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**THE PHASING OUT OF OZONE DEPLETING SUBSTANCES IN LOW-ODS
CONSUMING COUNTRIES**

(Submitted by UNEP/IE)

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INNOVATIVE APPROACHES FOR THE PHASING OUT OF OZONE-DEPLETING SUBSTANCES IN LOW ODS CONSUMING COUNTRIES

EXECUTIVE SUMMARY

Due to the extremely low ODS consumption levels in Low and Very Low Volume Consuming Countries, the cost-effectiveness of Country Programmes and Institutional Strengthening programmes is considered to be extremely poor. This cost-effectiveness problem is likely to become more important as Country Programme and Institutional Strengthening project requests from Low-Volume Consuming countries become more common. Consequently, the Executive Committee requested UNEP to prepare, a paper on "Innovative Approaches to Phasing out Ozone Depleting Substances in Low ODS Consuming Countries", in countries where, due to their low consumption, such phase-out would not be cost-effective using present methodology.

"Low Volume ODS Consuming Countries (LVCs)" are defined as countries with ODS consumption of less than 360 metric tonnes, and, for the purpose of this paper, the group of LVCs whose ODS consumption is less than 30 tonnes per year are defined as "Very Low Volume Consuming Countries (VLVCs)"

Present implementation of phase out of ODS consumption is generally through several interrelated processes which can be separated in two distinct groups of activities or phases: Country Programme preparation and Country Programme implementation. The later stage includes Institutional Strengthening and the other phase-out projects.

Institutional Strengthening projects focus on the development of a national institutional mechanism to coordinate national and international efforts for the the expeditious phase-out of controlled substances. These projects finance capital, recurrent and operational expenditures required for the establishment of a National Ozone Unit. They also finance activities related to increasing public awareness, dissemination of information, data gathering and reporting, development of licensing procedures and monitoring of trade and consumption of controlled substances. Other phase-out projects include refrigerant recovery and recycling programmes, retrofitting of existing CFC-containing refrigeration equipment and industrial conversion projects.

The present implementation of Country Programme preparation is not cost-effective for ODS phase-out in LVCs and VLVCs. In addition, although Institutional Strengthening projects facilitate ODS phase-out in LVCs and VLVCs, they tend to remain inactive for a long time, even after approval of funding, and do not result in any actual phase-out. Such projects will tend to be small and are often public awareness or training projects. Unfortunately, the costs associated with these projects can be significant, especially if non-resident experts have to be provided to remote locations.

Suggested Options:

One option is to do nothing about ODS phase-out in the remaining LVCs and VLVCs, with the assumption that ODS phase-out in those countries will eventually take place and that even if delayed, it does not matter in terms of protection of the ozone layer. This option has not been further considered, due to equality and inclusive principles of the Protocol.

Another option is to continue the existing approach, with resultant non cost-effective Country Programme preparation, ineffectual Institutional Strengthening projects and minimal actual phase-out projects. The total estimated cost of Country Programme and Institutional Strengthening Projects for these LVC and VLVC countries using the existing approach, is US\$ 7.7 million with the cost of actual phase-out, an additional US\$ 80 million.

The third option is to develop cost-effective alternative approaches. Although every country should continue to receive assistance to prepare a Country Programme, that preparation could follow the associated development of a new simplified Country Programme format which would be designed to assist countries to provide as much of the information as possible themselves. This could be facilitated with industry surveys adapted to the needs of typical LVC and VLVC projects, a 'self help guide', typical information and training packages and 'Sectoral Guidelines'.

Suggested New Approaches for Phase-out in (LVCs):

The cost-effectiveness problem associated with LVCs could be addressed by 'regionalising' their Country Programme formulation processes, emphasising the self-help approach and leading to complete phase-out. Representatives from LVCs in a 'region' could meet a single consultant at a central point. The consultant would then instruct these representatives as a group, on preparation, formulation, presentation and implementation of their Country Programmes. The basic ideas of the present Institutional Strengthening guidelines would remain the same, except for reduction in personnel cost and addition of support through RNCs. Actual phase-out might include some investment projects related to small manufacturing facilities, usually in the refrigeration and foam sectors.

Suggested New Approaches for Phase-out in (VLVCs):

Rather than initiate formulation of a Country Programme in each VLVC country, a consultant could visit the country and work with the Government appointed Focal Point for Ozone issues, to identify the small uses of ODSs and to formulate during the visit, a simplified Country Programme (in the new format) that would address the most important needs of the country and address the specific actions needed to proceed to complete phase-out. It might be possible for the consultant to both identify alternative or conversion options for the identified ODS uses and to carry out these options. The consultant would carry out any small training projects required, at the same time.

Another option might be to allocate a "bulk sum" for phase-out which could be calculated "a priori" based on the expected ODS consumption and a maximum

cost-efficiency threshold level (this would include projects where no direct phase-out is applicable). The country would then be responsible for implementing their own phase-out strategy, within that budget constraint.

The paper stresses the point that without specific initiative and commitment from the countries themselves, phase-out will not be possible; and without the passage of legislation, it will be ineffective. Implementation of the phase-out package would be timed to meet a country's requirements and need not commence immediately on approval of a Country Programme. It may be, that after a Country Programme has been initiated, in simplified form, that no more assistance is required other than giving as much information as possible, until the country indicates that it wants to proceed with a phase-out programme. Funding could then be negotiated at that time, based on a package of identified necessary phase-out projects, plus a commitment to regulatory support, with funding being dependent on agreement by the country that the complete package would be implemented.

There are a number of other associated issues which are recognised in the paper. These include the possibility of other more complex needs of these countries, the expectation that LVCs will have more complex needs than VLVCs and that public awareness training or attention to legislation is more likely to be a factor with LVCs than VLVCs. It also recognises that in a particular region, various states may be in different stages of phase-out implementation, that the time taken by a consultant to identify ODS use and produce a conversion/replacement strategy, would vary, according to the number of ODS equipment identified, that the geographical size of the state is an issue, and that different Implementing Agencies would be needed for the different tasks, in line with their various mandates.

SUMMARY OF RECOMMENDATIONS

Country Programmes:

1. Every country should continue to receive assistance to prepare a Country Programme.
2. A modified Country Programme format should be developed appropriate to the specific needs of LVCs and VLVCs. The format should be designed to assist countries to provide all the information required for developing most of the phase-out activities.
3. LVC and VLVC Country Programmes should address the specific actions needed to proceed to complete phase-out. For VLVCs, Country Programmes should fully define a complete phase-out package.
4. Consultant Assistance to prepare Country Programmes should be regionalised wherever possible, emphasising 'self-help' approach. 'Self-help' tools need to be developed for this purpose.
5. Bilateral Assistance should be effectively used for regionalised approach.

Institutional Strengthening:

1. Institutional Strengthening is vital need for LVCs and VLVCs. Such assistance should be provided as part of an overall package of measures to produce complete phase-out. The package could include limited support for an ozone focal point in the country for the duration of implementation of the phase-out.

Additional support may be provided on regional basis either through regional network co-ordinator and/or bilateral initiative.

2. Implementation of the phase-out package would be timed to meet a country's requirements and need not commence immediately on approval of a Country Programme.
3. Due to the number of implementation issues which need to be addressed, the strategies outlined in the paper could be implemented on a "trial basis" in a manner which is consistent with the above recommendations. Such a trial should be based on the simplest scenario ie, ODS phase out in a geographically small country, with a small population and an ODS consumption of less than 30 tonnes.

As an initial pilot exercise, Country Programmes which include a complete ODS phase-out package should be developed for the Solomon Islands, Vanuatu and Kiribati, using the amount of US \$60 000 approved for their Country Programmes.

There is a question of the 'backlog' of request from countries which may get created if Country Programmes are put on 'hold' until the results of this 'trial' project are available. This needs serious consideration by the Executive Committee.

4. The countries with newly approved Country Programmes and with Institutional Strengthening projects pending, should have those projects revisited, in accordance with the above recommendations and submitted to the 19th Meeting of the Executive Committee.
5. The implementation of the phase-out could be implemented with a bilateral initiative i.e with assistance from appropriate Implementing Agency and a developed country from the region concerned.

INNOVATIVE APPROACHES TO THE PHASING-OUT OF OZONE-DEPLETING SUBSTANCES IN LOW AND VERY LOW-ODS-CONSUMING COUNTRIES

1.0 BACKGROUND:

At the Sixteenth Meeting of the Executive Committee, the framework of slicing of resources into distinct categories was agreed, including a slice for low-consuming countries. It was agreed (para 32 (g) iii report of the Sixteenth Executive Committee Meeting) that US\$ 6.63 million be reserved for allocation to projects from low ODS consuming countries. This amount would be in addition to any funds received as a result of approval of projects from low ODS-consuming countries that qualified under cost-effectiveness thresholds adopted in the 16th Executive Committee meeting.

At the Seventeenth Meeting of the Executive Committee, UNEP introduced the Country Programmes for Saint Lucia and Togo. Due to the very low ODS consumption levels in these two countries (the 1994 consumption of ODS in Togo was 1.15 tonnes and the 1993 consumption of St Lucia was 7.49 tonnes), the cost-effectiveness of the implementation was considered to be extremely poor based on proposals for funding for Institutional Strengthening projects.

It has become an established norm for each country, however small it is, to request an I.S. grant as per the guidelines (ExCom/7/20) even if it would have no immediate and major impact on the phase-out in those countries.

For a number of very low ODS consuming countries, the issue of cost effectiveness in supporting Country Programme preparation and its implementation through Institutional Strengthening and other phase-out projects will become more important as Country Programme and Institutional Strengthening project requests from countries such as Caribbean islands, African states and Pacific islands, become more common.

Most of the assistance of the Multilateral Fund has until now been focussed on large consuming countries and many of the guidelines have also been prepared and accepted, with the larger consuming countries in mind.

It has also been noted that the requirements of various phase-out activities differ between large and small consuming countries. There is general agreement that it is time to re-examine both Country Programme preparation and Country Programme implementation activity, in low ODS consuming countries, in a fresh way.

The Executive Committee therefore requested UNEP to prepare, in consultation with other implementing agencies and the Multilateral Fund Secretariat, a paper on "Innovative Approaches to Phasing out Ozone Depleting Substances in Low ODS Consuming Countries" (Excom decision 17/11 section c) and decided to defer consideration of the request for Institutional Strengthening in Togo and St Lucia until the Executive Committee had received the paper on Innovative Approaches to phasing-out ODS in very low-ODS-consuming countries" (ExCom decision 17/33).

2.0 OBJECTIVE AND METHODOLOGY:

The objective of the paper is to suggest innovative approaches to the phasing out of ozone-depleting substances in low volume ODS consuming countries. It also addresses the question of Institutional Strengthening.

The paper has been prepared based on UNEP's experience in preparing more than 60 Country Programmes and 25 Institutional Strengthening projects. Inputs have also been received from the ODS Officers Networks, the other Implementing Agencies, the Multilateral Fund Secretariat (MFS), Bilateral Agencies and Country Programme Consultants.

Any new approach for low ODS consuming countries should examine two distinct stages of phase-out activities. These being: the Country Programme preparation and the Country Programme implementation.

3.0 BASIC ELEMENTS

3.1 Definitions

At its 17th Meeting, the Executive Committee defined "Low ODS Consuming Countries " as countries with ODS consumption of less than 360 metric tonnes (Decision 17/11).

When examining the countries in this group, i.e., less than 360 tonnes, it became evident that the group could be divided into two broad sub groups:-

- those which would have some, but not very significant manufacturing activities using ODS
- those which would have no manufacturing activities using ODS, but which use ODS for their activities mainly in servicing in the sector of refrigeration and air-conditioning.

For the purpose for this paper, the group of countries whose ODS consumption is less than 30 tonnes per year is defined as "Very Low Volume Consuming Countries (VLVCs)", and those with consumption between 30 and 360 tonnes per year will be defined as "Low Volume Consuming Countries (LVCs) " (Annex 'A' shows the list of countries which fall, or are likely to fall, under each of the categories) .

It is recognized that the criteria for differentiation between LVCs and VLVCs may need to be based on a more complex criteria than a simple estimation of consumption and lack of manufacturing facilities. Despite having similar low ODS consumptions, countries may differ in their needs depending on geographical size, population, etc. It is also recognised that there may be exceptions to each of these two categories in terms of the presence of manufacturing facilities. The above definitions, however, are good starting points for the purpose of this paper.

Throughout this paper the term "LVCs" means those countries whose annual consumption is between 30 and 360 tonnes and the term "VLVCs" means those countries whose annual

consumption is less than 30 tonnes.

3.2 Status and Characteristics of LVCs and VLVCs

Status of LVCs and VLVCs

- * LVCs and VLVCs consume small amounts of ODS, but these ODS can be critical to their economy, especially in export and foreign exchange earning sectors. Refrigerants used for cold storage in fisheries and air-conditioning in larger buildings in the tourism industry are some examples;
- * 34 LVCs and VLVCs have initiated Country Programme formulation, mostly through UNEP. It is expected that they will request funding for Institutional Strengthening in the very near future;
- * there are still about 34 LVCs and VLVCs that have yet to receive assistance from the Multilateral Fund, either due to their recent entry into the Protocol community or because they are still in the process of ratifying the Protocol.

Characteristics of LVCs and VLVCs

Manufacturing and Servicing Base

None of the LVCs or VLVCs produce ODS. Some LVCs have manufacturing facilities eg for Domestic Refrigerators and flexible foam, which use ODS. However, most of the LVCs and VLVCs do not manufacture products containing or made with ODS and therefore can be characterized as ODS "consumers". Their ODS consumption is restricted to servicing and maintenance in the Refrigeration and A/C sector (the hotel industry and the commercial refrigeration sector including cold storages).

LVCs also have small ODS consumption in the areas of aerosol fillers, recharging of Halon 1211 and 1301 and uses of Methyl Bromide for soil fumigation, preshipment and structural fumigation.

The potential for growth in the end user and refrigeration servicing sectors is very high, often related to rapid growth of economies. The growth in these sectors, at the same time, can sustain growth of the economy.

Unnecessary Use, Servicing and Maintenance

ODSs have often been "oversold" in LVCs and VLVCs. A typical example is unnecessary installations of halon extinguishing systems (often supplied as a "safety accessory" by package unit suppliers). Lack of follow-up in good and standard practices has also resulted in unnecessary ODS emissions in the refrigeration sector. In the servicing and maintenance sector, the largest ODS consuming sector in LVCs, consumption is mainly by Small and Medium Enterprises (SMEs) which are often scattered, informal and difficult to identify.

3.3 Barriers to phase-out in LVCs and VLVCs

There are a number of barriers to the phase-out of ODS in LVCs and VLVCs. These include, inter alia:

Lack of Information and Training on the ozone issue, alternative technologies and policies.

Lower Cost-effectiveness for phase out projects due to lower scale of economies and puts them at a disadvantage for getting approval from ExCom in comparison with larger projects.

Lower Safety and Health Standards requiring special initiatives to adapt alternatives.

Failure to Attract Technology and Product Suppliers who prefer to develop their business in larger economies.

Inadequate manpower and lack of involvement to deal with environmental issues due to their focus on other important mainstream environmental problems [waste disposal, fresh water etc].

4.0 EXISTING APPROACHES FOR ODS PHASE-OUT FOR LVCs

Presently, implementation of phase out of ODS consumption is generally through several interrelated processes. These processes can be separated into two distinct groups of activities or phases: Country Programme preparation and Country Programme implementation. The later stage includes Institutional Strengthening and other projects, i.e. training, technical assistance and investment projects.

4.1 Country programme Preparation

The countries, with the assistance of an Implementing Agency, and technical expertise provided by its consultant, undertake the Country Programme formulation in two phases.

In Phase I, a survey is done of the current use and consumption of the ozone-depleting substances and of the national industry structure. This survey is conducted by a national team, established by the Government.

In Phase II, the data is analyzed and forecast, based on which a Country Strategy and Action Plan are developed for phasing out the consumption of controlled substances. The Action Plan often includes projects for strengthening the national institutional mechanism, raising public awareness, training for specific industry sectors and other investment projects.

4.2 Country Programme Implementation

Upon approval of the Country Programme by the Executive Committee, financial assistance to meet incremental costs, as per the indicative list (Annex XII of the Montreal Protocol) is provided for the implementation.

4.2.1. Institutional Strengthening

As per the guidelines (ExCom/7/20) the country is provided with funding to "enable it to strengthen a mechanism within the country to facilitate expeditious implementation of projects, as well as to ensure the effective liaison between the country on the one hand, and the Executive Committee, the Fund Secretariat and the implementing agencies on the other". Institutional Strengthening projects focus on the development of a national institutional mechanism to coordinate national and international efforts for the protection of the ozone layer and to facilitate the expeditious phase-out of controlled substances. These projects finance capital, recurrent and operational expenditures required for the establishment of a National Ozone Unit. They also finance activities related to increasing public awareness, dissemination of information, data gathering and reporting, development of licensing legislation and regulations to control and monitor the trade and consumption of controlled substances.

4.2.2 Projects

Projects are coordinated by the National Ozone Units in each country, in accordance with the Action Plan and Country Strategy of the Country Programme. In LVCs and VLVCs, these projects could include training, demonstration projects, conversion of industrial and commercial refrigeration equipment.

5.0 THE ISSUES ASSOCIATED WITH EXISTING APPROACHES FOR ODS PHASE-OUT IN LVCs AND VLVCs

5.1 Key Issues

- Country programme format not adapted to the needs of LVCs and VLVCs

For many LVCs and VLVCs, the data requested as per the existing guidelines may not be relevant, and the details requested can overshadow the fact that the country is a very small consumer of ODS.

- Survey data not adapted to LVCs and VLVCs needs

A detailed survey on the number and type of refrigeration and servicing workshops, cold storages, tourist hotels, etc. is needed for projects development for LVCs and VLVCs. Existing guidelines do not focus on such a detailed survey. Project development therefore lags behind, even after approval of the Country Programme.

- Cost-effectiveness of implementation

30 Country Programmes (including LVCs and VLVCs) have now been formulated. Annex B shows the funding for IS projects approved so far including their cost-effectiveness.

Under the existing procedures, average funding sought for the formulation of a country programme, for an LVC with typical ODS consumption of 50 tonnes per year, is in the order of \$40,000 and funding sought for the associated Institutional Strengthening can be in order of US\$ 170,000. Total funding for these two "support" activities will then be in the order of US\$ 210,000. The average "phase-out support cost" comes to US\$4/kg. For a country with 20 tonnes per year of ODS consumption, the total figure could average US\$ 90,000 (US\$ 40,000 for the country programme formulation and US\$ 50,000 for the Institutional Strengthening), i.e. US\$4.5/kg. A country with ODS consumption of 2-tonnes per year, would, under the present approach, request a total funding of US\$90,000. The 'phase-out support cost' would then be 45 US\$/kg.

- long period of inactivity after approval of funding

Establishment and effective operationalization of National Ozone Units in some LVCs and VLVCs are characterized by a long period of inactivity due to the nature of ODS consuming activities in these countries.

6.0 SUGGESTED OPTIONS:

The options available for assisting VLVC's are as follows:

- a.) To do nothing
 - b.) To maintain the status quo
 - c.) To develop alternative approaches
- a.) One of the available options is "to do nothing", about the remaining LVCs and VLVCs, with the assumption that ODS phase-out in those countries will eventually take place and that even if delayed, it does not matter in terms of protection of the ozone layer. However, the fundamental principle of the financial mechanism is that it is inclusive and global in nature and does not discriminate between the countries in terms of small and large consumption. As all parties of the Montreal Protocol are equal in terms of their obligations and commitments to the Protocol and there is no explicit or implicit "exclusivity" in the Protocol for accessibility to technical and financial assistance, this option is ruled out.
- b.) The second option is to continue the existing approach. Considering that about 34 LVCS and VLVCs are yet to take any assistance from the Multilateral Fund, maintaining the present system of Country Programme formulation and IS projects for the first three years would cost about US\$ 4 million (14 LVCs at US\$ 210,000 each and 20 VLVCs at US\$ 90,000 each).

Apart from the above, there are 34 additional LVCs and VLVCs for which the Country Programme is being formulated. The IS projects for these

countries for the first three years would cost about US\$ 3.7 million (17 LVCs at US\$ 170,000 each and 16 VLVCs at US\$ 50,000 each).

Thus, the total cost of country programme and Institutional Strengthening Projects for these countries LVCs and VLVCs would be US\$ 7.7 million.

Considering that the total consumption of all these countries is approximately 4000 tonnes/annum, the cost of total phase-out would require an additional cost of phase out @ US\$ 20/kg¹ of approximately US\$ 80 million.

c.) The alternative approaches.

While the Country Programme - abridged and/or in an appropriately modified format - is the first essential step towards implementation of the Montreal Protocol, the immediate request for funding of the I.S. project may not be an indication of preparedness to proceed immediately. Hence, simply providing the assistance for I.S. (National Ozone Unit) may have minimum or no impact on phase-out in that country. Without specific and deliberate initiatives, or the commitment and involvement of key partners in the countries, external assistance may not be effective.

However, in order that the country take special initiatives, it would be useful to provide them with support "tools" which would be common for both LVCs and VLVCs.

6.1 Common Tools for phase-out in LVCs and VLVCs

- Development of simplified guidelines for Country Programme format

Although it is recommended that each country continue to receive assistance to prepare a Country Programme, a simplified format appropriate to the needs of LVCs and VLVCs will be required. LVCs and VLVCs have a responsibility to identify and report ODS consumption. An industry/user survey in the simple format would need to be presented. Hence the consumption format, with details of phase-out strategy, monitoring and evaluation, will be retained, even though in greatly simplified form. The format should be designed to assist countries to provide as much of the information as possible themselves.

- Development of 'project templates'

The action plans of LVC and VLVCs are usually composed of a set of typical projects: awareness raising campaigns, enactment of regulations, training of customs officers, training of refrigeration technicians, refrigerant recovery and recycling programmes, and, in select cases, reconversion of existing CFC-containing refrigeration equipment.

¹ this figure is estimated based on the cost efficiency threshold for some of the refrigeration sub-sector (about US\$10/kg). This figure is multiplied by factor 2.00 to account for the 'economies of scale' in LVCs and VLVCs.

It is also proposed to develop model templates (in 'fill-in' format) for each of these projects. Once the need for a specific project is identified, the formulation effort would be greatly reduced.

- Development of examples of legislation and regulation.

The examples of successful legislation and regulations along with guidelines to enact them could be developed for use during implementation.

- Development of a "self help guide"

The "self help guide" for Ozone Focal Points, would describe, step-by-step, how to obtain the data needed to fill in the Country Programme report, industry survey, and project templates.

- Development of 'Sectoral Guidelines'

USEPA, UNIDO and UNEP are already developing 'sectoral guidelines' which will provide useful tools for preparing and prioritising the phase-out projects for the refrigeration sector. Other sectoral guidelines (foam and aerosol may need to be developed.

- Development of typical information and training packages

The OzonAction Programme has already developed an "Information Kit" and Training Manuals and Guidelines to fulfill the needs of Article 5 countries. These could be used during the implementation of the Country Programme, by the Ozone Focal Point or the consultant.

6.2 Approaches for Phase-out in Low Volume Consuming Countries (LVCs):

6.2.1 Country Programme formulation

The cost-effectiveness problem associated with LVCs could be addressed by 'regionalizing' their Country Programme formulation processes. Rather than each country being individually funded, with a consultant visiting each country to develop an individual proposal (as based on the traditional guidelines) several countries within a region could carry out the exercise, using the common tools developed as per 6.1 above.

Representatives from LVCs in a 'region' could meet with a single consultant at a central point. The consultant would then instruct these representatives as a group, on preparation, formulation, presentation and implementation of their Country Programmes. A more detailed description of this approach is included in Annex 'C'.

The "regional" approach has the advantage of reducing efforts, time and hence costs. Specifically, it reduces travel costs of the consultant, and the efforts for formulation of projects by the country representatives and the consultant. However, there is the likelihood of a delay in initiating the activity as all the countries in the region may not be ready to undertake the "regional" approach

together. Coordination and follow-up will need to be stepped up.

6.2.2 *Country Programme implementation*

6.2.2.1 Institutional Strengthening

It is envisaged that even with the use of the tools indicated in 6.1, substantial coordination efforts will still be needed to provide "support" to the implementation activity.

It is considered essential that each country has at least a focal point with responsibility for ODS issues. The duties of such focal points would be to coordinate the different ODS phase-out activities in their countries, and to fulfill the reporting obligations under the Montreal Protocol and the Executive Committee. It could well be on a part-time and/or short-term basis with appropriate compensation for part time services of such a focal point. Computer and communication costs should be included as institutional assistance on a case-to-case basis.

Such an approach should be more cost effective than the previous one since only one part time officer plus some administration costs would be covered. If such a focal point had expertise in the refrigeration field it would be added advantage. The focal point could be adequately assisted with additional support on a "regional" basis. One of the options could be the use of UNEP's Regional Office through the existing Regional Network Coordinators (RNCs) of the Networks for ODS Officers, by providing marginal resources. A second option could be regular support from representatives of a bilateral agency in the region. Another option could be a combination of the first and second options. Such assistance would include monitoring on implementation, discussion of problems encountered and general guidance.

6.2.2.2 Projects

Phase-out of ODS has so far always been carried out through individual projects addressing specific needs such as the conversion of existing CFC-using refrigeration equipment and investment projects related to small manufacturing facilities, usually in the refrigeration and foam sectors.

Sectoral manuals/guidelines (similar to the one being prepared by USEPA/ UNIDO/UNEP for the refrigeration sector) could be used, together with the 'project templates' proposed in 5.1. Actual phase-out projects should be complemented on a case-by-case basis, by other projects which "support" ODS phase-out, i.e. training programmes, demonstration projects and recovery and recycling projects packaged with guidelines on legislative measures.

Due to the formulation of standard projects templates under the new approach, the coordination and follow up at the level of Implementing Agencies and the Fund could be streamlined and made easier. This would also facilitate the sharing of experiences and common elements among the ODS Officers and would certainly improve the final results of the projects. Regional support through the RNCs or other options, as indicated in 6.2.2.1, could be considered.

6.3 Approaches for Phase-out in Very Low Volume Consuming Countries (VLVCs):

6.3.1. Country Programme formulation

Rather than initiating the formulation of a Country Programme in each country, a consultant could visit the country and work with the Government appointed Focal Point for ozone issues, to identify the small uses of ODSs and to formulate during the visit, a simplified Country Programme (in the new format) that would address the most important needs of the VLVC.

The Country Programme format and questionnaire would be the similar to the one suggested for LVCs, except that the level of detail would be left to the discretion of the consultant and the country representative. The key idea would be to get all of the details (number of servicing workshops, hotels, cold storages, etc.) upfront to initiate the activities based on such details. The project templates would also be filled in on the spot, with the intention to eliminate the need of another consultant to visit for formulation of the project at a later date. It might also be possible for the consultant to carry out any small training projects required, at the same time as they are there to identify ODS uses.

6.3.2 Country Programme implementation

6.3.2.1 Institutional Strengthening

Given the very small consumption in each VLVC, a totally different, but more effective approach would be required.

One of the options would be to fully "regionalize" this coordination - possibly through the Regional Network Coordinators (RNC) of the ODS Officers Network. A consultant could be appointed to work with the RNC to assist in carrying out the functions of the Ozone Office for each of the countries of the region as a 'Regional Focal Point'. Such a consultant could be from the region or a bilateral agency.

Such an approach has the advantage of increased regional coordination and of information sharing. It may, however, result in a reduced sense of ownership by the country. To a certain extent, this could be counter-balanced by regular involvement of the RNCs. For the purpose of internal administration, setting up policies, meeting the reporting requirements and training, a national focal point would still be required, albeit with quite marginal man-hours.

Such a focal point should preferably be a qualified refrigeration engineer.

6.3.2.2 Projects

As an option for VLVCs, a "bulk sum" for phase-out could be calculated "a priori" based on the estimated ODS consumption, and a maximum cost-effective threshold level. The proposed phase-out plan would have to fit within this calculated "bulk sum". If, for example, US\$20/kg is the threshold for VLVCs, as indicated in point (b) of section 6.0, a 20 Tonnes per annum (TPA) consumption

would require a "bulk sum" of US\$400,000 for complete phase-out. The country then could work out the total phase-out activities within this "bulk sum". Such "bulk sum" may also include support activities like reinforcement of legislation and training.

The "bulk sum" approach for VLVCs should include "support projects" such as reinforcement of legislation and training. Other initiatives like a recovery and recycling programme in a country with a 2-tonne consumption, may not be justified, and may be left to the private sector.

7.0 COMPARISON OF COSTS OF OPTIONS

The costs of various options and a comparison with existing options, is given in Annex 'D'. In summary, the alternative approach for Country Programme preparation and IS suggested will cost about US\$3.7 million as compared to the cost of the "status quo" approach, which is US\$ 7.7 million.

8.0 CONCLUSION AND RECOMMENDATIONS

1. The preparation of Country Programmes for LVCs and VLVCs needs to be carried out through appropriate modifications in the format. The regional approach could be used for LVCs and the service of a single external assistant to advise a group of countries could be used for VLVCs.
2. Institutional Strengthening is an important need, but an effective approach for LVCs and VLVCs could be to get them prepared for phase-out. A full-time supporting focal point may not be required. Part-time financial assistance supported by regional initiatives (ODS Networks and/or bilateral) could prove to be effective.
3. Self-help tools which could be useful for both LVCs and VLVCs need to be developed for effective implementation of the innovative approach.
4. The approach as described in sections 1, 2 and 3 could result in savings in efforts, time and hence cost for the implementation.
5. It is prudent to initiate an innovative approach on a "pilot" basis. However completion of a "pilot project" would involve substantial time and a number of LVCs and VLVCs would be requesting assistance in parallel.

ANNEX A

COUNTRIES WHOSE COUNTRY PROGRAMMES
ARE CURRENTLY BEING FORMULATED BY UNEP
(BUT NOT YET APPROVED)

LVCs		VLVCs	
COUNTRY	ODS Consumption (mt/year)	COUNTRY	ODS Consumption (mt/year)
Macedonia	100*	Antigua and Barbuda	5
Bahamas	50	Gambia	30
Bolivia	77	Gabon	30
Central African Republic	31	Myanmar	20
Brunei	123	Lesotho	5.6
Chad	50	St. Kitts and Nevis	14
Ethiopia	50	St. Lucia	30
Croatia	150	Western Samoa	30
Guinea	44	Togo	1.2
Honduras	100	Guyana	20*
El Salvador	100	Kiribati	20*
Jamaica	100	Solomon Islands	20*
Namibia	41	Zaire	20*
Papua New Guinea	111	Vanuatu	20*
Nicaragua	150	Paraguay	20*
Tanzania	98	DPR of Korea	20*
Benin	41	Trinidad & Tobago	20*

Total Number of Countries:

LVCs: 17
VLVCs: 17
Total : 34

Total Estimated Consumption:

LVCs: about 1,700 tonnes
VLVCs: about 340 tonnes
Total: 2,040 tonnes

* Not available, hence arranged.

**COUNTRIES THAT HAVE NOT YET
REQUESTED COUNTRY PROGRAMME FORMULATION**

LVCs	VLVCs
COUNTRY	COUNTRY
Libyan Arab Jamahiriya	Haiti
Afghanistan	Comoros*
Angola	Dominica*
Albania	Grenada*
Democratic Yemen	Marshall Islands*
Lao Peoples' Democratic	Nepal*
Republic Liberia	Tuvalu*
Bosnia and Herzegovina*	Sierra Leone
Mali	Djibouti
Morocco	Democratic Kampuchea
Oman	Belize
Qatar	Bhutan
Guinea Bissau	Burundi
Surinam	Somalia
	Cape Verde
	Equatorial Guinea
	Madagascar
	Tonga
	Rwanda
	Sao Tome and Principe

* Countries that are Party to the Protocol

Total Number of Countries:

LVCs: 14
VLVCs: 20
Total: 34

Total Estimated Consumption:

LVCs: 1,400 tonnes (average of 100T each)
VLVCs: 400 tonnes (average of 20T each)
Total: 1,800 tonnes

ANNEX B

INSTITUTIONAL STRENGTHENING (IS) PROJECTS IN THE MULTI-LATERAL FUND INVENTORY OF APPROVED PROJECTS (DEC 1994).

COUNTRY	CONSUMPTION (TONNES)	IS FUNDS ALLOCATED	US\$/Kg	DATE OF APPROVAL
AFRICA				
Algeria	2221	297,000	0.13	11.93
Botswana	35	90,200	2.57	7.94
Burkina Faso	33	85,500	2.59	11.93
Cameroon	104	161,000	1.54	11.93
Cote d'Ivoire	247	122,810	0.50	7.94
Egypt	2763	263,450	0.10	6.93
Ghana	101	160,000	1.58	10.92
Kenya	128	175,000	1.36	3.93
Malawi	60	107,000	1.78	3.94
Mauritania	17	38,874	2.29	9.94
Mauritius	69	50,000	0.73	6.93
Mozambique	32	92,400	2.89	12.94
Niger	18	74,800	4.16	12.94
Nigeria	-	300,000		3.93
Senegal	101	175,000	1.73	11.93
Seychelles	4	31,900	8.00	7.94
Sudan	606	168,300	0.27	3.94
Swaziland	101	67,320	0.67	12.94
Tunisia	-	280,000		10.92
Uganda	15	64,515	4.30	7.94
Zambia	22	75,600	3.44	3.93
Zimbabwe	320	171,050	0.54	7.94
ASIA AND THE PACIFIC				
Bangladesh	233	150,000	0.64	9.94
China	55 948	450,000	0.01	2.92 and 3.93
Fiji	46	65,890	1.43	3.94
India	13 111	430,600	0.03	10.92
Indonesia	6 567	314,780	0.05	6.93
Iran	2 445	200,200	0.08	10.92
Jordan	779	100,000	0.13	6.92
Malaysia	3 744	322,520	0.09	3.93
Maldives	5	41,250	8.25	3.94
Pakistan	-	259,000		9.94
Philippines	2 531	209,000	0.08	3.93
Sri Lanka	231	154,680	0.67	3.94
Syria	1 333	235,180	0.18	6.93
Thailand	8 893	400,000	0.05	3.93
EUROPE				
Turkey	3 608	300,000	0.08	10.92

LATIN AMERICA AND CARIBBEAN

COUNTRY	CONSUMPTION (TONNES)	IS FUNDS ALLOCATED	US\$/Kg	DATE OF APPROVAL
Argentina	4 402	359,500	0.08	7.94
Barbados	39	136,000	3.49	12.94
Brazil	8 918	403,100	0.05	6.93
Colombia	1 974	317,790	0.16	3.94
Costa Rica	240	213,160	0.89	10.92
Cuba	331	172,000	0.52	6.93
Ecuador	742	204,000	0.28	3.93
Guatemala	285	172,000	0.60	6.93
Mexico	10 184	350,000	0.03	6.92 and 12.94
Panama	233	172,500	0.74	6.93
Uruguay	314	173,800	0.55	6.93
Venezuela	-	329,192		3.93

As a comparison, using the Institutional Strengthening funding requested in the Country Programmes of St Lucia and Togo,

COUNTRY	CONSUMPTION (TONNES)	IS FUNDS ALLOCATED	US\$/Kg	DATE OF APPROVAL
St Lucia	7.49	76,900	10.27	
Togo	1.15	60,000	52.17	

Notes:

1. Two of the costliest projects in Africa correspond to countries for which ODS consumption is not given - Nigeria and Tunisia.
2. Other projects (also costly ones) without ODS consumption figures are Pakistan and Venezuela.
3. China and Mexico have had 2 fund allocations each, in different years.

ANNEX C

REGIONAL APPROACH FOR THE FORMULATION OF COUNTRY PROGRAMMES IN LVCs

The new methodology proposed consists of the following main elements:

- a group of countries from the same region who are ready to start the formulation of their country programmes at the same time. This group should not be bigger than 4 countries; to allow a closer follow-up by the consultant in charge;
- bilateral cooperation of a non-Article 5 country from the region, which would preferably include hiring a consultant identified by the government of such country. This will allow for a better understanding of the relevant regional characteristics and key issues. It will also reduce travel costs because of geographical proximity;
- an abridged version of the Country Programme report, preferably in a "fill in" format. This will allow for a reduced report in accordance with the reduced complexity of industry structures, and will also allow for a more expeditious finalization of the report by the country;
- a 'self help guide' to assist the countries in carrying out the survey and filling in the report on a step-by-step basis;
- development of typical LVC and VLVC 'project templates'
- development of industry surveys adapted to the needs of typical LVC and VLVC projects
- centralization of the only meeting between the consultant and the country representatives; thus facilitating the exchange of ideas and information among the countries, saving the consultant's time and creating a healthy peer pressure among countries;
- small grant to the country in order to assist with the cost of the survey and the report formulation in general;
- close follow up by the consultant through various communication means, to assist the countries in the whole process.

Under the proposed methodology, the process of formulation of the country programmes would observe the following steps:

- Phase I

Meeting of the consultant with the country representatives in charge of the formulation of the Country Programme. This meeting would take place either in the most centrally located of all the countries involved, or

in the concerned bilateral donor country. During this meeting the consultant would brief the country representatives on issues related to:

- . depletion of the ozone layer and its effects;
- . international Montreal Protocol framework;
- . policy and strategy issues related to the implementation of the Montreal Protocol;
- . latest technical options available for each sector and developing trends;
- . Multilateral Fund guidelines and procedures;
- . available information and other resources;
- . self help guide, and how to use it;
- . industry survey (standard questionnaires would be provided) and how to carry it out;
- . the Country Programme report and how to fill it in. --

This meeting should last for approximately 5 days, and would be carefully prepared beforehand, by sending all the background documents and agenda to the countries one month in advance of the meeting, and by starting the communications between the consultant and the countries before the meeting.

- Phase II

This phase would be carried out separately by each country, with the follow up of the consultant when needed, and would consist of:

- . survey of ODS consumption and industry structure;
- . filling in of the Country Programme report form.

- Phase III

This phase would also be carried out separately by each country, and would consist of sending the report to the consultant and discussing its contents. No second meeting is proposed, in order to reduce costs and allow each country to proceed at its own pace.

The whole process should not last more than 3 months: 1.5 months for phase I, 2 months for phase II and .5 month for phase III; but the Country Programmes should be expected to be completed in 6 months, to allow a margin for contingencies.

ANNEX D

INDICATIVE COST ELEMENTS FOR INNOVATIVE APPROACHES

The following cost comparisons of various options are 'indicative' only, in that they are based on certain assumptions and might otherwise differ from country to country. If the Executive Committee finds the approach satisfactory, then the initial activities which might be authorized separately, on a trial basis, would provide a better guide to eventual costs for these activities.

Support to focal point: includes salary to be assessed by the Government in collaboration with the implementing agency, operational expenses and administrative costs for reporting under the Montreal Protocol.

Support on a regional basis: includes fees for regional expert over three years.

There are 34 LVCs and VLVCs, with a total approximate annual consumption of 1660 tonnes that have not taken any assistance from the Multilateral Fund so far. It is estimated that only 14 of them are LVCs, having a total estimated annual consumption of 1300 tonnes (an average of 100 tonnes per year each).

1. Phase-out costs for LVCs where no activities have been undertaken so far.

The estimated costs will be:

Item	Estimated cost per country	Number of countries	Total cost US\$
consultant fees including travel (regional approach)	6,000	14	84,000
small grant to the country for development of country programme report	5,000	14	70,000
support to focal point	60,000	14	840,000 *
support on regional basis	10,000	14	140,000 *
Total***	71,000	14	1,134,000

for 3 years

- ** assuming a cost-effectiveness threshold of US\$ 20/kg, and an average annual consumption of 100 tonnes each per country, the additional cost of other phase-out projects, would be US\$ 28 million for 14 LVCs.

2. Phase-out costs in VLVCs where no activities have been undertaken so far.

There are 20 VLVCs having a total estimated annual consumption of 360 tonnes (an average of 20 tonnes per year each). The estimated cost will be:

Item	Estimated cost per country	Number of countries	Total cost US\$
consultant fees including travel to each country	15,000	20	300,000
support on regional basis	10,000	20	200,000
support to focal point	20,000	20	400,000 *
Total **	45,000	20	900,000

* for three years

** assuming a cost-effectiveness threshold of US\$ 20/kg, and an average annual consumption of 20 tonnes per country, the additional cost of other phase-out projects will be US\$ 8 million for 20 VLVCs.

3. Phase-out costs in LVCs/VLVCs where Country Programmes are already being formulated

There are 34 countries where country programmes are already being formulated. Approximately 17 of these countries are LVCs and 17 are VLVCs. The associated costs for the remaining activities would be:

LVCs

Item	Estimated cost per country	Number of countries	Total cost US\$
Support to focal point	60,000	17	1,020,000 *
Support on regional basis	10,000	17	170,000 *
Total	70,000	17	1,190,000 **

* for three years.

** assuming a cost-effectiveness threshold of US\$ 20/kg, and an average annual consumption of 100 tonnes per country, the total cost of other phase out projects will be US\$ 34 million.

VLVCs

Item	Estimated cost per country	Number of countries	Total cost US\$
support on regional basis	10,000	17	170,000 *
support to focal point	20,000	17	340,000 *
Total	30,000	17	510,000 **

* For three years.

** assuming a cost-effectiveness threshold of US\$ 20/kg, and an average consumption of 20 tonnes per country. The total cost of other phase-out projects will be US\$ 6.8 million for 17 VLVCs.