		
-	Malaysia - for the region (Halon & Halon Bank Management	80 000
-	Kenya (Refrigeration) (4)	-
-	implementation of "Train the Trainer" programme of Ghana (5)	-
-	Development of training strategy	100 000
-	Support to other national training activities (unspecified estimate)	50 000
-	Sub-total	230 000
(b) support to networking activities including communication, local, travel, secretarial assistance		
		30 000
-	Sub-total	30 000
-	Total	770 000

- (1) Costs include short/fixed term contracts, consultants, translation and dissemination, and miscellaneous.
 (2) This manual is not costed. The activity will be co-ordinated with the project approved by EC for the World Bank.
 (3) Costs include travel and per diem for participants and experts, consultants, organizational support, etc.)
 (4) Jointly with UNDP. Already approved by Executive Committee (4th meeting) under UNDP's Work Programme.
 (5) Jointly with UNDP. Already approved by Executive Committee (8th meeting) under UNDP's Work Programme.

3. Country programmes for low-volume ODS consuming countries

3.1 Background

Country programmes as per the UNEP IE/PAC's methodology have proved to be an extremely useful tool in capacity building which in turn will accelerate the actions taken by countries towards the implementation of the Montreal Protocol. UNEP IE/PAC proposes to use local expertise, local institutes and experts from developing countries in the process of carrying out the country programmes.

The overall approach suggested by the Multilateral Fund will be maintained. The expertise and potential of existing local institutes in the region will be used to maximum extent.

The ongoing country programmes will be completed, i.e., Botswana, Burkina Faso, Cameroon, Fiji, Gambia, Guatemala, Malawi, Maldives, Panama, Syrian Republic, Togo and Uganda (12). New Country Programme will be initiated in Zimbabwe.

Country programmes for Algeria, Pakistan and Mauritius were undertaken when they were not Parties to the Protocol (under financial assistance from Government of Finland). UNEP IE/PAC proposes to undertake the finalization of these country programmes by updating them and by formulating the initial projects and their prioritization.

For Botswana, country programme is yet to start and estimated cost is \$10,000 more than estimated earlier.

UNEP proposes to develop a methodology/strategy to develop the country programmes for very low-volume-consuming countries (e.g. Caribbean Islands, Pacific Islands) by utilizing regional/sub-regional approach and taking benefit of local expertise and institutes (e.g. CARIRI).

UNEP also attempts to create cascading effect by developing the local expertise for conducting the country programme and utilizing it in other developing countries.

3.2 Activity description

- complete the country programmes in 12 countries indicated above;
- complement the country programmes being developed under FINNIDA for Non-party countries which have recently become parties;
- carry out the country programme for one low-ODS consuming country;
- developing regional/sub-regional strategy to formulate the country programmes for very low volume consuming countries.

3.3 Expected output

- . development of country programmes;
- . development of cost-effective method of conducting the country programmes for every low-volume-consuming;
- . establishment of closer links with national experts, industries and administrators in these countries;
- . capacity building by way of utilizing the local expertise;
- . training of national team formulated to conduct the country programme under UNEP's methodology.

3.4 Management of the activity

The activities will be managed by consultants, with the help of experts and institutes from developed and developing countries by way of fixed/short term contracts.

3.5 Activity requirements and costs

	US \$	US \$
- Assistance in formulating the country programme of Zimbabwe	40 000	
- Algeria and Pakistan (15 000 x 2)	30 000	
- Completion of country programmes for Botswana and Mauritius (10,000 x 2)	<u>20 000</u>	
- Total		90 000

US\$ US\$

4. **Implementation of Zambia's country programme**

- Institutional Strengthening for Zambia	<u>75 600</u>	
- Total		75 600