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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL

Eighteenth Meeting
Vienna, 22-24 November 1995

REPORT OF THE SUB-COMMITTEE ON PROJECT REVIEW

INTRODUCTION

1. The Sub-Committee on Project Review of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol met at the Vienna International Centre on 20 and 21 November 1995.

2. Opening the meeting, the Chairman of the Sub-Committee, Mr. Geoffrey Tierney (United Kingdom), expressed his gratitude to Ms. Tcheknavorian-Asenbauer of the United Nations Industrial Development Organization (UNIDO) for the arrangements made to assist the Sub-Committee in its work.

I. ADOPTION OF THE AGENDA

3. The Sub-Committee adopted the following agenda:

1. Adoption of the agenda.

2. Appraisal of the new procedure for submitting project documentation.

3. Overview of issues identified during project review (UNEP/OzL.Pro/ExCom/18/6/Rev.1).

4. Decision 17/20 of the Executive Committee:

(a) Draft consolidated list;

(b) List of projects and activities submitted to the Eighteenth Meeting of the Executive Committee;

(c) Resource allocation for (a) and (b).

5. 1996 business plans:

(a) Consolidated business plan;

(b) Business plan of UNDP;

(c) Business plan of UNEP;

(d) Business plan of UNIDO;

(e) Business plan of the World Bank.

6. Other matters, including policy matters that have an impact on project evaluation.

7. Adoption of the report.

II. APPRAISAL OF THE NEW PROCEDURE FOR SUBMITTING PROJECT DOCUMENTATION

4. The Chairman said that, as decided by the Executive Committee in paragraph (a) of its decision 17/18 (UNEP/OzL.Pro/ExCom/17/60, page 11), the Secretariat had not circulated the full documentation for project proposals before the Eighteenth Meeting of the Executive Committee. The result had been a considerable decrease in the volume of documents sent to Committee members. The full documentation was, however, available from the Secretariat upon request.

5. The Sub-Committee discussed the procedure for dealing with projects that raised substantive issues which could not be resolved by agreement between an implementing agency and the Secretariat, as well as the need to give members sufficient time to consider project documents.

6. It decided to recommend the following to the Executive Committee:

(a) The deadline for any new written information to be submitted to the Executive Committee should be two weeks before the date of the meeting;

(b) The summary of projects should contain:

(i) A synopsis of agreed projects which should come before the two weeks deadline if possible;

(ii) For projects to be considered individually, a description of the outstanding issues related to implementation of existing policies and guidelines;

(iii) For projects that raised policy issues, where there were no guidelines or inadequate guidelines, a summary presenting joint solutions whenever possible or adequate representation of the issues for consideration by the Sub-Committee on Project Review;

(c) Discussions to resolve any outstanding issues already identified could continue until the meeting of the Sub-Committee on Project Review and their outcome would be presented orally to the meeting. The number of projects to be resolved at this late stage would be kept to the minimum for reasons of financial planning;

(d) Significant new issues could only be raised less than one week before the two-week deadline under exceptional circumstances;

(e) The justification for proposed amendments to projects should be explained and disseminated so that all implementing agencies could be made aware of the criteria being applied to evaluate projects;

(f) To the extent possible, documentation should be disseminated in the form of diskettes.

III. OVERVIEW OF ISSUES IDENTIFIED DURING PROJECT REVIEW (UNEP/OzL.Pro/ExCom/18/6/Rev.1)

7. The Secretariat drew attention to policy issues relating to seven halon fire extinguisher conversion projects in China (UNEP/OzL.Pro/ExCom/18/21, pp. 7-9) and one halon fire extinguisher conversion project in India (UNEP/OzL.Pro/ExCom/18/26, pp. 9-11). The projects did not comply with the guidelines on incremental operating costs and savings in the portable fire extinguisher sub-sector, adopted by the Executive Committee at its Sixteenth Meeting (UNEP/OzL.Pro/ExCom/16/20).

8. The observers for the World Bank and UNIDO pointed out that the guidelines had been drawn up on the basis of enterprises consuming 30 tonnes annually. The enterprises in China, however, consumed much larger quantities and the level of funds recommended by the Secretariat would not provide sufficient incentive for the companies to proceed with phase-out. In addition, conversion to one technology would not cover the full range of fire extinguishers supplied by these enterprises.

9. The Sub-Committee agreed to recommend to the Executive Committee that flexibility should be shown in the case of large halon-producing enterprises, but that the burden of proving the need for conversion to a range of technologies should be placed on the

enterprise. It also underlined the desirability of maintaining the 85-15 per cent ratio after conversion of the sector.

10. One representative, however, expressed concern at the abandonment of guidelines immediately problems were experienced.

11. The Sub-Committee discussed the advisability of funding the building modifications requested and decided that no exception to the guidelines should be made in this instance.

12. The Sub-Committee agreed to recommend to the Executive Committee that the halon fire extinguisher conversion projects included in UNEP/OzL.Pro/ExCom/18/6/Rev.1, Annex I should therefore be deferred.

13. The Secretariat explained that the policy issue in the Siltal project in Egypt (UNEP/OzL.Pro/ExCom/18/24) related to the excessively high capacity of the cleaning machine.

14. The Sub-Committee recommended to the Executive Committee that the cost of the automatic transporter on the cleaning machine should be deducted and the project approved. If any resources remained from the contingency fund, they should be allocated to this project.

15. The Secretariat drew attention to the recommendations concerning the P.T. Garuda project in Indonesia (UNEP/OzL.Pro/ExCom/18/27), which related to the calculation used to establish the cost-effectiveness.

16. The Sub-Committee recommended to the Executive Committee that it approve the amount of US $33,264 for the P.T. Garuda project.

17. The Sub-Committee, in discussing the project in the Seychelles (UNEP/OzL.Pro/ExCom/18/39), noted that it raised a point of policy: how to deal with very low-ODS-consuming countries that wished to take some action on phasing out ODS. It agreed to recommend to the Executive Committee that guidelines on dealing with low-ODS-consuming countries should be approved before taking any decision on the Seychelles project.

18. The Sub-Committee was apprised of two project proposals, one on the elimination of CFC-11 and CFC-12 in the manufacture of refrigeration units at Refrigeracao Parana S.A. Cuitiba in Brazil, and the other on the elimination of CFC-12 in household refrigerator projects in the Philippines, for which no project documentation had been provided in advance.

19. The Sub-Committee regretted that the project proposals had not been made available in sufficient time to allow careful consideration, but was prepared to consider those projects to avoid prejudicing them unnecessarily.

20. In response to the doubts raised by the Secretariat concerning the nature of the units produced at the facility in Brazil, the observer for the World Bank expressed the view that the project document clearly showed that the major proportion of the units was for commercial use. Seventy-five per cent of part of the production was composed of commercial refrigeration units and for the remaining part the proportion was 90 per cent.

21. One representative, commenting that it was highly unusual for incremental operating costs to exceed capital costs by such a large amount, sought assurances from the World Bank that costs would be monitored and not passed on to the consumer.

22. Another representative said that, as the project met the guidelines approved by the Executive Committee, there were no grounds for recommending its rejection.

23. The Sub-Committee decided that, in the absence of agreement on the project the Chairman of the Sub-Committee should present the argument to the Executive Committee, requesting the latter to take a decision.

24. Regarding the household refrigerator projects in the Philippines, the Sub-Committee's attention was drawn to the following two issues:

(a) Whether the World Bank had implemented the decision taken by the Ninth Meeting of the Executive Committee to consider particular issues of concern to the Committee when appraising foam conversion projects at the enterprises in question and to what extent that should have a bearing on consideration of the refrigeration component of those projects, which had first been submitted to the Seventeenth Meeting of the Executive Committee;

(b) Whether or not projects which, on their own merits, would not meet the cost-effectiveness threshold could be submitted in combination with more cost-effective projects in the same sector in order to form a "sector phase-out approach" that, taken as a whole, would meet the cost-effectiveness threshold.

25. The Sub-Committee decided that, due to lack of advance information, it was not possible to reach a decision. As an exceptional measure, the Chairman would present the argument to the Executive Committee for decision.

26. The Sub-Committee, in discussing two projects for the closure of halon production facilities in China (UNEP/OzL.Pro/ExCom/18/6/Add.1, Annex II), noted that it raised two policy issues: the conformity of those projects with previous decisions of the Committee and whether individual projects should be considered in advance of the completion of guidelines for the closure of production facilities. It also noted apparent disparities in the figures for total halon production.

27. The Sub-Committee decided that no action should be taken on these projects until guidelines on production-sector phase-out had been agreed by the Executive Committee.

28. In connection with a project on the conversion of rigid foam manufacture at Recrusul, Brazil (UNEP/OzL.Pro/ExCom/18/20), the Secretariat recommended that a transition period of up to two years be adopted for calculating the incremental operating costs of all rigid polyurethane foam projects other than those relating to the domestic refrigeration sector. The Secretariat explained that this recommendation was based on current practice, as a period of two years or less had been adopted by the implementing agencies to calculate the incremental operating costs of the majority of approved rigid polyurethane foam projects.

29. The Sub-Committee recommended that the Executive Committee approve a time-frame of up to two years for the calculation of incremental operating costs for this particular sub-sector, and that it request the Secretariat and the implementing agencies to prepare a guidance paper for consideration by the Committee at its Nineteenth Meeting on the transition periods for calculating the incremental operating costs for all sectors and sub-sectors.

IV. DECISION 17/20 OF THE EXECUTIVE COMMITTEE

A. Draft consolidated list

30. In connection with the Consolidated List of Projects (UNEP/OzL.Pro/ExCom/18/SC/1, Appendix 1), the observer for the World Bank pointed out that the figures for all World Bank projects marked with a double asterisk appearing on the list would have to take into account the 13 per cent agency support cost now applicable to the World Bank.

31. The Sub-Committee agreed to recommend to the Executive Committee that US $2,453,498 should be approved to cover the 13 per cent support cost to the World Bank for all the projects referred to in UNEP/OzL.Pro/ExCom/18/SC/1, Appendix 1.

32. One representative noted a significant discrepancy in costs among similar projects to be undertaken by UNIDO and UNDP in the area of CFC recovery and recycling in refrigeration. It was suggested that implementing agencies should consult with each other to ensure that their projects were as cost-effective as possible.

33. In connection with the training workshop on safety aspects of CFC substitutes to be held in China and contained in the amendments to UNEP's work programme (UNEP/OzL.Pro/ExCom/18/9), one representative pointed out that approved projects already included funding for safety training and there was no need to fund additional training that was not related to a particular project.

34. The Sub-Committee decided to recommend that the Executive Committee approve the project proposal on a one-off basis on the understanding that it would provide training in the setting of safety standards. It also recommended that implementing agencies coordinate such training in this sector.

35. Subject to the above amendments, the Sub-Committee recommended that the Executive Committee approve the Consolidated List of Projects, which is included as Annex I to the present report.

B. List of projects and activities submitted to the Eighteenth Meeting of the Executive Committee

36. The representative of the United States informed the Sub-Committee that the bilateral cooperation project in Brazil for MAC servicing demonstration had been cancelled (UNEP/OzL.Pro/ExCom/18/SC/1, Appendix 2, part (g), page 14).

37. The observer for the World Bank informed the Sub-Committee that the following project had been cancelled:

China: Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Chengdu Plastics No. 7 (UNEP/OzL.Pro/ExCom/18/SC/1, Appendix 2, part (a), page 1).

38. Subject to the above amendments, the Sub-Committee recommended approval of the new project proposals which are included as Annex II to the present report.

C. Resource allocation for (a) and (b)

39. The Sub-Committee considered a revised table showing the funds available at the Eighteenth Meeting in the light of the latest information provided by the Treasurer, the recommended value of projects in the draft consolidated list, the recommended value of new projects, based on the recommendations of the Sub-Committee, and the total recommended value of all projects, for all the funding categories. After deducting the projects contained in the consolidated list from the funds available, the amount available for new projects presented to the Eighteenth Meeting would be US $19,029,074.

40. After discussing how the amount available should be allocated, the Sub-Committee recommended to the Executive Committee that it adopt the framework and methodology agreed at the Sixteenth and Seventeenth Meetings, including the differential allocations by sector. Where projects for low-consuming countries fell below the cost-effectiveness threshold, they should where possible be funded under the low-consuming countries category. It also recommended that, since the MAC sector would receive significantly more than the agreed allocations, new projects in the MAC and compressors sector should not receive further priority at the Eighteenth Meeting. It further recommended that the new projects in the CFC-recovery and halon-banking sector be covered in full from within the sectoral allocation previously agreed.

41. The Sub-Committee also considered an indicative table of resource allocations for 1996 based on the framework and pro rata allocations previously agreed. The amounts included

investment projects, non-investment projects and institutional strengthening. The Project Review Sub-Committee strongly recommends that when allocating resources for 1996, the Executive Committee should adopt the framework, sector allocations and methodologies agreed and applied at the Sixteenth and Seventeenth Meetings.

42. It was made clear that, when business plans were being prepared they should take into account the indicative sector allocations and other relevant decisions of the Executive Committee.

43. The Sub-Committee decided to transmit the indicative table of resource allocation for 1996 (UNEP/OzL.Pro/ExCom/18/62/Add.1/Corr.2) to the Executive Committee for its approval. It also recommended that any new project proposals submitted to, but not funded at, the Eighteenth Meeting form part of the 1996 business plans of the implementing agencies and be funded in 1996, ahead of projects contained in the 1997 business plans.

V. 1996 BUSINESS PLANS: (a) CONSOLIDATED BUSINESS PLAN; (b) BUSINESS PLAN OF UNDP; (c) BUSINESS PLAN OF UNEP; (d) BUSINESS PLAN OF UNIDO; (e) BUSINESS PLAN OF THE WORLD BANK

44. Introducing agenda item 5, the Chairman recalled that, in accordance with Executive Committee decision 17/19, the Sub-Committee had met with the implementing agencies in Geneva at the end of August 1995 to reach an agreed understanding on what constituted a business plan. That meeting had produced guidelines, which had then been used by the Secretariat to develop a format for use by the agencies in the preparation of their plans (documents UNEP/OzL.Pro/ExCom/18/13-16). The guidelines produced by the Sub-Committee were annexed to the consolidated business plan (UNEP/OzL.Pro/ExCom/18/12). The consolidated business plan itself showed the activities of the agencies broken down by sector and sub-sector, the planned regional allocation of funding, which was proportional to the amount of ozone-depleting substances to be phased out in each region, as well as performance indicators to enable the agencies' performance to be assessed against the business plan. He drew particular attention to paragraph 23 of the consolidated business plan, which listed a number of policy issues that had been articulated in the individual agency plans, and suggested that the Sub-Committee might wish to recommend to the Executive Committee the issues to which it should give priority consideration.

45. At the invitation of the Chairman, the representatives of UNDP, UNEP, UNIDO and the World Bank presented the business plans of their respective organizations.

46. Following the agency presentations, there was general agreement in the Sub-Committee that the exercise had been a useful one and that it was helpful to see the overall planning context in which projects were approved. It was also agreed that the Executive Committee should ensure that the model for the preparation of the business plans was adopted to serve as guidance to prepare future plans.

47. On the question of the policy issues raised by the implementing agencies in their business plans, the following were highlighted by the Sub-Committee as issues to which priority attention might be given by the Executive Committee:

(a) Approaches to phase-out in small- and medium-sized enterprises;

(b) Approaches to phase-out in low-volume-consuming countries and very-low-volume-consuming countries;

(c) Evaluation and monitoring guidelines for institutional-strengthening projects;

(d) Review of the duration of incremental operating costs across sectors;

(e) Action to be taken when a locally-owned company for which a project had been approved become significantly foreign- (i.e. non-Article 5) owned, before or after the signature of the project document or grant agreement with the implementing agency;

(f) Alternatives to the project-by-project approach as a result of the request to the implementing agencies to prepare business plans.

48. With respect to the request by UNIDO for funds for project preparation in the tobacco sector in China, it was noted that the policy of the Executive Committee on tobacco projects was not clear and that it was important to reach agreement on the issues before moving to project preparation.

49. On the general subject of project preparation, it was agreed that some of the discretionary fund might be used for project preparation in those countries not included in the implementing agencies' work programmes, especially where those countries that had not yet received funding from the Multilateral Fund.

50. Following statements by the representatives of UNDP and UNIDO, the Chief Officer clarified that low-volume-consuming countries must have country programmes in place before the implementing agencies could prepare projects.

VI. OTHER MATTERS, INCLUDING POLICY MATTERS THAT HAVE AN IMPACT ON PROJECT EVALUATION

51. There were no other matters.

VII. ADOPTION OF THE REPORT

52. In accordance with past practice, the Chairman was entrusted with the finalization of the report of the Sub-Committee.

CONSOLIDATED LIST OF PROJECTS RECOMMENDED FOR FUNDING AT THE 18TH MEETING

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Aerosol					
Hydrocarbon					
Sudan	Phasing out CFCs at Sudanese Cosmetics & Household Products, Ltd.	281.5	UNIDO	$562,302	1.78
Tanzania	Phasing out CFCs at Mansoor Daya Chemicals Ltd	150.0	UNIDO	$471,394	2.78
Malaysia	Alloychem Malaysia Sdn., Bhd., aerosol conversion project	29.0	UNDP	$112,435	3.43
Algeria	Investment project for phasing out CFCs at Enterprise Nationale des Detergents (ENAD)	150.0	UNIDO	$694,781	4.09
Malaysia	Tenco Industries Sdn., Bhd., aerosol conversion project	18.0	World Bank	$89,496	4.40
Foam					
Flexible polyurethane					
China	Conversion to CFC-free technology in the manufacture of flexible polyurethane foam (slabstock) at Penglai Polyurethane Plastic Factory	70.0	World Bank	$362,259	4.72
Argentina	Conversion to non-CFC technology in the manufacture of flexible foam (slabstock) at Belmo Buenos Aires and Belmo San Luis	145.0	UNDP	$807,950	4.93
Argentina	Conversion to non-CFC technology in the manufacture of flexible foam (slabstock) at Piero SAIC	64.0	UNDP	$385,330	5.33
Argentina	Conversion to non-CFC technology in the manufacture of flexible foam (slabstock) at Limansky	95.0	UNDP	$534,490	5.50
Argentina	Conversion to non CFC technology in the manufacture of flexible foam (slabstock) at Sueño Estelar S.A. and Estelar San Luis S.A.	128.6	UNDP	$779,700	5.75
Argentina	Conversion to non-CFC technology in the manufacture of flexible foam (slabstock) at Nuvel Corp. S.A.	53.0	UNDP	$354,255	5.92
Argentina	Conversion to non-CFC technology in the manufacture of flexible foam (slabstock) at Mentvil S.A.	18.5	UNDP	$129,950	6.22
General					
Pakistan	Phase out of CFC-11 in the manufacture of molded and rigid PUF at Razi Sons	60.0	World Bank	$557,386	8.47
Egypt	Conversion to CFC free technology in the manufacture of flexible molded PUF and integral skin foam at El Shabrawi	15.8	UNDP	$161,590	9.06

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Philippines	Residual phaseout of CFCs in the manufacture of PUF foam at RGC Foam Group (Polyfoam/Uratex)	70.0	UNDP	$734,500	9.29
Integral skin					
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at MBR	40.0	UNDP	$382,505	8.46
India	Phase out of CFCs in the manufacture of molded PUF at Bharat Seats Ltd.	55.0	World Bank	$581,456	9.64
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at Macform	25.0	UNDP	$275,155	9.74
Malaysia	Elimination of CFCs in the manufacture of cold cured/integral skin PUF molded at Muda Murni Sdn., Bhd.	21.0	UNDP	$267,245	11.23
India	Phase out of CFCs in the manufacture of molded PUF at PUR Polyurethane Products P. Ltd.	17.0	World Bank	$212,286	11.39
India	Phase out of CFCs in the manufacture of integral skin PUF moldings at Pfeda Synthetics (P) Ltd.	30.0	World Bank	$379,373	11.52
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at Nacra	20.0	UNDP	$287,585	12.73
Malaysia	Elimination of CFCs in the manufacture of molded/integral skin PUF at Bristol Sdn. Bhd.	8.0	UNDP	$139,442	15.43
Malaysia	Elimination of CFCs in the manufacture of integral skin PUF at Artright Technology Sdn.	5.9	UNDP	$102,062	15.81
Malaysia	Elimination of CFCs in the manufacture of integral skin PUF at Sze Chuan Sdn. Bhd.	5.7	UNDP	$108,480	16.77
Polystyrene and/or polyethylene					
China	Conversion to CFC-free technology in the manufacture of XPS foam at Tianjin Gangda	55.0	UNDP	$456,803	7.35
India	Phase out of CFCs in the manufacture of extruded polyethylene foam at Kunstoff Polymers Ltd.	30.0	World Bank	$270,432	7.97
Rigid polyurethane					
Turkey	Conversion to CFC-free technology in the mnufacture of rigid polyurethane foam isulation panels at Tek-iz Izolasyon ve Yapi Elemanlari Sanayii	155.0	World Bank	$824,505	3.06
Brazil	Substitution of CFC-11 by HCFC-141b in the manufacture of polyurethane foams at Recrusul SEA	201.0	World Bank	$1,215,485	5.35

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Brazil	Substitution of CFC-11 by HCFC-141b in the manufacture of polyurethane foams at Sao Rafael Ind. Com.	14.0	World Bank	$93,424	5.91
Brazil	Substitution of CFC-11 by HCFC-141b in the manufacture of polyurethane foams at Randon Implementos S.A.	14.5	World Bank	$104,163	6.36
Indonesia	Elimination of CFCs in the manufacture of rigid PUF for coolers/thermoware at P.T. Merah Delima	27.0	UNDP	$195,490	6.41
Thailand	Phase out of the use of CFCs in the manufacture of rigid PUF foam for thermoware at Krieng Thavorn Containers Co. Ltd.	65.0	UNDP	$485,900	6.62
Malaysia	Elimination of CFCs in the manufacture of rigid polyurethane foam decorative products at Florafoam Marketing Sdn., Bhd.	23.0	UNDP	$171,760	7.30
Malaysia	Elimination of CFCs in the manufacture of rigid polyurethane foam at TM Cooling Technology	10.0	UNDP	$88,140	7.31
India	Phase out of CFCs in the manufacture of rigid PUF products at SDC Polyurethane Products Ltd.	24.0	World Bank	$181,897	7.54
Brazil	Substitution of CFC-11 by HCFC-141b in the manufacture of polyurethane foams at Termolar, S.A.	8.1	World Bank	$69,739	7.57
Brazil	Substitution of CFC-11 by HCFC-141b in the manufacture of polyurethane foams at M. Agostini, S.A.	11.0	World Bank	$96,295	7.75
Argentina	Elimination of the use of CFC's in the manufacture of sandwich panels and spray foams at Montisol Argentina S.A. and Art Nouveau Puntana, S.A.	36.5	UNDP	$322,050	7.81
Halon					
Fire extinguisher					
Malaysia	Converson of production of portable fire extinguishers at Eversafe	574.0	UNDP	$202,932	0.31
India	Conversion from halon 1211 to ABC dry chemical power (ABC-DCP) and carbon dioxide (CO2) in portable extinguishers at Real Value Appliances Ltd.	462.0	World Bank	$284,462	0.54
Refrigeration					
Commercial					
Egypt	Elimination of CFCs 11 and 12 in the manufacture of commercial refrigeration equipment at United Investment Corp. Inc.	49.0	UNDP	$557,486	10.06
Kenya	Unbrella investment project for phasing out CFCs at 3 companies of Kenya Cold Storage Group	40.8	UNIDO	$147,300	11.98

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Indonesia	Phasing out ODS at P.T. Air Tech co. Ltd., Indonesia	30.1	UNIDO	$463,131	13.58
Argentina	Elimination of the use of CFCs in the manufacture of display cabinets and polyurethane panels for cold stores at Market Costan	28.1	UNDP	$477,990	15.05
Malaysia	Umbrella project for elimination of CFCs 11 and 12 in the manufacture of commercial refrigeration at 3 small enterprises: Lim Yew, Exquisite, Noblelane	44.8	UNDP	$768,400	15.17
Egypt	Elimination of CFCs 11 and 12 in the manufacture of commercial refrigeration equipment at Refcat, Co. Inc.	26.9	UNDP	$462,170	15.19
Domestic					
Argentina	Elimination of CFCs in domestic refrigerator production plants in Aurora S.A.	27.0	World Bank	$641,377	4.66
Turkey	Elimination of the use of CFCs in the manufacture of domestic refrigerators at Pekel	100.0	World Bank	$565,750	5.00
Romania	Phasing out ODS at the domestic refrigeration factory Arctic S.A.	206.0	UNIDO	$1,237,689	5.32
Indonesia	Elimination of ODSs used in the production of Household Refrigerators at P.T. Sharp Yasonta	74.8	World Bank	$678,000	8.02
Argentina	Elimination of CFCs in two domesti refrigerator manufacturing plants at Piragua S.A., and Piragua San Luis	49.4	World Bank	$1,175,498	8.36
China	Conversion from CFC-11 foaming agent to cyclopentane at Chang Ling (Group) Co. Ltd.	190.0	World Bank	$2,330,060	9.06
Cameroon	Investment project for phasing out of CFCs at Union Camerounaise d'Entreprise	115.1	UNIDO	$1,493,182	9.11
Colombia	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Unilemh Ltd. (Challenger)	17.1	UNDP	$175,546	9.11
Indonesia	Elimination of ODSs used in the production of household refrigerators at P.T. National Gobel	89.5	World Bank	$967,858	9.57
Venezuela	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Madosa, S.A.	93.0	UNDP	$260,210	9.88
Venezuela	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Coresmalt Valencia, C.A.	65.5	UNDP	$774,423	10.45
Argentina	Elimination of CFCs in domestic refrigerator production plant in Autosal, S.A.	22.0	World Bank	$901,051	11.63

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Nigeria	Investment project for phasing out CFCs at Thermocool Engineering Co. PLC	82.0	UNIDO	$1,656,298	11.70
Philippines	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Matsushita Electric Philippines Corporation (Mepco)	47.0	UNDP	$126,836	11.92
Argentina	Elimination of CFC in the manufacturing plant of domestic refrigerators of Neba, S.A.	29.0	World Bank	$775,598	12.28
Nigeria	Investment project for phasing out CFCs at Debo Industries Ltd.	52.0	UNIDO	$1,184,300	12.57
Argentina	Elimination of CFCs in the manufacturing plant of domestic refrigerators of Briket, S.A.	24.0	World Bank	$820,832	12.66
Venezuela	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Grupo Frigilux, C.A.	48.8	UNDP	$1,076,890	13.24
Malaysia	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Sanyo domestic refrigeration	13.4	UNDP	$207,084	13.69
Costa Rica	Elimination of CFCs 11 and 12 in the manufacture of domestic refrigerators at Atlas Eléctrica S.A.	27.3	UNDP	$423,750	13.76
Indonesia	Elimination of ODSs used in the production of household refrigerators at P.T. Topjaya Antariksa Electronics	51.0	World Bank	$793,260	13.76
Solvent					
CFC-113					
Egypt	Conversion of cleaning processes from CFC-113 to aqueous cleaning at Optica	0.4	UNIDO	$13,609	12.54
Brazil	Phase out of CFC-113 at DMG used in medical equipment parts cleaning	2.0	UNDP	$42,940	19.00
Brazil	Elimination of CFC-113 from the precision cleaning and drying process at Brasimet	1.6	UNDP	$34,352	19.00
CFC-113, TCA					
India	Conversion of electronic cleaning processes from ODS solvents to no-clean and hydrocarbon cleaning technologies at ERL-Bangalore	16.4	UNIDO	$217,436	11.77
India	Conversion of electronic cleaning processes from ODS solvents to no-clean and aqueous photoresist developing and stripping technologies at ITI Palakkad	15.0	UNIDO	$266,391	15.72

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Egypt	Conversion of electronic cleaning processes from ODS solvents to non-ODS cleaning at three electronic companies (Benha Co. for Electronics Industry, A.I.O. Electronics Factory, Sakr Factory)	13.7	UNIDO	$256,739	16.60
Egypt	Conversion of cleaning processes from CFC-113 and 1,1,1 TCA to semi-aqueous cleaning at Arab International Optronics	2.1	UNIDO	$54,842	23.11
Brazil	Phase out of CFC-113 and of MCF used in vapor degreasers to clean aircraft parts at Embraer	12.6	World Bank	$348,283	24.45
TCA					
Malaysia	Conversion of correction fluid manufacturing process from 1,1,1 TCA to non-ODS solvent at Mondial Sdn. Bhd.	85.0	World Bank	$163,225	1.70
Malaysia	Conversion of metal cleaning process from 1,1,1 TCA to hydrocarbons at AE Technology Sdn. Bhd.	16.8	World Bank	$64,289	3.39
Malaysia	Conversion of correction fluid manufacturing process from 1,1,1 TCA to non-ODS solvent at Widetech	29.0	World Bank	$450,212	13.74
Brazil	Conversion of ODS cleaning processes from 1,1,1 TCA to aqueous cleaning and using trichlorethane at Elgin Maquinas, S.A.	6.0	UNIDO	$176,921	26.10
Malaysia	Conversion of metal cleaning process from 1,1,1 TCA to hydrocarbons at Eng Teknologi Sdn. Bhd.	3.4	World Bank	$132,638	31.29
Indonesia	Conversion of metal cleaning processes from 1,1,1 TCA to aqueous cleaning at PT INTI	1.0	World Bank	$42,239	38.50
Indonesia	Conversion of metal cleaning processes from 1,1,1 TCA to aqueous cleaning at PT. Garuda	0.9	World Bank	$37,588	38.50
Indonesia	Conversion of metal cleaning processes from 1,1,1 TCA to aqueous cleaning at PT. Markindo Theco	2.2	World Bank	$94,016	38.50
	Total	**5,137.8**		**$38,074,573**	

(b) Low ODS-consuming countries

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Halon					
Fire extinguisher					
Uruguay	Transfer of technology and conversion of production of halon 1211 fire extinguishers at Izeta López Fire Company	2.7	UNDP	$27,374	8.97
Uruguay	Conversion of production of halon 1211 fire extinguishers at Tornay and Mori	2.4	UNDP	$43,110	15.90
	Total	**5.1**		**$70,484**	

(c) MAC and compressor

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Compressor					
China	Conversion of compressor production for domestic refrigerators from CFC-12 to hydrocarbon refrigerant at Jiaxipera Compressor Factory		UNIDO	$1,683,700	
MAC					
Argentina	Conversion to non-CFC technology in the production of mobile air conditioning systems at Sistemaire, S.A.		World Bank	$2,678,722	
China	Conversion from CFC-12 to HFC-134a MAC system at Yueyang Hengli Air Conditioning Equipment Co. Ltd.		World Bank	$1,997,796	
China	Conversion from CFC-12 to HFC-134a MAC compressor at Guangzhou Haohua Automobile Parts Co. Ltd.		World Bank	$2,499,604	
China	Conversion from CFC-12 to HFC-134a MAC system at Shanghai Automobile Air Conditioner Co.		World Bank	$1,855,833	
Malaysia	Phase out of CFC-12 MAC system production equipment and conversion to HFC-134a MAC system manufacturing in Nippodenso Capital Sdn. Bhd.		World Bank	$2,522,971	
Malaysia	Phase out of CFC-12 MAC manufacturing equipment and conversion to HFC-134a MAC system manufacturing at APM Air Conditioners Sdn., Bhd.		World Bank	$1,335,155	
	Total			**$14,573,781**	

(d) CFC recycling and halon banking

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Refrigerant recovery and recycling					
Malaysia	Reduction of the consumption of ODSs in the commercial air-conditioning sector via training, recovery and recycling of CFC-11 and CFC-12 in chillers at Mashrae		World Bank	$931,208	
Mexico	Recovery of CFC-12 servicing of domestic refrigeration at Vitromatic Comercial y Servicios Integrados		UNDP	$398,449	
	Total			**$1,329,657**	

SUMMARY OF CONSOLIDATED LIST OF PROJECTS

Sector	Number of projects	Phased-out (ODP tonnes)	Cost (US $) (*)	C.E. (US$/kg)
(a) Investment projects ranked by order of cost-effectiveness				
Aerosol	5	628.5	$1,930,408	3.07
Foam	34	1,621.6	$12,119,082	7.47
Halon	2	1,036.0	$487,394	0.47
Refrigeration	27	1,643.6	$21,141,969	12.86
Solvent	16	208.1	$2,395,720	11.51
TOTAL:	**84**	**5,137.8**	**$38,074,573**	**7.41**
(b) Low ODS-consuming countries				
Halon	2	5.1	$70,484	13.82
TOTAL:	**2**	**5.1**	**$70,484**	
(c) MAC and compressor				
Compressor	1		$1,683,700	
MAC	6		$12,890,081	
TOTAL:	**7**		**$14,573,781**	
(d) CFC recycling and halon banking				
Refrigerant recovery and recycl	2		$1,329,657	
TOTAL:	**2**		**$1,329,657**	
GRAND TOTAL:	***95***	***5,142.9***	***$54,048,495***	

LIST OF NEW PROJECTS APPROVED AS ELIGIBLE FOR FUNDING INCLUDING THOSE TO BE FUNDED AT THE 18th MEETING

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Aerosol					
Hydrocarbon					
Romania**	Phasing out of CFCs at Farmec S.A.	730.0	UNIDO	$1,012,344	1.22
Foam					
Flexible polyurethane					
China**	Elimination of CFC-11 in the manufacture of flexible slabstock PUF at Tianjin Daqui Foam Plant	190.0	UNDP	$180,800	0.84
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Zibo No. 3 Plastic Plant	100.0	World Bank	$281,370	2.49
China	Conversionto CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Qingyang Chemical Corp.	90.0	World Bank	$409,060	4.02
China	Elimination of CFC-11 in the manufacture of flexible slabstock PUF at Jiangsu Jintan Insulation Mat.	12.0	UNDP	$74,580	4.33
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Yinguang Chemical Group	85.0	World Bank	$424,880	4.42
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Hangzhou Plastic Foam Factory	60.0	World Bank	$358,210	5.28
China	Phaseout of CFCs in the manufacture of flexible slabstock PUF at Jinan Shiyan Plastic Plant	35.0	World Bank	$236,509	5.98
China	Conversion to CFC-free technology in the manufacture of flexible (slabstock) polyurethane foam at Qinhuangdao No. 3 Plastic Plant	60.0	World Bank	$418,100	6.17
Integral skin					
China**	Elimination of CFCs in the manufacture of integral skin and cold cured PUF moldings at Jiangxi Auto Engineering Plastic Plant	39.2	UNDP	$192,100	4.33
India	Phase-out of CFCs in the manufacture of molded PUF automotive seat cushions at Roloforms Polymer Ltd.	26.0	World Bank	$183,512	6.25
India	Phase-out of CFCs in the manufacture of cold cured PUF moldings at Punjab Scooters Ltd.	39.0	UNDP	$352,786	8.00

(*) Includes agencies' overhead costs where applicable

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Brazil	Conversion to CFC-free techcnology in the manufacture of polyurethane foam at Blitz Ind. Com. de Plasticos	9.7	UNDP	$135,600	12.37
India	Phase-out of CFCs in the manufacture of cold cured and integral skin PUF moldings at Amit Polyseats Ltd.	19.3	UNDP	$274,590	12.53
India	Phase-out of CFCs in the manufacture of cold cured PUF moldings at Meenakshi Polymers Pvt. Ltd.	15.0	UNDP	$241,820	14.26
Polystyrene and/or polyethylene					
India**	Phase-out of CFCs in the manufacture of extruded polyethylene foam at Shroff Textiles Ltd.	25.0	World Bank	$222,836	7.89
Rigid polyurethane					
Mexico**	Conversion to CFC-free technology in the manufacture of polyurethane foam at Paneles	81.0	UNDP	$113,000	1.23
Turkey**	Conversion to CFC-free technology in the manufacture of rigid polyurethane foam insulation panels at Barlan Metal	462.0	UNIDO	$908,577	1.74
Mexico**	Conversion to CFC-free technology in the manufacture of insulated construction panels at Galvamet	88.7	UNDP	$220,915	2.20
Algeria	Phasing out CFC-11 in the manufacture of sandwich panels at Batimetal Béni Mansour	110.0	UNIDO	$561,215	2.93
Algeria	Phasing out CFC-11 in the manufacture of sandwich panels by discontinuous method at Prosider Berrahal	82.0	UNIDO	$490,985	3.44
Mexico	Conversion to CFC-free technology in the manufacture of rigid polyurethane foam (spray) - Group project	100.0	UNDP	$573,475	5.08
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at Madef/Isoltec	65.3	UNDP	$390,980	5.30
Philippines	Phaseout of the use of CFCs in the manufacture of PU foam for insulation and structural purposes at Himalaya Mfg. Corp.	17.0	UNDP	$114,130	5.94
India	Phase-out of CFCs in the manufacture of rigid PUF spray insulation at Beardsell Ltd.	21.2	UNDP	$145,770	6.07
India	Phase-out of CFC-11 in the manufacture of rigid PUF for insulated thermoware at Arihant Thermoware Ltd.	23.7	World Bank	$165,489	6.18

(*) Includes agencies' overhead costs where applicable

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
India	Phase-out of CFCs in the manufacture of rigid PUF insulated thermoware at Asian Advertisers	19.4	UNDP	$138,425	6.31
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Wimco Pen Co.	18.5	World Bank	$134,798	6.44
Syria	Investment project for phasing out CFCs at Krayem Cold Stores Co.	65.0	UNIDO	$728,398	6.45
India	Phase-out of CFCs in the manufacture of rigid PUF products at Lloyd Insulations and Polyproducts	76.7	UNDP	$565,000	6.51
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Cello Plast	21.0	World Bank	$159,692	6.72
Brazil	Conversion to CFC-free technology in the manufacture of polyurethane foam at three enterprises: Brafer, Invicta and Therm-Jet	38.0	UNDP	$310,750	7.24
India	Phase-out of CFC-11 in the manufacture of rigid PUF insulated thermoware at Cello Thermoware Ltd.	17.4	World Bank	$146,245	7.37
India	Phase-out of CFC-11 in the manufacture of rigid PUF products at Polyproducts	18.5	World Bank	$158,415	7.57
Halon					
Fire extinguisher					
Philippines**	Umbrella project for the conversion of production of portable halon fire extinguishers of members companies of Fire Protectors Federation Inc.	77.1	UNDP	$128,942	1.48
Refrigeration					
Commercial					
Syria**	Umbrella project for phasing out CFCs at Krayem Int. Co. (Krayem Co. and Krayem Brothers Co.)	89.0	UNIDO	$1,210,880	7.83
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at Meghdoot Refrigeration Industries	18.0	World Bank	$185,987	9.14
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at V. Krishna & Co.	14.8	World Bank	$166,133	9.93
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at Friz-Tech P. Ltd.	11.5	World Bank	$150,200	11.56
India**	Elimination of CFCs in the manufacture of commercial refrigeration equipment at V. Krishna Engineers P. Ltd.	17.0	World Bank	$229,153	11.93

(*) Includes agencies' overhead costs where applicable

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Brazil	Elimination of CFC-11 and CFC-12 in the production of commercial refrigeration equipment at Geltec	18.3	World Bank	$257,923	12.47
Brazil	Elimination of CFC-11 and CFC-12 in the production of commercial refrigeration equipment at Everest Refrigeracao Ind. e Comercio Ltda.	11.2	World Bank	$168,427	13.30
Brazil	Conversion of CFC-11 to cyclopentane foam blowing agent and CFC-12 to HFC-134a refrigerant at Tecnomecanica Esmaltec Ltda.	68.7	World Bank	$1,044,165	13.45
Thailand	Phase out of CFC-11 in the manufacturing of equipment for the food and beverage industry at Siam Stainless Steel Co. Ltd.	14.0	World Bank	$240,577	15.21
Domestic					
Brazil**	Elimination of CFC-11 and CFC-12 in the manufacture of commercial chest freezers at Refrigeracao Parana S.A. Curitiba	363.0	World Bank	$1,760,103	4.29
Iran**	Conversion of domestic refrigerator production facilities to phase out CFC-12 and CFC-11 (Second group) at Faritz Iran, Gadook, Lorestan, Movalled, Pars Machine and Pars Monark)	372.0	UNIDO	$3,602,029	4.99
China**	Phasing out ODS at the Hangzhou Huari Refrigerator Co.	338.0	UNIDO	$3,195,539	5.43
China	Elimination of CFCs 11 and 12 in the manufacture of domestic freezers at Guingdao Haier General Freezer Company	278.8	UNDP	$2,879,555	5.94
Tunisia	Umbrella project to phase out ODS at the 6 small refrigerator manufacturers	78.5	UNIDO	$863,949	9.74
China	Elimination of CFCs 11 and 12 in the manufacture of domestic freezers at Henan Freezer Factory	167.7	UNDP	$2,882,184	9.88
Pakistan	Phasing out ODS at the Chest Freezer Factory of Riaz Electric Co. Ltd.	48.2	UNIDO	$929,975	11.09
Pakistan	Phasing out ODS at the refrigerator and chest freezer plants of Pak Elektron Ltd. (PEL)	68.0	UNIDO	$1,367,633	11.58
Argentina	Elimination of CFC in the manufacturing plant of domestic refrigerators at Adzen S.A. C.I.F.	12.0	World Bank	$403,376	13.64
Solvent					
CFC-113					
China**	Elimination of ODS (CFC-113) used in the production line at Hunan Computer Factory	21.0	UNDP	$118,311	4.99

(*) Includes agencies' overhead costs where applicable

(a) Investment projects ranked by order of cost-effectiveness

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
China	Elimination of CFC-113 used in the production line at Shanghai Sixth Radio Factory	4.5	UNDP	$156,392	10.40
China	Elimination of the use of CFC-113 and methyl chloroform in the color picture tube cleaning processes at the Shanghai Novel CPT. Corp. Factory	75.0	UNDP	$960,444	11.33
China	Elimination of the use of CFC-113 in the electron gun final cleaning processes at the Tianjin Picture Tube Factory	6.7	UNDP	$149,838	19.73
Thailand	Conversion of precision cleaning processes from CFC-113 to aqueous and alternative solvent cleaning and conversion of insulator applications from CFC-113 to perfluorocarbons at Thai CRT Co. Ltd.	5.0	World Bank	$112,367	19.73
Brazil	Elimination of CFC-113 in medical parts cleaning and silicone deposition, and CFC-12 used in sterilization at Tecnobio	16.0	World Bank	$358,766	19.84
CFC-113, TCA					
Thailand**	Conversion of plastic lens cleaning processes from CFC-113 and 1,1,1 TCA to aqueous cleaning at Crystal Lens Corporation Ltd.	1.9	World Bank	$45,008	21.00
TCA					
Egypt**	Conversion of cleaning processes from 1,1,1 TCA to aqueous cleaning at Siltal	2.0	UNIDO	$55,126	6.40
Egypt	Conversion of cleaning processes from 1,1,1 TCA to cleaning in perchloroethylene at Abbasol	8.0	UNIDO	$174,635	19.32
Egypt	Conversion of cleaning processes from 1,1,1 TCA to aqueous cleaning at Technopol	6.0	UNIDO	$141,531	20.87
Thailand	Conversion of metal cleaning processes from 1,1,1 TCA to aqueous cleaning at BKJ Engineering Co. Ltd. (BKJ)	6.7	World Bank	$210,730	27.96
China	Elimination of the use of TCA in the Baoshi Electronics Corporation Shijazhuang Manufacturing Operations	7.4	UNDP	$321,937	38.50
	Total	**5,086.6**		**$35,497,171**	

(*) Includes agencies' overhead costs where applicable

(b) Low ODS-consuming countries

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Aerosol					
Hydrocarbon					
Viet Nam**	Conversion to hydrocarbon aerosol propellant technology at Cosmetics Producing and Trading Company (CP & T)	85.0	UNDP	$322,186	3.35
Viet Nam**	Conversion to CFC-free hydrocarbon aerosol propellant technology at Daso Company Ltd.	27.0	UNDP	$124,684	4.08
Sri Lanka**	Conversion to CFC-free hydrocarbon aerosol propellant technology at International Cosmetic Ltd. (ICL)	5.2	UNDP	$44,034	7.49
Refrigeration					
Domestic					
Tanzania**	Phasing out of CFCs at Tanzania Domestic Appliance Manufacturers Ltd.	43.0	UNIDO	$669,853	8.96
Mozambique**	Phasing out of CFCs at Industria de Aplicacoes Technico-Domesticas Limitada (Indatec)	41.0	UNIDO	$657,112	9.20
	Total	**201.2**		**$1,817,869**	

(*) Includes agencies' overhead costs where applicable

(c) MAC and compressor

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Compressor					
China	Phasing out ODS at the compressor factory of the Huangshi Dongbei Refrigeration Co.		UNIDO	$1,015,904	
MAC					
Malaysia	Phase-out of CFC-12 MAC manufacturing equipment and conversion of HFC-134a MAC manufacturing equipment at UCM Industrial Corporation Berhad		World Bank	$1,659,741	
		Total		**$2,675,645**	

(*) Includes agencies' overhead costs where applicable

(d) CFC recycling and halon banking

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Refrigerant recovery and recycling					
Dominican Republic**	Demonstration project in commercial refrigeration (food storage, distribution and retailing)		UNDP	$88,140	
Global**	Global MACs project: Phase 2		UNDP	$565,000	
Region: LAC**	Regional Latin America demonstration project in recovery of ODS in MACs: Phase I (Argentina, Colombia)		UNDP	$233,910	
Guatemala**	Implementation of a national programme for recovery and recycling of refrigerant	26.2	UNDP	$290,161	9.80
Jamaica**	Implementation of a national programme for recovery and recycling of refrigerant	16.7	UNDP	$194,885	10.32
Panama**	Implementation of a national programme for recovery and recycling of refrigerant	16.7	UNDP	$194,885	10.32
Barbados**	CFC-recovery, recycling and training in refrigeration	14.0	UNIDO	$186,642	11.80
Uruguay**	Recovery and recycling of CFC-12 in maintenance workshops for industrial refrigeration equipment	3.5	World Bank	$99,041	25.00
	Total	**77.1**		**$1,852,664**	

(*) Includes agencies' overhead costs where applicable

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Aerosol					
Project preparation					
India**	Preparation of umbrella project for ODS phase-out in the aerosol sector (small-scale industries)		UNIDO	$22,600	
Syria**	Preparation of an investment project in the aerosol sector		UNIDO	$28,250	
Technical assistance					
Uruguay**	Total aerosol sector phaseout project (technical assistance)	16.0	UNDP	$61,020	3.37
Foam					
Project preparation					
Argentina**	Preparation of an investment project in the foam sector		UNIDO	$22,600	
Malaysia**	Preparation of an investment project in the foam sector		UNIDO	$45,200	
Senegal**	Preparation of an investment project in the foam sector		UNIDO	$11,300	
Project preparation					
China**	Formulation of investment projects in the tobacco sector		UNIDO	$56,500	
Refrigeration					
Project preparation					
China**	Formulation of investment projects in the refrigeration sector with particular attention to domestic refrigeration and compressor manufacturing		UNIDO	$62,150	
Romania**	Preparation of investment projects in the domestic and commercial refrigeration sectors		UNIDO	$22,600	
Syria**	Preparation of an investment project in recovery and recycling sector		UNIDO	$16,950	
Several					
Institutional strengthening					
Benin**	Creation of an Ozone Bureau		UNEP	$56,500	
Bolivia**	Establishment of the Ozono Governmental Commission (COGO)		UNEP	$102,830	

(*) Includes agencies' overhead costs where applicable

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Central African Republi***	Establishment of the National Technical Ozone Group (Ozone Unit)		UNEP	$51,528	
Egypt***	Institutional strengthening project for the Montreal Protocol related activities (Phase II)		UNIDO	$49,607	
Guinea***	Creation of an Ozone Bureau		UNEP	$56,500	
Namibia***	Establishment of a National Ozone Office		UNEP	$69,794	
Project preparation					
Argentina***	Project preparation assistance		UNDP	$28,250	
Argentina***	Project preparation		World Bank	$50,850	
Bolivia***	Project preparation assistance		UNDP	$22,600	
Brazil***	Formulation of two investment projects in the commercial and domestic refrigerator sector		UNIDO	$56,500	
Brazil***	Project preparation assistance		UNDP	$62,150	
Brazil***	Project preparation		World Bank	$113,000	
Central African Republi***	Project preparation assistance		UNDP	$16,950	
Chile***	Project preparation		World Bank	$79,100	
China***	Project preparation assistance		UNDP	$113,000	
China***	Project preparation		World Bank	$33,900	
Colombia***	Project preparation assistance		UNDP	$31,640	
Congo***	Project preparation assistance in recovery and recycling of refrigerant, foam and halon sectors		UNDP	$28,250	
Dominican Republic***	Project preparation assistance in foams and refrigeration		UNDP	$16,950	
Egypt***	Project preparation assistance		UNDP	$22,600	
India***	Project preparation assistance		UNDP	$113,000	
India***	Project preparation		World Bank	$339,000	
Indonesia***	Project preparation assistance		UNDP	$56,500	
Indonesia***	Project preparation		World Bank	$33,900	
Jordan***	Project preparation		World Bank	$45,200	
Macedonia***	Preparation of projects in the refrigeration, aerosol and foam sectors		UNIDO	$33,900	
Malawi***	Project preparation assistance		UNDP	$7,910	

(*) Includes agencies' overhead costs where applicable

(e) Work programme/amendment

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Malaysia**	Project preparation assistance		UNDP	$20,340	
Malaysia**	Project preparation		World Bank	$33,900	
Mexico**	Preparation of investment projects		UNIDO	$56,500	
Mexico**	Project preparation assistance		UNDP	$11,300	
Pakistan**	Project preparation		World Bank	$113,000	
Panama**	Project preparation assistance		UNDP	$11,300	
Peru**	Project preparation assistance		UNDP	$28,250	
Philippines**	Preparation of a recovery and recycling project in the refrigeration sector		UNIDO	$16,950	
Philippines**	Project preparation assistance		UNDP	$50,850	
Thailand**	Project preparation assistance		UNDP	$3,390	
Thailand**	Project preparation		World Bank	$22,600	
Turkey**	Project preparation		World Bank	$113,000	
Uganda**	Project preparation assistance		UNDP	$5,650	
Uruguay**	Project preparation		World Bank	$33,900	
Venezuela**	Project preparation assistance		UNDP	$48,590	
Venezuela**	Project preparation		World Bank	$45,200	
Zambia**	Project preparation assistance		UNDP	$5,650	
Zimbabwe**	Project preparation		World Bank	$56,500	
Training					
China**	Training workshop on safety aspects of CFC substitutes		UNEP	$93,112	
	Total	**16.0**		**$2,811,061**	

(*) Includes agencies' overhead costs where applicable

(g) Bilateral cooperation

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Refrigerant recovery and recycling					
Dominican Republic**	Demonstration project in commercial refrigeration (food storage, distribution and retailing)	7.6	USA	$74,000	20.00
Philippines**	MACs servicing demonstration project	11.0	USA	$285,500	27.32
Solvent					
CFC-113					
Malaysia**	Phasing out the use of CFC-113 in the electronics industry through the technical promotion of no clean processes		France	$226,600	
	Total	**18.6**		**$586,100**	

(*) Includes agencies' overhead costs where applicable

(g) Bilateral cooperation

Country	Project title	ODS to be phased-out (ODP tonnes)	Agency	Funds recommended (US $) (*)	C.E. (US$/kg)
Refrigeration					
Refrigerant recovery and recycling					
Dominican Republic---	Demonstration project in commercial refrigeration (food storage, distribution and retailing)	7.6	USA	$74,000	20.00
Philippines---	MACs servicing demonstration project	11.0	USA	$285,500	27.32
Solvent					
CFC-113					
Malaysia---	Phasing out the use of CFC-113 in the electronics industry through the technical promotion of no clean processes		France	$226,600	
	Total	18.6		$586,100	

(*) Includes agencies' overhead costs where applicable
(***) Recommended for funding at the 18th Meeting

SUMMARY OF NEW PROJECTS LIST

Sector	Number of projects	Phased-out (ODP tonnes)	Cost (US $) (*)	C.E. (US$/kg)
(a) Investment projects ranked by order of cost-effectiveness				
Aerosol	1	730.0	$1,012,344	1.39
Foam	33	2,130.6	$10,013,012	4.70
Halon	1	77.1	$128,942	1.67
Refrigeration	18	1,988.7	$21,537,788	10.83
Solvent	12	160.2	$2,805,085	17.51
TOTAL:	**65**	**5,086.6**	**$35,497,171**	**6.98**
(b) Low ODS-consuming countries				
Aerosol	3	117.2	$490,904	4.19
Refrigeration	2	84.0	$1,326,965	15.80
TOTAL:	**5**	**201.2**	**$1,817,869**	
(c) MAC and compressor				
Compressor	1		$1,015,904	
MAC	1		$1,659,741	
TOTAL:	**2**		**$2,675,645**	
(d) CFC recycling and halon banking				
Refrigerant recovery and recycl	8	77.1	$1,852,664	
TOTAL:	**8**	**77.1**	**$1,852,664**	
(e) Work programme/amendment				
Project preparation	2		$50,850	
Technical assistance	1	16.0	$61,020	
Project preparation	3		$79,100	
Project preparation	1		$56,500	
Project preparation	3		$101,700	
Institutional strengthening	6		$386,759	
Project preparation	39		$1,982,020	
Training	1		$93,112	
TOTAL:	**56**	**16.0**	**$2,811,061**	
(g) Bilateral cooperation				
Refrigerant recovery and recycl	2	18.6	$359,500	
CFC-113	1		$226,600	
TOTAL:	**3**	**18.6**	**$586,100**	
GRAND TOTAL:	***139***	***5,399.5***	***$45,240,510***	