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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
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PROPOSED TERMS OF REFERENCE, BUDGET AND MODALITIES FOR A STUDY REGARDING COLLECTION, RECOVERY, RECYCLING, RECLAMATION, TRANSPORTATION AND DESTRUCTION OF UNWANTED OZONE-DEPLETING SUBSTANCES (FOLLOW-UP TO DECISION 46/36)

1. At its 46th Meeting and following its consideration of the report on the review of guidelines relating to collection, recovery, recycling and destruction of ozone-depleting substances (UNEP/OzL.Pro/ExCom/46/42 and Corr.1) that presented a compilation of decisions by the Meeting of the Parties and the Executive Committee, the Executive Committee requested that the Fund Secretariat should prepare a paper covering terms of reference, budget and modalities for a study regarding collection, recovery, recycling, reclamation, transportation and destruction of unwanted ozone-depleting substances taking into account the proposal of Austria and Japan and the comments made at the 46th Meeting of the Executive Committee (decision 46/36).

2. This paper, which is being presented to the 47th Meeting in line with decision 46/36, first summarizes the study objective, and then proposes an Experts' Meeting as well as possible terms of reference that address all of the study issues raised by Executive Committee members during the discussion at the 46th Meeting.

Purpose of the Study

3. The purpose of this study would be to provide information to the Executive Committee with which it might assess the possibility of funding aspects of ODS destruction in the light of recovery, recycling, reclamation and transportation considerations (below termed "management"). The study would:

(a) Assess the existing conditions and access to unwanted and/or non-reusable ODS (below termed "unwanted ODS") in terms of existing global capacity for reclamation and destruction, regulatory/permitting barriers, and the possibility to reuse unwanted ODS in other countries with remaining demand in compliance with the Montreal Protocol;

(b) Assess the quantity of non-contaminated (below termed "concentrated") ODS that are reclaimable;

(c) Consider market-driven solutions to management of unwanted and concentrated ODS;

(d) Consider possible options and related costs of measures, associated with management of ODS taking into account costs associated with ODS destruction facilities and their operations, including establishment of management capacities and existing facilities that address unwanted and concentrated ODS;

(e) Address options on how to ensure that destruction does not result in additional production or imports of ODS;

(f) Address other issues including the definition of contamination, measures of cost effectiveness, and possible cost-sharing/co-financing options with other multilateral environmental agreements (MEAs);

(g) Pay special attention to key measures that will be needed to ensure the sustainability of investments that could manage unwanted and concentrated ODS based upon normal market business models.

Experts' Meeting

4. In the past, the Fund Secretariat used an Experts' Meeting to successfully initiate the process of possible funding for new sectors including the production and methyl bromide sectors. The Secretariat is therefore proposing to hold an Experts' Meeting on this possible new sector. The purpose of the Experts' Meeting would be to discuss the proposed terms of reference contained in this document and attempt to address issues such as the definition of contamination, measures of cost effectiveness, and possible cost-sharing/co-financing options with other MEAs that might not be appropriate for an independent consultant's review. The Experts' Meeting might also address other items in the terms of reference and modify them as appropriate as well as recommend possible demonstration activities if included in the replenishment.

5. The Fund Secretariat would contract resource persons to organize the meeting and identify leading experts in several disciplines to be invited to attend a two and a half day Experts' Meeting on recovery, recycling and reclamation (RR&R) and destruction. The Experts' Meeting should include as a minimum representatives of interested bilateral and multilateral implementing agencies, interested non-governmental organizations, the private sector, representatives of the Basel and Stockholm Conventions, the GEF Secretariat, regional development banks, and multi-disciplinary experts to be proposed by the resource persons. Private sector representatives should include importers of ODS, incinerator operators. The multi-disciplinary experts might include TEAP and Scientific Assessment Panel members as well as other experts from Governments and academia. Invited multi-disciplinary experts might also be requested to provide position briefs on subjects assigned to them by the resource persons.

6. Relevant documents on RR&R and destruction of ODS and other hazardous chemicals controlled by international agreements would be compiled and provided to participants in advance of the meeting. Those would include *inter alia* the following background documents in addition to some relevant documents from other MEAs:

- the Synthesis of the 2002 Reports of the Scientific Assessment Panel (SAP), the Environmental Effects Assessment Panel (EEAP), and the Technology and Economic Assessment Panel (TEAP) of the Montreal Protocol;
- the Report of the International Workshop on the Disposal of Ozone-Depleting Substances (July 2000) sponsored by Australia, Canada and Switzerland, and the Multilateral Fund through UNEP's OzonAction Programme;
- the Report of the Task Force on Collection, Recovery and Storage (April 2002) (TEAP);
- the Report of the Task Force on Destruction Technologies (April 2002) (TEAP);
- the Report on the Review of Guidelines relating to Collection, Recovery, Recycling and Destruction of Ozone-depleting Substances (UNEP/OzL.Pro/ExCom/46/42 and Corr.1) (Multilateral Fund);

- the Report on the Technical Workshop on Emerging Innovative Technologies for the Destruction and Decontamination of Obsolete Persistent Organic Pollutants (October 2003) (the Scientific and Technical Assessment Panel (STAP) of the Global Environment Facility (GEF));
- Relevant project proposals presented in the context of RR&R and destruction of ODS under the Financial Mechanism of the Stockholm Convention, GEF, and the Multilateral Fund, the implementing agencies and other international funding agencies and development banks;
- the Special Report on Ozone and Climate (mid 2005) (Intergovernmental Panel on Climate Change (IPCC) and TEAP);
- Evaluations conducted in the context of annual Monitoring and Evaluation work plans including in particular those on Recovery and Recycling and Halon sectors;
- the Report of the ODS Recovery and Disposal Workshop in Asia and the Pacific Region (November 2004) (Japan);
- Sweden's bilateral project, "Development of a handbook on industry operated systems for recovery and reuse of ODS" that is scheduled for completion this year;
- Japan's feasibility study on modifying existing facilities in Indonesia that is scheduled for completion in March 2006;
- Supplement to the IPCC/TEAP Special Report on Ozone and Climate that is scheduled for completion in October 2005.

7. A summary of the review of these documents and projects and their relevance to the terms of reference would be provided to the participants of the Experts' Meeting at least two weeks in advance of the meeting along with input from implementing agencies.

8. A report of the Experts' Meeting would be submitted to the 48th Meeting of the Executive Committee. The report should propose a way forward and any resulting changes to the terms of reference suggested in this document, and also possible demonstration projects that might inform any future decision on funding or cost-sharing.

Proposed Terms of Reference, Modalities and Budget

9. As mentioned above, this section provides components of a comprehensive study on RR&R and destruction together with modalities and a budget to accomplish the study as requested by decision 46/36. It contains all of the elements of the study mentioned during the discussion of this topic at the 46th Meeting of the Executive Committee, including the proposal tabled at the meeting by the Governments of Austria and Japan. The Secretariat also consulted TEAP and some Executive Committee members on the approach for the study after it had been initially drafted by the Secretariat.

A. Existing Global Capacity for Reclamation Facilities

Objective: to prepare an inventory of the existing global capacity for reclamation facilities. Regional reclamation centres to reclaim banked ODS should be addressed as well as the extent to which countries accept ODS import for the purpose of reclamation. Reports already conducted on this subject have some information on this matter, but the data are incomplete. This section would address the facilities:

(a) In Article 5 countries;

(b) In non-Article 5 countries that can accept import;

(c) Ability to accept ODS import for the purpose of reclamation:

(i) Regulatory matters;
(ii) Permitting;
(iii) Labelling.

B. Existing Global Capacity for Destruction Facilities

Objective: to prepare an inventory of the existing global capacity for destruction facilities. Regional destruction centres should be addressed as well as the extent to which countries accept ODS import for the purpose of destruction. Reports already conducted on this subject have some information on this matter, but the data are incomplete. This section would address the facilities:

(a) In Article 5 countries;

(b) In non-Article 5 countries that can accept import;

(c) Ability to accept ODS import for the purpose of destruction:

(i) Regulatory matters;
(ii) Permitting;
(iii) Labelling;

(d) Impact of competition from very large, environmentally friendlier destruction facilities particularly in Europe in light of potential over-capacity.

C. Contamination

Objective: to consider the technical and practical definitions of contamination in terms of what ODS require only recycling or reclamation, and the types of contamination that could not be recycled or that would prevent reclamation of the substances under varying scenarios of equipment and know-how. Based on this assessment, definitions and quantities of contaminated ODS stockpiled, installed, and in by-products could be provided including:

(a) A definition of “contamination”;

(b) Quantities of contaminated ODS that are:

(i) Reclaimable;
(ii) Non-Reusable (it is believed that all contaminated ODS is reclaimable depending upon the cost, effort and equipment available for reclamation).

D. Inventory of Banked ODS

Objective: to determine the inventory of the current level of banked ODS in Article 5 countries by proposing, developing and implementing an estimation technique based on several of field visits in a sample of countries with large, medium and small quantities of substances. The consultant should be able to answer the question whether there are ODS in Article 5 countries for which destruction is the only likely option, because they are unwanted now and in the foreseeable future. National ozone units would be surveyed as part of the effort. The consultant should propose a sample as part of the proposal for the study. The IPCC/TEAP supplementary reports should have some data especially regarding refrigerants and foams. However, there is little information about stockpiled quantities. An estimation technique would have to be developed to estimate data that cannot be collected otherwise. The existing level of banked ODS should be identified by the following categories:

(a) Stockpiles—their location and the substances and volumes involved:

(i) Virgin;
(ii) Recovered/Collected;

(b) Installed—ODS installed in cylinders or equipment either in use or not;

(c) By-products—ODS still being produced as by-products;

(d) Expected emissions and emission reductions;

(e) Assessment of present and future need for collection and disposal;

(f) Possibility of reuse in countries with remaining demand;

(g) Projections:

(i) Unwanted ODS;
(ii) Emissions:
a. Unavoidable;
b. Avoidable.

Estimation techniques should also be used to predict the growth in the recovery of ODS based on activities approved by the Multilateral Fund as well as governmental, non-governmental, and private facilities. This should facilitate an assessment of the need for collection and disposal as well as the possibility of reuse in countries with a remaining demand. Quantities of unwanted ODS and emissions should be projected annually until their final emission. ODS emissions should be characterized as avoidable and unavoidable.

E. Market Value and Market-driven Solutions

Objective: to determine the value of contaminated and concentrated (non-contaminated) ODS and assess the possibility of using a standard business plan for modelling the viability of the market for the sale of such ODS and a clearinghouse. The clearinghouse would be along the lines of halon banking clearinghouses to match those with a supply with those with a demand. It should include an inventory of available solutions including potential market opportunities. This section should address the following items:

(a) Contaminated ODS;

(b) Concentrated ODS:

(i) Virgin;
(ii) Recycled;
(iii) Reclaimed;

(c) Market assessment and clearinghouse needs;

(d) Alternative market-driven solutions:

(i) Currently Available Solutions;
(ii) Potential Sustainable Business Models.

F. Possible Options and Related Costs of Measures on Unwanted ODS

Objective: to consider options such as the construction of ODS destruction facility, the establishment of a management capacity, and options for using existing facilities. This should include ranges of transportation costs to these facilities taken from a representative sample of Article 5 countries to other Parties (Article 5 and non-Article 5 countries) as well as their ability to accept imports of waste ODS. Offset options would address potential costs that might be considered for funding in lieu of full funding in light of a likely minimum economic threshold for sustainable operations. Information would therefore cover:

(a) ODS destruction facilities:

(i) Construction costs;
(ii) Operational costs;
(iii) Environmental and regulatory/permitting considerations;

(iv) Sustainable business models;
(v) Recovery, transportation and logistics;
(vi) Offset options in light of minimum economic thresholds;

(b) Use of existing facilities (compatible hazardous wastes):

(i) Any modification needed to existing facilities;
(ii) Operational costs;
(iii) Environmental and regulatory/permitting considerations;
(iv) Recovery, transportation and logistics;
(v) Offset options in light of minimum economic thresholds;

(c) ODS reclamation facilities:

(i) Construction costs;
(ii) Operational costs;
(iii) Environmental and regulatory/permitting considerations;
(iv) Sustainable business models;
(v) Recovery, transportation and logistics;
(vi) Offset options in light of minimum economic thresholds;

(d) Establishment of management capacity/Policy-based solutions such as import bans and bans on less environmentally friendly incinerators:

(i) National;
(ii) Regional;
(iii) Sustainable business models;
(iv) Recovery, transportation and logistics;
(v) Offset options in light of minimum economic thresholds.

G. Cost-Effectiveness of ODS Destruction and Environmental Impact

Objective: to define the term "cost-effectiveness" within the context of the Multilateral Fund and the requirement of cost-effectiveness for funding of destruction technologies, bearing in mind that ultimately the issue of incremental costs is to be determined by the Executive Committee as well as funding matters. This requires an appreciation of relevant Executive Committee decisions. Cost-efficient options to facilitate the minimization of the environmental damage from avoidable ODS emissions should also be considered. Existing scientific models that predict the repair of the ozone layer should be considered in the light of the potential destruction of quantities of avoidable ODS emissions to determine the impact of their destruction on the potential speed of the repair of the ozone layer. Areas to be covered:

(a) Define cost-effectiveness:

(i) What is the basis for assessing the volume of quantities to be destroyed in the light of the fact that there are no control measures or required reporting for banked ODS;
(ii) What levels of costs could facilitate the minimization of the environmental damage from avoidable ODS emissions;
(iii) How would the destruction of avoidable ODS emissions impact the projected time needed for the repair of the ozone layer since current scientific models assume that all ODS will eventually be emitted into the atmosphere;

(b) Comparison of cost-effectiveness to consumption and production sectors;

(c) Options on how to ensure that destruction does not result in additional production or imports of ODS. Some Executive Committee members noted that the most cost-effective way of achieving compliance was to produce less ODS and not to produce greater amounts that would be offset by destruction. It was a generally agreed requirement that any future guidelines for ODS destruction should specify that there should be no increase in production or import of ODS resulting from the destruction of ODS.

H. Cost-sharing/Co-financing and Synergies with and Technical Requirement of Other Multilateral Environmental Agreements (MEAs)

Objective: to explore opportunities for cost-sharing/co-financing from bilateral and multilateral funding sources and to link with the Basel and Stockholm Conventions in the handling and disposal of waste ODS, and to determine the extent to which cost-savings and efficiencies would result as well as possible co-financing with other environmental and development funds. If such opportunities exist, the consultant should prepare a set of proposals for a holistic approach to ODS and persistent organic pollutants (POPs) destruction. The consultant should also take into consideration technical requirements of other MEAs including *inter alia* requirements on the types of incinerators and re-exporting. This section would include the following topics:

(a) Synergies with the handling and disposal of POPs covered by the Basel and Stockholm Conventions;

(b) Synergies with HFC destruction Clean Development Mechanism (CDM) under the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol;

(c) Cost-sharing/co-financing with other funding sources:

(i) Possibilities for use of other environmental funds and development funds;

(ii) Case studies of co-financing options;

(d) Key measures that would be needed to ensure sustainability of initiatives/investments to handle ODS based upon normal market business models;

(e) Technical requirements of other MEAs that might impact options for destruction;

(f) Adopting a holistic approach.

I. Options that Ensure Management and Destruction of Unwanted and Concentrated ODS do not Result in Additional Production or Imports of ODS

Objective: The study is to address options on how to ensure that destruction does not result in additional production or imports of ODS. Article 1 of the Protocol defines Production to mean "the amount of controlled substances produced, minus the amount destroyed by technologies approved by the Parties and minus the amount entirely used as feedstock in the manufacture of other chemicals. The amount recycled and reused is not to be considered as 'production'." The consequence of destruction of unwanted and concentrated ODS thus can facilitate additional production which is not the intention of any initiative towards management of redundant ODS.

Recommendations shall be provided by the study to ensure that any initiative addressing destruction shall not result in additional production of ODS.

Executive Summary and Recommendations

10. The draft and final reports should avoid unnecessary repetition but address all of the items in the terms of reference. They should also contain a section on recommendations along with the rationale for the recommendation based on the study results. The executive summary should not exceed 4-5 pages including a one-page brief of the key findings and recommendations for senior executives.

Modalities

11. An independent consulting firm could be contracted to carry out the study with input from Parties, Implementing Agencies, non-governmental organizations, academia, the private sector and the Multilateral Fund Secretariat. The Executive Committee might wish to establish a steering panel to assess the bids in accordance with UN rules and review interim reports from the selected consulting firm. Membership of the Steering Panel should not exceed 3 members from Article 5 and 3 members from non-Article 5 Parties. The Steering Panel might also meet with the consultant team one month after the contract award to further define the terms of reference in light of the consultant's bid and to review a progress report on the first month of the study. The meeting would also consider and recommend any needed modification to the consultant's study plan and any other direction that might facilitate the timely and successful completion of the study.

Budget and Timeframe

12. It is believed that the study, based on these terms of reference, would require an inter-disciplinary approach with expertise that might include but not be limited to international agreements (preferably environmental), chemistry (particularly with regard to ODS and ODS destruction or similar chemical destruction), engineering and business modelling.

13. It is expected that the level of effort might include *inter alia*: field visits, business and economic modelling, chemical analyses, meetings with the steering panel and presentations to the Executive Committee. The level of funding is estimated to be comparable to other comprehensive studies conducted for the Meeting of the Parties that would involve an independent multi-disciplinary approach and would cost between US $200 to US $450 thousand, with the low end of the range representing a reduction in the study items as a result of the Experts' Meeting and a possible survey of national ozone units and at the higher end of the range the case where all study items would be covered along the lines of the ICF evaluation of the financial mechanism. The cost of the study would have to be justified as part of the consultant's proposal.

Indicative Schedule of Work

14. The following table proposes an indicative schedule of work for the Steering Panel and the consulting firm. The consulting firm, however, should be allowed to propose a different schedule of work but should provide for the delivery of a final report in the year 2007, at the latest.

Task	**Months from Start**
Approval of TOR by Executive Committee – 48th Meeting (March 2006)	0
Request for Bids	1 month
First Meeting of Steering Panel/Selection of Firm	1 month
Award of Contract	1 month
Steering Panel Meeting with Consultant Team	1 month
Field Visits, Data Analysis, Discussions with Parties, Implementing Agencies, Secretariat	8 months
Review of Preliminary Report/Third Meeting of Steering Panel	1 month
Submission and Consideration at by Executive Committee	1 month

RECOMMENDATION

15. The Executive Committee may wish to request the Multilateral Fund Secretariat to proceed with the organization of the Experts' Meeting on Recovery, Recycling, Reclamation, Transportation and Destruction of ozone depleting substances as an initial step, and to determine the scope of the study on this issue on the basis of the process outlined in document UNEP/OzL.Pro/ExCom/47/56.
