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CONSOLIDATED PROJECT COMPLETION REPORTS:

A Report of the Consultant

EXECUTIVE SUMMARY

PRELIMINARY REMARKS

1. Decision 23/8 of the Executive Committee mandates the Secretariat to submit a consolidated project completion report at its third meeting each year. This report is prepared to comply with the said mandate. In addition, the report also examines the information provided in the project completion reports (PCRs) from the standpoint of their adequacy for future decision making.
2. Until the end of 1997, 264 investment projects and 690 non-investment projects have been completed. The Secretariat has received 114 PCRs on investment and 38 non-investment PCRs. They represent 43.2% and 5.5% of the completed projects, respectively. As it will become evident from the subsequent discussion, information provided both in investment and non-investment PCRs are far from satisfactory. Hence the consolidated findings presented here must only be regarded as tentative ones.

FINDINGS AND CONCLUSIONS

Completed projects and PCRs

3. Three implementing agencies, UNIDO, UNDP, and World Bank implemented investment projects in all the sectors. UNDP submitted 25 PCRs of 133 completed projects (18.8 percent), UNIDO submitted 33 PCRs of 40 projects completed (82.5 percent) and World Bank submitted 56 PCRs of 91 projects completed (61.5 percent). A considerable number of investment as well as non-investment projects were completed on or before 1997, the delay in PCR submission is at an unacceptable level.

Geographical distribution of projects

4. The 114 PCRs represent completed projects in 24 countries. Most of the completion reports (51 percent) are from 5 countries (Malaysia, Thailand, People's Republic of China, Egypt and Mexico) representing 65% of the total approved budget in completion reports submitted to-date.

Size distribution of projects

5. The size of the projects is of particular importance. According to PCRs submitted to-date 12 projects had budgets of US\$ 100,000 or less and 48 projects had budgets between US\$ 100,000-500,000. There were 25 projects with a value between US\$ 500,000-1 million and 24 with budgets varying between US\$ 1 million and US\$ 3 million. Only 4 projects' cost was over US\$ 3 million. Overall there is no particular correlation between project size and implementing agency as all three of them implemented various sizes of projects. The largest projects (for which

project completion report was received) were projects from the World Bank and UNIDO. These agencies provided reports on a total of 4 projects whose cost exceeded US \$ 3 million.

6. Size distribution per-se tells us very little unless the size of the project is related to certain results, and efficiency and effectiveness criteria. A detailed analysis revealed that there is no particular pattern of impact (ODS phase-out) can be attributed to size of the projects. However, projects with a value of US \$100,000 or less do appear to be more costly than approved budgets. There were lengthy delays in very large projects, usually due to the fact that contract negotiations took longer time than expected.

Agency Assessment

7. PCRs require that the implementing agencies carry out a self-assessment exercise. Only 7 PCRs in investment projects failed to do so. About 65% of investment projects and 95% of non-investment projects were marked either satisfactory or highly satisfactory. 27% of investment and 5% of non-investment projects were deemed as satisfactory though not as planned and only 0.8% of investment projects were indicated as unsatisfactory.

8. One would conclude that the majority of the implemented projects were satisfactory. However a detailed review of PCRs reveals that the assessment of the agencies does not always follow the instructions supplied for the assessment in the PCRs.

Impacts: ODS Phase-Out

9. Impact of the projects carried out is found to be as expected in all investment projects, because the total phase-out of ODS in all sectors is either equal to or more than the planned amount. However, information in the PCRs with respect to non-ODS consumption as a substitute is mostly lacking. This is a very serious shortcoming. Also in many cases destruction of ODS using equipment is not specified. This is also serious since the project completion report is the only notice of the destruction of equipment that is provided to the Executive Committee.

10. The impact of projects on a country's phase-out is difficult to assess. One would tend to conclude that all investment projects tend to have positive impact on the ODS phase-out, but if a country's overall consumption continues to increase, it would appear that the phase-out from one project is more than compensated by the increase in consumption in other enterprises. The lack of information specified about this question in the completion report inhibits one to draw firm quantitative conclusions.

11. In the case of non-investment projects, the information is not explicit enough to draw firm conclusions with respect to the impact of these projects on a country's phase-out efforts with any degree of confidence.

Efficiency and Effectiveness

12. Efficiency and effectiveness in global terms, is observable both in investment and non-investment project. In the case of investment projects, total budget approved and actual budget in fact coincides almost perfectly. In the case of non-investment projects, actual expenditures are in fact 84% of the total planned expenditures. However, this report refrains from concluding that the projects were implemented efficiently since the actual impact could not be clearly ascertained from PCRs.

13. If the efficiency is to be assessed, a number of questions immediately arise for which PCRs do not provide sufficient answers. One is that actual incremental operating cost far exceeds the planned amount. Yet no satisfactory explanations are provided in the PCRs.

14. The time frame for project implementation shows a great deal of variance. Out of 114 projects, 26 projects were completed before the prescribed time, 17 projects were completed on time and there was a delay in 71 projects ranging from one month to 50 months. In 24 projects, delays of more the 12 months occurred. No particular pattern in delays is observable. This cannot be attributed to the size, sector or implementing agency, except in very large projects where the average delay is on average 19 months.

Lessons Learned

15. The lessons learned section of PCRs leaves very much to be desired. Information provided is either scanty, or simply the repetition of projects' success or failure that are already enumerated elsewhere in the PCR. There are some good lessons that are pointed out, but there are too few. The negligence of the implementing agencies in providing information related to lessons learned cannot and must not be overlooked. PCRs of non-investment projects do not fully comply with the format either. In more cases than not, the lesson learned section is left blank.

Project Completion Report Format

16. The author wishes to emphasize that there is nothing inherently wrong with PCR format. All questions included in it are explicit. The format also includes several control questions as well. It is concluded therefore that the agencies simply tend to overlook this entry in the format, thereby depriving the Executive Committee from a valuable set of information that is indispensable for the design and implementation of better projects in the future.

RECOMMENDATIONS

17. Two sets of recommendations are provided. One is directed to prevent the same shortcomings occurring in the future and the second one is directed to complement and supplement the information provided in the PCRs.

- (a) Call the attention of the implementing agencies once again that incomplete PCRs are not acceptable and will be rejected. Internally develop objective criteria for the rejection of PCRs. This is necessary as an integral part of the operational guidelines. At the same time, a financial scheme (such as withholding a certain percentage of the fee) may be necessary until PCRs are found satisfactory by the Executive Committee.
 - (b) Conduct an in-depth evaluation of selected projects. The selection should be made on multiple criteria such as geographical and sectoral distribution of the projects, size of the projects, diversity in implementing agencies, and the self assessed degree of satisfaction. External evaluators should conduct these evaluations. This report wishes to emphasize clearly that irrespective of whether or not PCRs are satisfactory, in-depth evaluations must be conducted periodically in order to maintain financial and substantive accountability of the Multilateral Fund. Shortage of financial provisions cannot and must not be accepted as valid reasons for foregoing in-depth evaluations.
 - (c) Ensure that PCRs are completed and sent to the Secretariat no later than 6 months after the project is completed. PCRs should be prepared by project managers and certified by the implementing agency.
18. Three additional recommendations are related to PCRs themselves
- (a) Supply the implementing agencies once more with the glossary of terms used in PCR. This glossary should also be in the evaluation manual.
 - (b) As a priority, and following the Executive Committee's decision (23/8), revise the self-assessment section of the PCR format conformity with the internationally accepted norms (such as even number of alternatives), and make the weights of importance of impact, efficiency and effectiveness explicit to insure uniformity.
 - (c) Include in the "Lessons learned" section in the format a statement that the completion of this section is mandatory and the lessons learned should be generic enough for future decision making.

INTRODUCTION

19. Decision 23/8 of the Executive Committee mandates the Secretariat to submit a consolidated project completion report at its third meeting each year. This document is submitted in compliance with that decision. This report presents information on a number of investment and non-investment projects completed until the end of 1997. The document includes all the information submitted by the implementing agencies (UNDP, UNIDO, World Bank, UNEP and bilateral) to the Secretariat as of September 29, 1998. All individual reports are available from the Secretariat to the Committee members upon request.

20. The present document consisted of two parts. The first part presents information, analysis and recommendations related to investment projects. Part two is on the non-investment projects. The recommendations contained in the report are aimed at the improvement of the project completion reports (PCRs) prepared by the agencies.

21. A complete list of investment and non-investment project completion reports received by the Secretariat is presented in the Annex A and B respectively.

INVESTMENT PROJECTS

Project Completion and Sectors

22. Table I lists cumulatively all the projects completed by the implementing agencies and by sector.

TABLE I

PROJECT COMPLETION AND SECTORS

Agency	Sector	Project Completion Reports Submitted (number)	Projects Due for Submission by Year Completed			
			1995 or Before	1996	1997	Total
UNDP	Aerosol	1	2	1	0	3
	Foam	19	25	16	47	88
	Halon	0	0	0	4	4
	Refrigeration	1	2	3	20	25
	Solvent	4	6	2	5	13
UNDP Total		25	35	22	76	133
UNIDO	Aerosol	6	0	0	8	8
	Foam	7	2	1	6	9
	Halon	1	0	1	0	1
	Refrigeration	14	0	8	7	15
	Solvent	5	0	4	3	7
UNIDO Total		33	2	14	24	40
World Bank	Aerosol	4	1	3	2	6
	Foam	12*	9	6	6	21
	Halon	1	0	1	1	2
	Multiple Use	1	0	1	0	1
	Other	0	0	0	0	0
	Production	5	3	2	0	5
	Refrigeration	18	5	10	22	37
	Solvent	15	9	5	5	19
World Bank Total		56	27	28	36	91
Grand Total		114	64	64	136	264

* The Bank provided three completion reports for one project that concerned 3 enterprises

23. For the 25th Meeting of the Committee, the Secretariat presented a consolidated report of 67 projects. The Secretariat received (47) reports since July 1998. The present report prepared by a consultant analyses all 114 PCRs.

24. Reports submitted by the UNDP amount to (25), by UNIDO (33) and by the World Bank (56); a total 114, out of 264 completed projects. Of all these projects, (38) of them were in the foam sector, (33) of them in the refrigerant sector, (24) projects were in solvent sector, (11) were in aerosol sector and the remaining projects were in halon and other sectors.

25. Reports have been submitted for 24 countries. However, half of the projects belongs to the following countries, namely: Malaysia 18, Thailand 15, People's Republic of China 16, Egypt 14, and Mexico 7. It is worth noting that practically all these countries are newly industrialized countries where ODS use had been prevalent. The incidence of project completion reports for these countries will not only allow the consultant to suggest projects for in-depth evaluation as per the decision of the Committee, but also to assess the effectiveness and efficiency of the alternative technologies opted for conversion in the large ODS consuming countries.

26. The size of the projects according to PCRs is of particular importance. (See Table II). Almost half of the implemented projects – 42% to be exact – have had a budget that varied between \$100,000 and \$500,000. Small projects with a budget of \$100,000 are about 10% of the total implemented projects. Extremely large projects with the budget of \$3 million or more, constituted only 3.5% of the projects. There does not appear to exist any special distribution among the implementing agencies. All three of them implemented different sized projects, with the exception the World Bank that implemented 3 large projects and UNIDO that implemented only one large project.

TABLE II. A

SIZE OF PROJECTS AND IMPLEMENTING AGENCIES

Agency	Less than \$100,000	\$100,000-\$500,000	\$500,000-\$1M	\$1M-\$3M	\$3M or more	Not Provided
UNDP	4	15	6	0	0	0
UNIDO	3	14	6	9	1	0
World Bank	5	19	13	15	3	1
Total	12	48	25	24	4	1

TABLE II. B

SIZE OF PROJECTS, IMPACT AND EFFICIENCY

Project size (US\$)	# of Projects	ODP per proposal (tons)	ODP Phase out (tons)	Average Delay (Months)	Approved Budget (US\$)	Actual Expenditure (US\$)
100,000 or less	12	161.85	176.96	8.25	705,882	1,317,319
100,000-500,000	48	4,160.11	5,199.1	4.1	13,216,333	12,162,643
500,000-1M	25	2,783.14	2,899.71	6.52	17,570,022	18,600,487
1M-3M	24	5,355.3	6,494.15	6.68	38,864,676	38,214,080
3M or more	4	13,775.4	13,962.4	19	23,045,600	23,547,517

27. Table II.B relates the size of the projects to impact and efficiency/effectiveness criteria. With respect to impact (ODP phase-out), all projects irrespective of their sizes, appear to be very satisfactory. It must be noted, however, that non-ODS phase-out cannot be categorically stated since PCRs do not provide enough information on the matter. Project implementation efficiency and effectiveness, on the other hand, seem to vary with the size of the projects. In projects whose budget is less than US\$ 100,000, there is an appreciable overrun. The review of each PCR in this category does not shed enough light on the matter. One finds scanty explanations that capital budgets were underestimated, a detailed breakdown of capital equipment was not provided. This report therefore cannot pinpoint the reason for the overrun. It is quite possible that project documents tended to underestimate the capital cost, but it is equally possible that enterprises on their own accord changed the equipment specifications and were willing to absorb the difference.

28. In projects less than US \$100,000, delays in general are attributed to lengthy negotiations between governments and the implementing agency concerned. It is regrettable that no further information is supplied that may be conducive to overcome such delays in the future. In projects of US \$3 million or more, delays in implementation are well beyond the acceptable limit. All four PCRs point out that either negotiation took longer time than expected or equipment procurement turned out to be more time consuming than originally foreseen.

Agencies' Assessment of Completed Projects

29. Project completion reports require that the agencies subject their own performance to a summary evaluation. The overall assessment varies between 1 and 5, based upon three quantifiable indicators, namely, ODS phase out, cost and speed of completion. All three of them contrast actual vs. planned. Table III presents the said assessment on an agency-by-agency basis. It will be noted that 65% of the total completed projects were assessed to be either highly satisfactory or satisfactory. Little over 25% of the projects are considered satisfactory but not as planned. In other words, these projects were either not completed on time, or there was a budget overrun, or the planned ODS phase out was not achieved.

TABLE III

SELF-ASSESSMENT OF AGENCIES

Assessment	UNDP	UNIDO	World Bank	Total	% of Total
Highly satisfactory, more than planned	8	7	13	28	24.6
Satisfactory, as planned	10	10	27	47	41.2
Satisfactory, though not as planned	7	12	12	31	27.2
Unsatisfactory, less than planned	0	0	1	1	0.9
Unacceptable	0	0	0	0	0
Not provided	0	4	3	7	6.1
Total	25	33	56	114	100.0

30. The consultant is not completely satisfied with this self-assessment. The shortcoming however may very well be in the form in which the assessment is required. For future self-assessments, the consultant proposes an alteration in the recommendations section of this report. The consultant firmly believes that a simplified self-assessment will be much more useful for future operational decision making.

Project Costs

31. Decision 23/8 requires the submission to the Secretariat of project completion reports, six months after the projects are completed. Of the 264 projects 71 projects were financially completed as of September 29, 1998. The information at hand does not allow the author of this report to state definitely as to whether any disbursement is expected from the remaining projects at this point of time.

32. The format requires that the agencies report on incremental capital cost, incremental operating cost as well as contingency cost for capital improvement. (See Table IV)

TABLE IV

APPROVED AND ACTUAL BUDGET

	Plan/Approved Budget and Expenditure (US\$)	Actual Budget and Expenditure* (US\$)	Actual as Percentage (%) of Plan
Capital cost	77,583,664	74,112,970	95.5
Operating cost	7,988,588	13,315,394	167.0
Contingency cost	5,311,172	3,616,063	68.1
Total	90,883,424	91,004,427	100.2

* Funds might include counterpart funding from enterprises (Not specified in the Project Completion Reports).

33. According to the project completion reports, capital costs, in global terms, are somewhat lower than the planned amount, just about 5%. In general, the difference is attributed to a lower cost of equipment than expected. In individual cases where capital costs exceeded the planned cost, the explanation is found to be the result of an increase in the price of equipment due to inflationary pressures.

34. The contingency cost appears to be budgeted more than required because total actual expenditure in that particular line item is only 68% of the planned amount. The under utilization of the contingency fund may be attributed to the fact that estimates for incremental capital costs budgeted for at the planning stage corresponded quite closely to the actual expenditures. The recourse to contingency fund therefore was much less than foreseen.

35. What is puzzling somewhat is the discrepancy between the planned vs. actual operating costs. While the approved amount is US \$7.9 million, the actual expenditure is almost twofold,

i.e. US \$13 million. Project completion reports unfortunately do not shed sufficient light as to the sources of the funds.

36. A review of project completion reports revealed that in 14 cases actual incremental cost exceeds the planned amount. Ten reports offered no explanation as to how the discrepancy was financially covered. Only (4) reports stated that the difference was absorbed by the enterprise. (See Table V)

37. It must be emphasized here that the Fund has already established norms for the time limit for paying the incremental operating cost in different sectors. PCRs must state clearly these expenditures and relate them to the time period during which they incurred.

TABLE V

INCREMENTAL OPERATING COST

Project Number	Agency	Sector	Plan/Approved Incremental Operating Cost (US\$)	Incremental Operating Costs Expenditure (US\$)	Difference in Operating Costs (US\$)
THA/SOL/10/INV/16	IBRD	SOL	-151,374	55,672	-207,046
THA/SOL/10/INV/13	IBRD	SOL	-50,008	-17,663	-32,345
THA/SOL/10/INV/14	IBRD	SOL	100,421	126,670	-26,249
MAL/SOL/18/INV/79	IBRD	SOL	0	64,985	-64,985
PHI/SOL/09/INV/11	IBRD	SOL	74,394	136,856	-62,462
IND/FOA/18/INV/55	IBRD	FOA	82,000	270,173	-188,173
CPR/FOA/10/INV/48	IBRD	FOA	878,000	1,896,494	-1,018,494
THA/REF/20/INV/60	IBRD	REF/COMP	179,590	1,200,000	-1,020,410
IRA/REF/11/INV/08 (Subproject 1)	UNIDO	REF/DOM	431,012	603,850	-172,838
IRA/REF/11/INV/08 (Subproject 2)	UNIDO	REF/DOM	666,117	940,950	-274,833
IRA/REF/11/INV/08 (Subproject 3)	UNIDO	REF/DOM	607,342	857,925	-250,583
CPR/ARS/07/INV/23	IBRD	ARS	0	602,410	-602,410
CPR/ARS/07/INV/14	IBRD	ARS	0	1,202,460	-1,202,460
CPR/PRO/07/INV/18	IBRD	PRO	0	395,100	-395,100
Total			2,817,494	8,335,883	-5,518,388

38. This substantial discrepancy first of all flags one important shortcoming in the PCRs. The Fund for its financial accountability must know in detail the flow and the sources of funds.

39. It is also advisable that the calculation of the planned amount of incremental operating cost must be revisited. The underlying assumption is that the phase out of ODS may require an initial subsidy for operating non-ODS using technology. But as the production expands, the unit

cost should decline and with the need of subsidizing the operating cost. If however, this is in fact not the case and in view of the fact that the market price of ODS tends to decline, will there be a danger, in some countries at least, of re-conversion to ODS? Are there compelling purely financial reasons, despite stringent national regulations, for re-conversion?

40. At this point of time the consultant flags these issues. More concrete answers are very likely to emerge after the selected evaluations are undertaken.

ODS Phase-Out

41. As it can be observed from Table VI, ODS phase out has been carried out successfully. In fact the planned target was exceeded by 10%. As might be expected the most successful phase out occurred in the foam sector. Even more interesting is the more than expected phase out of the production of ODS per-se.

TABLE VI

ODS PHASE-OUT

Sector	Plan/Approved (tons)	Actual (tons)	Actual as Percentage (%) of Plan
Aerosol	13,592	13,916	1.02
Foam	3,053	3,933.3	1.29
Halon	2,680	2,680	1.00
Production	3,200	4,200	1.31
Refrigeration	3,109	3,337.7	1.07
Solvent	601.9	665	1.10
Total	26,236	28,732	1.10

42. This satisfactory note must be qualified however. While information related to ODS phase out noted duly in the PCRs, the consumption of non-ODS in terms of metric tonnes, are not always specified in a number of PCRs. In fact almost 40 percent of the PCRs fail to indicate the transition of ODS-based to non-ODS based production. Moreover, technology change after approval and reasons for change in more cases than not is not specified. The consultant therefore is unable to pass any judgement with respect to technology transfer of, non-ODS phase-in with any degree of certainty. Moreover, destruction of ODS using equipment, in more cases than not, is not explicitly stated. Yet PCRs require a list of equipment and method of their disposal rendering them unusable. Almost half of the PCRs submitted so far are not sufficiently explicit to enable one to state with confidence that an irreversible conversion has taken place. Moreover, not having quantitative data regarding the actual use of non-ODS, is another factor of uncertainty. The consultant already suggested to the Secretariat that the implementing agencies should provide the required information. Also the forthcoming evaluation is expected to provide additional information on selective basis.

43. The information provided in PCRs concerning national sector impact of the project is based upon the level of consumption at the time of the project proposal was prepared or the level of consumption in the sector as reported in the country programme. This information is of vital importance for judging the extent to which the projects approximate country programmes. However, the responses at hand do not allow the consultant to report quantitatively and conclusively the impact of the implemented projects on the sectoral consumption.

Implementation Efficiency

44. One of the success criteria – in addition to ODS phase out and remaining within the budget limits – is the time frame within which inputs are converted to outputs in other words, the efficiency in implementation. Project completion reports fully reported the elapsed time in project implementation. According to PCRs, out of 114 projects, 26 projects were completed before the prescribed time, 17 projects were completed on time and there was a delay in 71 projects. There is a great deal of variance in delay time ranging from one month to 50 months. However, delays of more than 12 months occurred only in 24 projects. Nevertheless, the average delay stands at the level of 13.6 months.

45. The efficiency of the implementing agencies also shows a great deal of variance. UNDP completed 52% of its projects on or before the prescribed period, The World Bank 23% and UNIDO 24%.

46. It would be a wrong conclusion; however, to associate a particular agency with a delay or attribute any credit to it for an early completion, because there are several unforeseen circumstances that affect the project implementation. Project completion reports are in fact very candid about the reasons for delay, many of which are beyond their control. One major reason for delay appears to be the lack of coordination among various government offices. For instance, delays in custom offices to clear the imported necessary equipment are one of the most frequently cited reasons for delay. Another frequently mentioned cause for delays appears to be the slow response either from the government concerned or from the enterprise itself, or the combination of both factors.

47. In cases where the projects were completed before the planned time frame, PCRs almost invariably mention that the enterprises concerned started the conversion process prior to the implementation of the project, hence allowed the project to be completed successfully prior to the prescribed time.

48. This consultant wishes to point out that the implementation of the projects of this nature requires the full cooperation and willingness of enterprises and the degree with which they are willing to assume at least a portion of the required activities of conversion. The willingness of enterprises, as stakeholders can be a determining factor, not only in the efficiency of the project, but also assuming part of the cost - in terms of cash or time – indicate the willingness as well in the progress of permanent conversion.

49. The consultant also wishes to point out that improved coordination among various government agencies is of utmost importance if the consumption of ODS is to be phased out

within the prescribed time span. As the most obvious example quick clearance in customs, with the pervasive role of the Ozone Office, could certainly increase the implementation efficiency.

Compliance with Format

50. As it was reported previously in the 25th Meeting of the Executive Committee, project completion reports that have been received by the Secretariat also do not always comply fully with the format. The Forty-seven new reports submitted to the Secretariat since the 25th Meeting appear to suffer from the shortcomings like those reports submitted previously. Major shortcomings are in the information category related to costs. Several reports failed to specify the costs associated with the grant from those costs that the enterprise chose to fund, counterpart funding. Also reporting on the incremental operating cost is not clear. There is not enough information to assess and to report to the Executive Committee as to why operating costs exceeded in several projects the approved amount. The World Bank reports almost consistently fail to report the Grant amount approved by the Fund.

51. In several cases, ODS substitute consumption is not indicated. This important feedback seems to be missed by UNDP.

52. Lessons learned section in the completion reports received to-date leaves very much to be desired. The tendency seems to be either to repeat in Section (7) the success/failure of the projects that are in Section (2) of the format, or simply ignore the section. All three implementing agencies tend to ignore the lessons learned. What is reported in Section (6) of this report, is in fact based on a few completion reports; therefore, from the sampling standpoint, this may not be considered fully representative.

53. The consultant suggests that the implementing agencies should complete and resubmit to the Secretariat, those PCRs considered as inadequate.

Lessons Learned

54. Lessons learned are an important component of the PCRs. Information provided in this section allows the Secretariat and the Executive Committee to take stock of the experience that has been gained. Success and failures, best and worst practices, future challenges, and constraints are only discernible from the lessons learned.

TABLE VII

COMPLIANCE WITH LESSONS LEARNED

Agency	Number of Projects Implemented	Number of PCR Containing Lessons Learned	Percentage of Lessons Learned in PCRs (%)
UNDP	25	17	68.0
UNIDO	33	27	81.8
World Bank	56	53	94.6

55. In the first instance it appears that implementing agencies complied, by and large with the requirement of filling out this section of the PCRs. The above table however must be qualified. Whilst it appears that the implementing agencies are complying with the requirement of PCRs, the information provided, in more cases than not, is simply the repetition of the achievements of the project itself without heeding the instruction of providing lessons learned that will benefit future projects. Hence, the information provided in this section of PCR is not as extensive as desired. Nevertheless, from those PCRs that provided answers to lessons learned, certain conclusions that are operationally useful can be drawn. These are presented in three distinct categories.

56. Some lessons are more of an institutional nature. Briefly these are:

- (a) Better coordination and communication among the responsible government officials, counterparts, direct beneficiaries and implementing agencies for project preparation and project implementation are likely to yield better project results.
- (b) Customs procedures are cumbersome resulting in unforeseen delays. There is a need for coordinating efforts and actions at government levels.
- (c) Efficiency in the project implementation can be improved if ozone offices, suppliers and the recipient enterprises have good coordination at the implementation phase.

57. Another set of lessons learned refers to technological issues and problems encountered in the implementation phase, such as:

- (a) Application of HCFC-22 for integral skin foam in tropical climates encounters severe problems, the technology is not recommended in the countries with tropical climates.
- (b) It is desirable to investigate if the technology is locally available and can be supplied. If so, the implementation period can be reduced.
- (c) Inability to find specific replacement technology tends to cause delays.
- (d) Production line conversion processes and safety designs require much closer review than it has been the norm for a non-hazardous conversion to prevent surprises.
- (e) Ventilation provisions must not be underestimated if methylene chloride is used as a blowing agent.

58. With respect to project preparation, two lessons stand out.

- (a) The underestimation of project implementation period, and

- (b) Initial ODS consumption estimates tend to be unreliable since enterprises are not always willing to disclose the amount prior to signing the agreement.

59. Finally, two lessons refer to information dissemination.

- (a) In cases where there was effective information dissemination of information about the environment in general and about ODS phase out in particular, project implementation was found to be more successful.
- (b) Educating the end users about the new technology and effective training during the implementation phase also appear to contribute to the success of the projects.

NON-INVESTMENT PROJECTS

Project Characteristics

60. This section of the Report presents information on several non-investment projects. So far (690) projects have been completed; (470) of which are now financially closed.

61. UNEP submitted to the Secretariat 31 reports, the World Bank (2), and bilateral (5) project completion reports, on which the subsequent analysis is based.*

62. Twelve project completion reports of UNEP were on country program preparation; (10) were on technical assistance towards improving information exchange and networking. All information exchange and networking projects were global in geographical terms. Nine training projects were country specific with the exception (3) regional and (1) global seminar/workshops.

63. The World Bank submitted (2) project completion reports out of (203) projects. One of them is on the institutional strengthening and the other is on technical assistance with a training component.

64. Most of the bilaterally implemented projects (4) were demonstration/training projects. So far, bilateral have implemented (77) projects.

65. Training projects in various countries were aimed at training technicians as well as government officials in the technologies of phasing out ODS in the refrigeration. Regional and global training seminars/workshops were not limited to the refrigeration sector but dealt with various aspects of providing access to decision-makers in governments and to industry leaders with methods of reducing/eliminating the use of ODS. In addition, the latest information on ozone depletion as well as policies and strategies to prevent such depletion were also disseminated, and latest technical alternatives to prevent depletion were discussed.

66. Table VIII summarises the information on the implemented projects and the project completion reports submitted. Annex A gives the specifics of the project completion reports.

* The Secretariat received 10 project completion reports from UNDP after the cut-off date. The analysis of those will be submitted to the Executive Committee, together with the ones to be received subsequently.

TABLE VIII
COMPLETED PROJECTS (NON-INVESTMENT) AND PROJECT COMPLETION REPORTS

Agency	Sector	# Project Completion Reports Submitted	Projects Due for Submission by Year Completed				
			1995 or Before	1996	1997	Not Provided	Total
UNEP	Country Programme	12	38	16	7	0	59
	Institutional Strengthening	0	0	0	4	0	4
	Technical Assistance	10	23	25	31	0	79
	Demonstration	0	0	0	0	0	0
	Training	9	27	5	7	0	39
	Preparation	0	0	0	2	0	2
UNEP Total		31	86	46	51	0	183
World Bank	Country Programme	0	23	0	1	0	24
	Institutional Strengthening	1	0	1	2	0	3
	Technical Assistance	1	11	7	3	0	21
	Demonstration	0	0	1	0	0	1
	Training	0	0	0	2	0	2
	Preparation	0	118	16	18	0	152
World Bank Total		2	152	25	26	0	203
UNIDO	Country Programme	0	1	1	0	0	2
	Institutional Strengthening	0	0	1	0	0	1
	Technical Assistance	0	3	4	1	0	8
	Demonstration	0	0	0	0	0	0
	Training	0	1	0	0	0	1
	Preparation	0	15	16	9	0	40
UNIDO Total		0	20	22	10	0	52
UNDP	Country Programme	0	15	0	0	0	15
	Institutional Strengthening	0	1	8	3	0	12
	Technical Assistance	0	27	11	11	0	49
	Demonstration	0	4	0	1	0	5
	Training	0	18	4	1	0	23
	Preparation	0	27	38	6	0	71
UNDP Total		0	92	61	22	0	175
Bilateral	Country Programme	0	5	0	0	1	6
	Institutional Strengthening	0	1	0	0	0	1
	Technical Assistance	0	9	6	0	2	17
	Demonstration	4	6	3	2	2	13
	Training	1	21	1	3	0	25
	Preparation	0	8	3	3	1	15
Bilateral Total		5	50	13	8	6	77
Grand Total		38	400	167	117	6	690

Agencies' Assessment of Completed Projects

67. PCRs require that the implementing agencies make a self-assessment of the projects they implemented on a scale from highly satisfactory to unacceptable. UNEP assessed practically all its projects as either highly satisfactory or satisfactory. The same rating also holds for the World Bank. All bilateral projects were highly satisfactory and except one project were rated as satisfactory, though not as planned, since procedural problems in organizing the training course conducted in Senegal caused certain delays in starting the activity. One World Bank project was assessed as satisfactory and another one highly satisfactory.

TABLE IX
AGENCY ASSESSMENT OF PROJECT COMPLETION

Assessment	UNEP	Bilateral	World Bank	Total
Highly satisfactory, more than planned	6	4	1	11
Satisfactory, as planned	24	0	1	25
Satisfactory, though not as planned	1	1	0	2
Unsatisfactory, less than planned	0	0	0	0
Unacceptable	0	0	0	0
Total	31	5	2	38

68. In short, out of the 38 projects implemented by UNEP, the World Bank and two bilateral rated the performance either highly satisfactory or satisfactory. Only (2) projects were found satisfactory though less than planned.

69. As can be discerned from the above table, all non-investment projects were implemented quite successfully. Among the training projects, regional training seminar/workshops were highly satisfactory, and the rest were satisfactory as planned. All country programme formulation missions were implemented satisfactorily as planned. All information dissemination projects were either satisfactory or highly satisfactory. Only one project (GLO/SEV/16/TAS/75) was found satisfactory, through it was completed not as planned. This project was about preparing a video on good practices in refrigeration. For purely technical reasons, the completion of the project took almost three years instead of one.

Project Costs

70. UNEP, the World Bank, and the bilateral submitted all non-investment project completion reports during the second half of 1998. All the above-mentioned projects have been technically and financially completed. Hence, no further disbursements are necessary.

- (a) The total outlays for training seminars amounted to US \$1,136,706. In six (6) projects, planned expenditures equalled actual expenditures. Only two (2) projects had a slight overrun of their budgets, and two (2) projects spent somewhat less than planned expenditure. In other words, actual total expenditures were in fact within the benchmark of actual expenditures. A total of 630 persons participated in the training seminar/workshops, resulting in

US \$1,804 outlay per person.

- (b) Formulation of country programmes also remained very much within the planned budget. A total of US \$287,000 was spent for the preparation of twelve (12) country programmes averaging a per programme cost of about US \$24,000.
- (c) Information exchange projects were estimated to cost US \$2,430,000. All the twelve (12) projects were implemented successfully for a total cost of US \$1,744,990.
- (d) Training projects absorbed about 1/3rd of the total outlays and information exchange (technical assistance), a little less than one-half of the outlays. Institutional strengthening and the preparation of country programme amounted to a little more than 15% of the total actual expenditures.

TABLE X
COST OF COMPLETED PROJECTS ACCORDING TO PCRs

Nature Of Project	Number of Projects	Planned Expenditure (US\$)	Actual Expenditure (US\$)	Actual Expenditure as % of Planned	Actual Expenditure as % of Total Expenditure
Training	10	1,181,500	1,137,606	0.96	29.9
Country Programme	12	293,000	287,000	0.98	7.5
Technical Assistance*	11	2,430,000	1,744,990	0.72	45.8
Institutional Strengthening	1	143,500	143,500	1.00	3.8
Demonstration	4	495,437	495,437	1.00	13.0
Total	38	4,543,437	3,808,533	0.84	100

* Includes meeting of consultants and implementing agencies on policy issues (Information exchange and Networking projects).

Implementing Efficiency and Timing

71. Most of the projects were completed on schedule. Only in some training projects did the implementation fall behind schedule due to difficulties in identifying enterprises in various countries that have an installed base of chillers. Country programmes by-and-large finished within the prescribed time frame, only a few lagged a month or two due to some minor administrative bottleneck.

Compliance with Format

72. Compliance with the format leaves very much to be desired. Although information is provided with respect to cost (planned and actual), and the time frame within which the project is terminated, there is some missing information which is crucial for the Fund's decision-making process.

73. None of the Project Completion Reports state the lessons learnt from the exercise. It cannot be overemphasised that one of the essential purposes of any review, be it in the form of project completion report or an evaluation, is to learn from experience for a better decision making in the future. The absence of "lessons learned" from the Reports submitted is noted regretfully.

74. The relationship between the objectives of training and the corresponding expected outputs is not very clear. The Reports state the number of persons trained. But whether this number corresponds, exceeds, or falls short of the expected output as foreseen in the project document is not discernible from the Reports.

75. The Project Completion Reports related to information dissemination are very weak. The Reports state the following for example: "newsletters prepared and disseminated", or "sector-related videos are prepared", "database maintained" etc. It stands to reason to ask: Newsletters are disseminated to whom? How many of newsletters were mailed? Who received the videos? etc. It must be emphasised that preparing a newsletter or disseminating a video cannot constitute "output achieved". The purpose of producing such materials cannot be separated from their use, i.e. their production and their use as a unit constitute one output. It is therefore inevitable to reach the conclusion that the PCRs related to information dissemination do not provide sufficient information for the Fund to make a judgement about the expected impact of these activities.

76. On the other hand, the bilateral agencies provided comments on the lessons learned. A bilateral donor points out that small shops pose a difficult challenge for ODS abatement. All together small shops often use substantial quantities of refrigerants. Future projects should be designed in such a way that many small shop owners/managers should be given demonstration projects for ODS abatement. Another useful comment made by a bilateral donor based on its demonstration/training workshops organized in Venezuela is that equipment manuals are often cumbersome and are not organized for quick reference. Demonstration/training workshops should provide step by step instructions for quick reference and must be user friendly. Another bilateral donor points out that training can and should be carried out as much as possible, with local expertise.

Lessons Learned

77. Those who participated in the training seminars made some very valuable observations and recommendations. Although project completion reports invariably do not explicitly state the lessons learned from the projects, the following observations are listed here as a tentative proxy for lessons learned.

- (a) In almost all countries the participants emphasised the usefulness of the seminars/workshops, but also emphasised that one single workshop was not nearly enough. They suggest that governments should commit themselves to finance further training programmes.
- (b) Training is the first and necessary step, but it is not sufficient. The success of training depends upon continuous contact between ozone units and implementing agency representatives.
- (c) The future role of NGOs in disseminating information and their participation in familiarising enterprises as well as the public with issues surrounding ozone depletion was emphasised. However, there is no specific recommendation as to how to achieve the involvement of NGOs in this endeavour.
- (d) In countries where governments actively participated and facilitated the preparation of the country programmes, the projects were executed efficiently and were completed either earlier than expected or with a reduced cost. The preparation of the country programme in Mauritius is just one example.
- (e) One important lesson stands out with respect to information exchange; namely information dissemination contributes positively to raising consciousness on the negative aspects of the use of ozone-depleting substances. It must be pointed out, however, that although a priori the conclusion may have validity, project completion reports present no concrete evidence to that effect.
- (f) Dissemination of information should not be limited to responsible government officials and enterprises but should reach the public in general in order to raise the consciousness on ozone issues. This conclusion of the implementing agency appears to be reasonable *prima facie*, but any concrete evidence that an activity of this nature is in fact a cost efficient one remains to be proven.

CONCLUSIONS AND RECOMMENDATIONS

78. The preceding pages clearly show that the consultant is less than satisfied with the project completion reports. One would have the impression that the agencies fill out the forms without given due attention as the reports deserve. The result of course is either incomplete or erroneous feedback of accuracy of the ODS phase out is on the target or not. The efficiency of project implementation, i.e., cost and time span cannot also be reported by the consultant with an acceptable degree of accuracy.

79. The consultant concludes that the projects implemented so far continue to be relevant for the purpose they are designed. The relevance is obvious both in the case of investment and non-investment projects.

80. At the expense of being repetitive the consultant wishes to emphasize that the completion reports are utmost importance for designing and implementing future projects and the only tool available is the past experiences, successes, and/or failures.

81. As it can be surmised from the preceding pages, the consultant is unable to conclude with respect to the accuracy of the data and the quality of the results. Nor is it possible to ascertain the sustainability of the project results. It is also difficult to assess the accuracy of the agencies' self-assessment.

82. The crucial information with respect to ODS phase-out and non-ODS technology initiation cannot be clearly discerned from the PCRs.

83. The obvious question then is simply, is the format of PCR inadequate for providing accurate information or are the implementation agencies tending to be negligent in filling out the PCRs?

84. After a detailed review, the consultant concluded that there is nothing inherently wrong with the format (two minor modifications are explained below). But the fact remains. A total of (114) completion reports reviewed by the consultant do not provide a sound basis for concrete revisions of design and implementation procedures. It would not be correct, however, to conclude that the one is totally devoid of a basis for judgment. But the basis is not as solid as desired. The purpose here is not to point fingers to a negligent party, but under the circumstances to expound what should be done in the future to assure appropriate information flow conducive to accumulate reliable input.

85. To improve the information flow to Secretariat the consultant **recommends** that:

- (a) **An in-depth evaluation of the completed projects be conducted.** The selection of projects to be evaluated should be made based on multiple criteria to capture the divergence in sectors, geographical and size distribution of the projects, diversity of implementing agencies as well as variances in the self-assessment. It is worth mentioning here that evaluations are not only for the purpose of

corroborating the information provided in the PCRs or for filling out the missing information, but they are also for providing the Secretariat and the Executive Committee with additional input with respect to the impact, efficiency, and the effectiveness of the implemented projects. Since evaluations of this nature are conducted by independent external evaluators who are not associated with the evaluated projects either in the design and/or implementation stage, the opinions would be impartial and objective. Further the consultant suggests that the Secretariat may wish to develop, for its internal use, a guideline for project evaluation the captures the sui-generis aspects of the projects.

- (b) **The Secretariat calls the attention of the implementing agencies with respect to its dissatisfaction with PCRs**, it is the understanding of the consultant that this has been done already. If the forthcoming PCRs continue to show the same weaknesses **the Executive Committee may wish to consider a financial mechanism to force the agencies to comply with the format of PCR**. One possible venue would be to hold a given percentage of the fee until a satisfactory PCR is submitted to the Secretariat.

86. Four additional **recommendations** are made here with the aim of improving the format. As it was stated above the format is quite satisfactory for the purpose it was designed. The following recommendations may increase marginally the quality of the format.

- (a) Prepare a glossary of the terminology used in the format and **made the glossary and integral part of the format**.
- (b) **In the lesson learned section of the format state explicitly that project management/implementing agencies should site only generic lessons that are useful for future activities**. Implementing agencies must clearly understand that repeating the success/failure of a particular project cannot be considered lessons learned.
- (c) **Revise self-assessment section of the format**. The format contains five options. Many international agencies such as UNDP, UNICEF etc. found through experience that even number alternatives are preferable to odd-number alternatives. In the case of odd number alternatives there is always a tendency to choose the middle ground. **Also clearly state what is to be understood from each alternative**. In other words, choosing an alternative must not be left to the imagination of the implementing agencies. To this end, Evaluation Guidelines should clearly indicate the relative importance of impact, efficiency, and effectiveness criteria in each alternative.
- (d) **The hiatus between the project completion and submitting the PCR should be as short as possible** so that bona-fide information is transmitted to the Secretariat. Most preferable PCRs should be completed by the project manager and certified by the corresponding implementing agency. As far as the consultant can determine PCR format is extremely precise; regretfully the answers are not.

87. Finally, one last recommendation is in order.

- (a) **Prepare and explicit guideline for monitoring, evaluation and project completion reports** to be used as reference in the Secretariat. The main purpose of preparing such a guideline is to maintain consistency and uniformity in the evaluations to be conducted in the subsequent years.

ANNEX A
PROJECT COMPLETION REPORTS SUBMITTED (INVESTMENT)

Country	Project Number	Project title
Algeria	ALG/ARS/18/INV/12	Phasing out CFCs at ENAD
Algeria	ALG/ARS/20/INV/19	Phasing out of CFCs at Ets COPHYD ALGERIA
Algeria	ALG/REF/15/INV/09	Investment Project for phasing out CFCs at ENIEM
Algeria	ALG/SOL/17/INV/10	Investment Project for phasing out CFCs at ENAD
Argentina	ARG/FOA/13/INV/09	Phasing out of CFC's at BANDEX S.A.
Argentina	ARG/FOA/13/INV/10	Phasing out of CFCs at CELPACK S.A.
Brazil	BRA/FOA/17/INV/26	Phasing out of CFC's at FRISOKAR LTDA.
Brazil	BRA/SOL/18/INV/39	Conversion of metal cleaning processes from ODS solvents to aqueous cleaning and non-ODS solvent cleaning technologies at Elgin Maquinas, Sao Paulo, Brazil.
Cameroon	CMR/REF/13/INV/05	Phasing out of CFCs at FAEM, S.A.
China	CPR/FOA/07/INV/15	Zhejiang foam plant conversion to butane
China	CPR/FOA/10/INV/44	Chengde conversion to 50% reduced CFC in insulation panel and in-situ foaming formulations
China	CPR/FOA/10/INV/47	Qingdao Haier conversion to 50% Reduced CFC Foam in Freezer Cabinets
China	CPR/FOA/10/INV/48	Henan Xinfei conversion to 50% reduced CFC foam in refrigerators
China	CPR/FOA/10/INV/50	Shuangyan (Chengdu Aeroengine Double Swallow Electrical Equipment Industry Company) conversion to 50% Reduced CFC Foam in Refrigerators
China	CPR/HAL/15/INV/104	Conversion from Halon 1211 to ABC dry powder and foam water spray at Nanjing Fire Fighting Equipment Factory
China	CPR/PRO/10/INV/43	Wuxi production of blended polyol for 50% reduced CFC foam
China	CPR/PRO/10/INV/51	Shenyang production of blended polyol for 50% reduced CFC Foam
China	CPR/PRO/13/INV/76	Halon 1211 production closure at Tongxiang Chemical Fertilizer Factory
Ecuador	ECU/ARS/09/INV/12	Laboratorios Windsor S.A.
Ecuador	ECU/FOA/09/INV/10 Sub project 1	Electrodomesticos Durex C.A.
Ecuador	ECU/FOA/09/INV/10 Sub project 3	ECASA
Ecuador	ECU/FOA/09/INV/10 Sub project 2	INDURAMA S.A.

Country	Project Number	Project title
Egypt	EGY/FOA/10/INV/16	Investment project for phasing out of CFC-12 at ADVECHEMS
Egypt	EGY/REF/13/INV/32	Phasing out at the Refrigerator Plants of Delta Industrial Co., Egypt
Egypt	EGY/REF/13/INV/33	Phasing out ODS at the Electrostar for Refrigeration Co.
Egypt	EGY/REF/13/INV/35	Phasing out ODS at the Kiriazi Refrigerators Manufacturing Co. Egypt
Indonesia	IDS/FOA/13/INV/18	Elimination of CFC-11 in the manufacture of flexible polyurethane foam at P.T. Royal Abasi Sejahtera
Indonesia	IDS/REF/18/INV/35	Phasing out of CFCs at Air Tech. Co Ltd
India	IND/FOA/18/INV/55	Phase us of CFCs in the Manufacture of Molded PUF at Bharat Seats Ltd.
India	IND/SOL/13/INV/25	Conversion of Electronic Cleaning Processes from ODS Solvents to Aqueous Cleaning, Non-ODS Solvent and No-Clean Flux at ITI-Mankapur
India	IND/SOL/18/INV/66	Conversion of Electronic Cleaning Processes from ODS Solvents to No-Clean and Aqueous Photoresist Developing and Stripping Technologies at ITI LTD, Palakkad
India	IND/SOL/19/INV/95	Conversion of electronic cleaning processes from ODS solvents to semi-aqueous cleaning and no-clean soldering technologies at ITI Ltd., Bangalore, India.
Cote D'Ivoire	IVC/FOA/19/INV/06	Phasing out of CFC's at F.I.M.A.
Jordan	JOR/REF/20/INV/29	Phasing out ODS at the ABDIN INDUSTRIAL EST.
Lebanon	LEB/ARS/19/INV/05	Phasing out CFCs at Cosmaline Industries s.a.al.
Lebanon	LEB/ARS/19/INV/06	Phasing out CFCs at Zeenni's Trading Agency
Malaysia	MAL/REF/06/TAS/05	Conversion, leakage control and recycling of CFC-12 and demonstration project in MAC sector
Malaysia	MAL/SOL/18/INV/79	Conversion of Metal Cleaning Process from 1,1,1-Tricloroethane at AE Technology Sdn.Bhd
Macedonia	MDN/FOA/22/INV/05	Investment project for phasing out of CFC-11 from manufacturing of rigid panels at Sileks AD Co.
Mexico	MEX/REF/05/DEM/06	Demonstration programme in CFC recovery and recycling of the Instituto Mexicano del Seguro Social (IMSS) refrigeration equipment
Mexico	MEX/REF/05/INV/09	Refrigeration Ojeda S.A.
Mexico	MEX/REF/05/TAS/08	Climas Jimenez S.A. de C.V.
Mexico	MEX/REF/05/TAS/13	CFC Recovery and Recycling Programme through Quimobasicos S.A. de C.V.
Mexico	MEX/SOL/05/INV/11	Styloptic S.A.

Country	Project Number	Project title
Mexico	MEX/SOL/05/INV/12	Recovery, reclaim and recycling of CFC-113 and methylchloroform through Quimica Omega S.A. plant
Philippines	PHI/SOL/09/INV/11	Conversation to Semi-Aqueous and Aqueous Cleaning Solvents at Ionics Circuits, Inc.
Sudan	SUD/ARS/18/INV/04	Phasing out CFCs at Sudanese Cosmetics and Household Products Ltd.
Syria	SYR/REF/13/INV/04	Investment project for phasing out of CFCs at Al-Hafez Refrigerator Co.
Syria	SYR/REF/15/INV/05	Investment project for phasing out of CFCs at Penguin (Syrian Batric Co.)
Syria	SYR/REF/15/INV/09	Investment project for phasing out of CFCs at Barada General Co.
Thailand	THA/REF/10/INV/17	Engineering assistance for the elimination of Ozone Depleting Substances used in the production of household refrigerators at Thai Toshiba Electric Industries Co., Ltd.
Thailand	THA/REF/10/INV/18	Engineering assistance for the elimination if ozone depleting substances used in production of household refrigerators at Kang Yong Electric Co., Ltd. (Phase I).
Thailand	THA/REF/10/INV/19	Engineering assistance for the elimination of Ozone Depleting Substances used in the production of household refrigerators at Sanyo Universal Electric Public Company Limited (Phase I)
Thailand	THA/REF/10/INV/20	Engineering assistance for the elimination of Ozone Depleting Substance used in the production of household refrigerators at Hitachi Consumer Products (Thailand) Limited (Phase I)
Thailand	THA/REF/10/INV/21	Conversion of compressor manufacture from CFC-12 to CFC-134a designs at Sanyo Universal Electric Co. Ltd. (Phase I).
Thailand	THA/REF/10/INV/22	Conversion of compressor manufacture from CFC-12 to HFC-134a designs at Kulthorn Kirby Co. Ltd. (KKC)-Phase I.
Thailand	THA/REF/13/INV/37	Production of HFC-134a mobile air conditioner parts at Nippondenso Thailand Limited
Thailand	THA/REF/20/INV/60	Conversion of Compressor Manufacture from CFC-12 to HFC-134a (Phase II), at Kulthorn Kirby Public Company Limited
Thailand	THA/SOL/10/INV/12	Conversion to wet media blasting and aqueous cleaning solvents at Hana (BKK) Co. Ltd.
Thailand	THA/SOL/10/INV/13	Conversion of Electronic Cleaning Process from CFC-113/Alcohol Blended Solvents to High-Purity Water Cleaning at GSS Array, Inc.

Country	Project Number	Project title
Thailand	THA/SOL/10/INV/14	Conversion to high-purity water cleaning at Saha Union's Sriracha facility.
Thailand	THA/SOL/10/INV/16	Conversion of Metal Cleaning from 1,1,1 Trichloroethane (TCA) to No Cleaning Process at C.I. Group Company Limited.
Thailand	THA/SOL/19/INV/54	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.(TCRT)
Tunisia	TUN/FOA/19/INV/16	Phasing out of CFC-11 at Meublatex
Tanzania	URT/ARS/18/INV/05	Phasing out CFCs at Mansoor Daya Chemicals Ltd.
Venezuela	VEN/FOA/07/INV/05	Conversion of a CFC-12 polystyrene foam production facility to use hydrocarbons as blowing agent at Plasticos Molanca C.A. (PMCA)
Vietnam	VIE/REF/15/INV/04	Phasing out ODS at the SEAREFICO and SEAREE Industrial Refrigeration Plants of SEAPRODEX Co.

ANNEX B
PROJECT COMPLETION REPORTS (NON-INVESTMENT)

Country	Implementing Agency	Year of Completion	Project Title
Argentina ARG/REF/16/DEM/22	USA/EPA	96	Demonstration Project in Mobile Air Conditioning (MACs)
Bahrain GLO/REF/10/TRA/45	UNEP	94	Training course on chiller and refrigerant management
Burkina Faso BKF/SEV/06/CPG/01	UNEP	93	Formulation of country program
Cameroon CMR/SEV/04/CPG/01	UNEP	93	Formulation of country program
Chile CHI/SEV/20/INS/16	IBRD	98	Ozone protection and Institutional Strengthening
China CPR/HAL/16/DEM/21	USA/EPA	96	Halon 1211 Leak Reduction Demonstration
Fiji FIJ/SEV/04/CPG/01	UNEP	93	Formulation of country program
Ghana GHA/SEV/O4/CPG/01	UNEP	92	Formulation of country program
Indonesia ASP/REF/10/TRA/10	UNEP	97	Training course on chiller and refrigerant management
Malaysia MAL/REF/06/TAS/05	IBRD	95	Conversion, leakage control and recycling of CFC-12 and demonstration project in MAC sector
Maldives MLD/SEV/04/CPG/01	UNEP	93	Formulation of country program
Mauritius MAR/SEV/09/CPG/01	UNEP	93	Formulation of country program
Panama PAN/SEV/06/CPG/01	UNEP	93	Formulation of country program
Philippines ASP/REF/10/TRA/11	UNEP	94	Training course on chiller and refrigerant management
Senegal SEN/SEV/11/CPG/01	UNEP	93	Formulation of country program
Senegal SEN/REF/21/TRA/07	France	98	Formation des techniciens frigoristes aux bonnes pratiques en matiere de froid
Syria SYR/SEV/04/CPG/01	UNEP	93	Formulation of country program
Thailand	UNEP	95	Training course on chiller and refrigerant

Country	Implementing Agency	Year of Completion	Project Title
AFR/REF/10/TRA/05			management
Uganda UGA/SEV/04/CPG/01	UNEP	93	Formulation of country program
Venezuela VEN/REF/15/DEM/31	USA/EPA	95	Demonstration Projects in the Refrigeration Sector: MAC
Venezuela VEN/REF/08/DEM/06 VEN/REF/13/DEM/28	USA/EPA	95	Technical Assistance and Demonstration Project in CFC Recycling in MAC, Demonstration Project in MAC
Zambia ZAM/SEV/04/CPG/01	UNEP	93	Formulation of country program
Zambia AFR/REF/10/TRA/06	UNEP	94	Training course on chiller and refrigerant management
AFR/Regional AFR/SEV/06/TRA/01	UNEP	92	Regional workshop for Africa: Implementation of the Montreal Protocol
LAC/Regional ASP/SEV/04/TRA/01	UNEP	92	Regional workshop for Latin America and the Caribbean: Implementation of the Montreal Protocol
Asia/Regional ASP/SEV/04/TRA/01	UNEP	91	Regional workshop for Asia and Pacific: Implementation of the Montreal Protocol
Global GLO/SEV/04/TRA/01	UNEP	91	Workshop for West Asia and Arabic speaking countries: Implementation of Montreal Protocol
Global GLO/SEV/12/TAS/60	UNEP	95	Meeting of consultants to discuss implementation issues
Country	Implementing Agency	Year of Completion	Project Title
Global GLO/SEV/16/TAS/83	UNEP	96	Informal Advisory meeting to discuss work program
Global GLO/SEV/21/TAS/131	UNEP	97	Maintain contact list database of experts and mailing list, Ozone Action publications
Global GLO/SEV/19/TAS/105	UNEP	97	Continue to maintain a contact database on experts and mailing list, Ozone Action newsletter
Global GLO/SEV/21/TAS/128	UNEP	97	Develop awareness material for 1999 freeze to support national awareness activities
Global GLO/SEV/21/TAS/118	UNEP	97	Disseminate awareness material

Country	Implementing Agency	Year of Completion	Project Title
Global GLO/SEV/19/TAS/108	UNEP	96	Publish ozone newsletter and special supplements
Global GLO/SEV/21/TAS/121	UNEP	97	Publish Ozone newsletter and special supplements
