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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-third Meeting
Montreal, 12-14 November 1997

REQUESTS FOR BILATERAL COOPERATION

The Fund Secretariat received the following requests from the governments of Canada, Finland, France, Germany, and the United States of America for intersessional approval of the following bilateral cooperation:

- Refrigerant management plan implementation project for St. Lucia (Canada)
- Implementation of a training programme for recovery and recycling of refrigerants in Ethiopia (Finland)
- Project preparation/technical assistance for the halon sector in Iran (France)
- Project preparation/technical assistance for the solvent sector in Iran (France)
- Conversion to non-CFC facilities of 4 companies producing cars and wagons equipped with MACs (umbrella project) in Iran (France)
- Set up of a national program of recovery and recycling CFC-12 pilot project for MACs (Phase I: in Teheran) (France)
- Conversion of refrigeration industrial facilities in Lebanon – Total sector phase-out (France)
- Training for professionals operating in the refrigeration sector in Lebanon (France)
- Implementation of an ODS recovery and recycling network in Lebanon (France)
- Training of refrigeration technicians on recovery and recycling methodologies in Lebanon (France)
- Implementation of an ODS recovery and recycling network in Morocco (France)

- Implementation of an ODS recovery and recycling network in Morocco (France)
- Training of refrigeration technicians on recovery and recycling methodologies in Morocco (France)
- Development of refrigerant management plans for 14 low-volume ODS-consuming countries in southern and eastern Africa (Germany)
- Information video: "Working safely with Hydrocarbons in domestic and small scale commercial refrigeration" (Global) (Germany)
- Recuperation and recycling of R-12, integrated with the introduction of hydrocarbon technology in the service sector in Namibia (Germany)
- Elimination of CFCs 11 and 12 in the manufacture of commercial refrigeration equipment, etc. at Azkcon Refrigeration Industries in the Philippines (Germany)
- Recovery and recycling project - The phasing out of CFCs in the service sector by changing the refrigerant from CFC to hydrocarbon in the Philippines (Germany)
- MAC demonstration project in Jamaica (USA)
- MAC demonstration project in Trinidad and Tobago (USA)
- MAC demonstration project in Turkey (USA)

INTRODUCTION

Pursuant to Article 10 of the Protocol as amended and decision IV/18 of the Fourth Meeting of the Parties, the Executive Committee is charged with assessing bilateral requests. These twenty requests were reviewed in the light of the pertinent decisions of the Executive Committee. A description of project proposals as well as the comments of the Fund Secretariat are included in this document.

1. In accordance with the established guidelines for bilateral cooperation, the Fund Secretariat recommends approval of the following requests for bilateral cooperation:

• Refrigerant management plan implementation project for St. Lucia (Canada)	US \$146,900
Total Canada	US \$146,900
• Implementation of a training programme for recovery and recycling of refrigerants in Ethiopia (Finland)	US \$93,490
Total Finland	US \$93,490
• Project preparation/technical assistance for the halon sector in Iran (France)	US \$31,500
• Project preparation/technical assistance for the solvent sector in Iran (France)	US \$31,500
• Set up of a national program of recovery and recycling CFC-12 pilot project for MACs (Phase I: in Teheran) (France)	US \$329,450
• Training for professionals operating in the refrigeration sector in Lebanon (France)	US \$84,000
• Implementation of an ODS recovery and recycling network in Morocco (France)	US \$338,140
• Training of refrigeration technicians on recovery and recycling methodologies in Morocco (France)	US \$50,820
Total France	US \$865,410¹
• Development of refrigerant management plans for 14 low-volume ODS-consuming countries in southern and eastern Africa (Germany)	US \$420,000
• Information video: "Working safely with Hydrocarbons in domestic and small scale commercial refrigeration" (Global) (Germany)	US \$322,050
Total Germany	US \$742,050
• MAC demonstration project in Jamaica (USA)	US \$130,000
• MAC demonstration project in Trinidad and Tobago (USA)	US \$117,000
• MAC demonstration project in Turkey (USA)	US \$205,000
Total USA	US \$452,000

¹ This amount is to be offset against the costs of canceled project amounting to US \$226,000 and the balance of US \$639,410 applied against France's 1997 contributions.

2. The project Elimination of CFCs 11 and 12 in the manufacture of commercial refrigeration equipment, etc. at Azkcon Refrigeration Industries in the Philippines submitted by the Government of Germany was withdrawn.

3. The following projects are under discussion:

- Implementation of an ODS recovery and recycling network in Lebanon (France for US \$1,339,511)
- Training of refrigeration technicians on recovery and recycling methodologies in Lebanon (France for US \$74,338)
- Conversion to non-CFC facilities of 4 companies producing cars and wagons equipped with MACs (umbrella project) in Iran (France for US \$517,770)
- Recuperation and recycling of R-12, integrated with the introduction of hydrocarbon technology in the service sector in Namibia (Germany for US \$34,400)

4. The Executive Committee may wish to ascertain if the following activities are eligible for support under the Multilateral Fund:

- Recovery and recycling project: the phasing out of CFCs in the service sector by changing the refrigerant from CFC to hydrocarbon in the Philippines (Germany for DM 127,490.91 = US \$70,828)²
- Conversion of refrigeration industrial facilities in Lebanon - Total sector phase-out (France for US \$158,184).

² The UN rate of exchange for September 1997 is DM 1.8 = US \$1.

REQUEST FROM THE GOVERNMENT OF CANADA

5. The Government of Canada has submitted a request for a bilateral cooperation project to implement St. Lucia's refrigerant management plan.

6. Canada has requested that this project should be offset against its 1997 contributions to the Multilateral Fund. The amount requested (US \$146,900) plus the previous approvals for Canada against 1997 contributions (US \$640,285) does not exceed 20 per cent of Canada's pledged contributions to the Fund for 1997.

7. Canada is currently implementing four bilateral cooperation projects valued at US \$1.5 million for which US \$505,524 was disbursed through December 1996.

Refrigerant management plan implementation project for St. Lucia (US \$163,765)

Refrigeration management plan and project description

8. The Government of Saint Lucia is submitting for consideration by the Committee at its 23rd Meeting a request for implementation of a refrigerant management plan (Annex I contains a summary of the RMP). The RMP was prepared by the Government and with technical assistance from UNEP. The Government of Canada jointly with UNEP will implement it and the activities contained within, as part of its bilateral contribution to the Multilateral Fund.

9. In 1995, total ODS consumption in the country was estimated at 7.9 tonnes, the majority used in the refrigeration and air-conditioning servicing sector.

10. Saint Lucia has about 300 service technicians in the refrigeration, air-conditioning and MAC sub-sectors. The skill level of service technicians in the country varies. While the industrial users, large service organizations and equipment suppliers have reasonably well trained technicians, the informal service workshops are usually staffed by technicians with low skills. These technicians generally service household refrigerators, smaller refrigeration equipment and MAC systems. The current practice of maintenance does not include containment or leak prevention and repairs. CFC-11 is still used for flushing systems.

11. The Government's Action Plan proposes to develop and implement specific control measures including, inter alia, ban on the imports of CFC-12 based domestic refrigerators and restriction on the import of ODS based commercial and industrial refrigeration and air-conditioning equipment; introduction of revised harmonized tariff code; development of a regional consumption tax and/or import duty adjustments on ODS and ODS based equipment; training programmes in conservation, good service practice, retrofitting and new technologies for service technicians, and training for Customs Officers and Government Statistics Department; and

implementation of a national recovery and recycling programme. The RMP proposes a time frame for implementation of these policies, together with regulatory measures and incentives.

12. The RMP identified two basic training programmes, namely, training for monitoring and control of ODS and ODS using equipment, aimed at enforcement officers from the Ozone Unit, and Customs and Bureau of Statistics, to identify and develop techniques for collecting and reporting consumption of import data; and training refrigeration technicians in good management practices using the "train the trainers" approach. This programme aims at improving service and maintenance practices in order to prevent intentional and/or unintentional release of ODS into the atmosphere, thus making it possible for refrigeration equipment to operate to the end of its useful life.

13. The RMP also includes a subproject for the establishment of a recovery and recycling network comprising 6 recovery units and one recycling centre for servicing large-capacity commercial and industrial refrigeration equipment, and 3 MAC recovery and recycling units. This activity also provides for a one-day workshops for service technicians on a practical demonstration on recovery and recycling equipment. The recovery and recycling programme will be implemented only when necessary economic and policy instruments are put into place in the country.

14. In total, 3.0 tonnes of CFC could be recovered and recycled each year. This amount does not take into account the amount of refrigerant that might be saved owing to the teaching of good service and maintenance practices at the training seminars.

15. The Ozone Unit will be responsible for the monitoring, co-ordination and successful implementation of proposed phase-out activities in the RMP. It will allocate and distribute the equipment and monitor the quantity of refrigerants being recovered and recycled; maintain a database to monitor the information received from service and recycling centres; recommend a pricing policy to the government for the price of recycled refrigerants, which will be monitored by the appropriate office in government.

Comments

16. The Executive Committee at its 22nd Meeting decided to request UNEP, in consultation with the Secretariat, the other implementing agencies and members of the Executive Committee, to review the proposed guidelines for RMPs and submit them to the September 1997 meeting of the Sub-Committee on Project Review (Decision 22/24). The Sub-Committee, at its September Meeting, welcomed the revised draft guidelines and provided further guidance on work to be done. Based on discussion at the Sub-Committee's meeting, UNEP IE revised the RMP guidelines for submission to the 23rd Meeting of the Executive Committee.

17. The Saint Lucia RMP follows the RMP guidelines as revised by UNEP.

18. Bearing in mind the importance of the RMP as one of the few activities that could assist the Government of Saint Lucia to meet its obligations under the Montreal Protocol, the Secretariat and UNEP discussed in detail the major components of the RMP, in particular, the timing of implementation of regulatory and legislative requirements, the fiscal steps to make recovery and recycling economically feasible, and modalities for the implementation of the training programme in good management practices in order to cover the majority of the 300 service technicians operating in the country.

19. The Secretariat and UNEP also discussed the size of the recovery and recycling programme and the level of funding requested for recovery equipment and related components (storage cylinders, refrigerant bags and pumps) as compared to other recovery and recycling projects already approved. The cost of the subproject was adjusted accordingly.

20. The Secretariat and UNEP discussed the modalities of coordination and implementation of the various activities in the RMP, the monitoring and evaluation roles of the Ozone Unit, the responsibilities of government agencies and industrial associations during implementation of the RMP as well as the Government's commitment to its implementation.

21. The Government of Saint Lucia is committed to phasing out the use of ODS in the shortest period possible taking into account availability of replacement technologies, residual life of existing CFC based equipment and legislative and policy measures required which are consistent with regional treaties. The Government expects all regulatory and legislative requirements to be in place before the end of 1998. The Government is proposing to take a leading role within the Organization of Eastern Caribbean States to reach early agreement on economic instruments as a disincentive to growth in the consumption of ODS and ODS based refrigerant equipment.

RECOMMENDATIONS

22. The Fund Secretariat recommends approval of the bilateral proposal from the Government of Canada in the amount of US \$146,900 and the Treasurer should credit this amount against Canada's 1997 contributions.

23. To request that the Government of Canada should not proceed with the disbursement of funds approved for recovery and recycling programme until the regulatory and legislative requirements and fiscal steps proposed by the Government of Saint Lucia are put into place.

ANNEX I
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REFRIGERANT MANAGEMENT PLAN OF ST. LUCIA

1. The Government of Saint Lucia is submitting for consideration by the Committee at its 23rd Meeting a request for implementation of a refrigerant management plan. The RMP was prepared by the Government and with technical assistance from UNEP. The Government of Canada jointly with UNEP will implement it and the activities contained within, as part of its bilateral contribution to the Multilateral Fund.
2. In 1995, total ODS consumption in the country was estimated at 7.9 tonnes, the majority used in the refrigeration and air-conditioning servicing sector.
3. Saint Lucia has about 300 service technicians in the refrigeration, air-conditioning and MAC sub-sectors. The skill level of service technicians in the country varies. While the industrial users, large service organizations and equipment suppliers have reasonably well trained technicians, the informal service workshops are usually staffed by technicians with low skills. These technicians generally service household refrigerators, smaller refrigeration equipment and MAC systems. The current practice of maintenance does not include containment or leak prevention and repairs. CFC-11 is still used for flushing systems.
4. The Government's Action Plan proposes to develop and implement specific control measures including, inter alia, ban on the imports of CFC-12 based domestic refrigerators and restriction on the import of ODS based commercial and industrial refrigeration and air-conditioning equipment; introduction of revised harmonized tariff code; development of a regional consumption tax and/or import duty adjustments on ODS and ODS based equipment; training programmes in conservation, good service practice, retrofitting and new technologies for service technicians, and training for Customs Officers and Government Statistics Department; and implementation of a national recovery and recycling programme. The RMP proposes a time frame for implementation of these policies, together with regulatory measures and incentives.
5. The RMP identified two basic training programmes, namely, training for monitoring and control of ODS and ODS using equipment, aimed at enforcement officers from the Ozone Unit, and Customs and Bureau of Statistics, to identify and develop techniques for collecting and reporting consumption of import data; and training refrigeration technicians in good management practices using the "train the trainers" approach. This programme aims at improving service and maintenance practices in order to prevent intentional and/or unintentional release of ODS into the atmosphere, thus making it possible for refrigeration equipment to operate to the end of its useful life.

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REFRIGERANT MANAGEMENT PLAN OF ST. LUCIA

6. The RMP also includes a subproject for the establishment of a recovery and recycling network comprising 6 recovery units and one recycling centre for servicing large-capacity commercial and industrial refrigeration equipment, and 3 MAC recovery and recycling units. This activity also provides for a one-day workshops for service technicians on a practical demonstration on recovery and recycling equipment. The recovery and recycling programme will be implemented only when necessary economic and policy instruments are put into place in the country.

7. In total, 3.0 tonnes of CFC could be recovered and recycled each year. This amount does not take into account the amount of refrigerant that might be saved owing to the teaching of good service and maintenance practices at the training seminars.

8. The Ozone Unit will be responsible for the monitoring, co-ordination and successful implementation of proposed phase-out activities in the RMP. It will allocate and distribute the equipment and monitor the quantity of refrigerants being recovered and recycled; maintain a database to monitor the information received from service and recycling centres; recommend a pricing policy to the government for the price of recycled refrigerants, which will be monitored by the appropriate office in government.

REQUEST FROM THE GOVERNMENT OF FINLAND

24. The Government of Finland has submitted a request for a bilateral cooperation project to implement a training programme and the provision of recovery and recycling equipment for refrigerant recovery and recycling in Ethiopia. Finland has requested that this project should be offset against its 1997 contributions to the Multilateral Fund. The amount requested (US \$93,490) does not exceed 20 per cent of Finland's pledged contributions to the Fund for 1997.

25. Finland is currently implementing one bilateral cooperation project valued at US \$103,440 for which no funds had been reported disbursed through December 1996.

Implementation of a training programme for recovery and recycling of refrigerants in Ethiopia (US \$93,490)

Project description

26. This project will provide training for the recovery and recycling and equipment for managing refrigerant supplies in Ethiopia. This programme will be part of the regional refrigerant management plan that Germany is requesting to prepare for English-speaking Africa.

27. The Government of Ethiopia stated that this project will assist it in meeting its 1999 freeze obligations. This project was foreshadowed in Ethiopia's country programme that was approved by the Executive Committee in October 1996. Ethiopia's 1995 consumption was 30.76 ODP tonnes of which 30.1 ODP tonnes are consumed in the refrigerant servicing sector. This project is expected to result in the annual reduction of 7.5 tonnes of CFCs.

28. This project includes four training and demonstration workshops that are intended to train 65-70 maintenance technicians/operators in recovery and recycling, good servicing practices, and the introduction of new non-CFC refrigerants including HFC-134a. The National Meteorological Services Agency will monitor the quantities of recycled refrigerants.

29. UNEP IE will implement the project for Finland. 13 per cent of project costs will be provided to UNEP IE as implementation costs.

Comments

30. Ethiopia's country programme indicated that regulations and legislation to ban the importation of CFC-based refrigerators, air conditioners, and other equipment should be prepared in 1998.

31. As mentioned above, the Government of Germany is submitting a request for a bilateral cooperation project that will develop a regional refrigerant management plan for African countries including Ethiopia. Decision 22/23 requires that future refrigerant recovery and recycling projects should be prepared in the context of the refrigerant management plan/strategy of the country concerned. This project, however, implements key components of refrigerant management plans including training in recovery and recycling and good servicing practices and the provision of recycling and recovery equipment in advance of enacted legislation or regulatory measures to enable their successful implementation.

32. This project was originally intended for submission along with Ethiopia's country programme in October 1996, however, it was not submitted since the amount requested, plus other bilateral cooperation approved for Finland that was offset against its 1996 contributions, would have exceeded 20 per cent of Finland's pledged contributions for 1996.

RECOMMENDATIONS

33. The Fund Secretariat recommends approval of the bilateral proposal from the Government of Finland in the amount of US \$93,490 and the Treasurer should credit this amount against Finland's 1997 contributions.

34. To approve the project and to request the Government of Germany to integrate this project in the original RMP to be prepared by it.

REQUESTS FROM THE GOVERNMENT OF FRANCE

35. The Government of the France has submitted 10 requests for the consideration of the Executive Committee.

36. The following projects are under discussion:

- Implementation of an ODS recovery and recycling network in Lebanon (France for US \$1,339,511)
- Training of refrigeration technicians on recovery and recycling methodologies in Lebanon (US \$74,338)
- Conversion to non-CFC facilities of 4 companies producing cars and wagons equipped with MACs (umbrella project) in Iran (US \$517,770)

37. The Executive Committee is requested to consider whether the following project should be eligible for funding:

- Conversion of refrigeration industrial facilities in Lebanon - Total sector phase-out (US \$158,184).

38. The Government of France has requested that approved projects should be offset against a previous bilateral project for Malaysia that was canceled (US \$226,000) as noted in decision 22/54 and the balance should be offset against France's 1997 contributions. Pending the conclusion of ongoing discussions, the Secretariat is recommending approvals amounting to US \$865,410. This amount should be offset against the previously canceled project (US \$226,000) and the balance (US \$639,410) should be offset against the contributions of France for 1997.

39. This amount (US \$639,410) plus the previous approvals credited against France's 1997 contributions (US \$257,423) does not exceed 20 per cent of France's bilateral contributions to the Fund for 1997.

40. France is currently implementing 19 bilateral cooperation projects valued at US \$1.4 million for which US \$96,200 was disbursed through December 1996.

IRAN (request : US \$910,220)

Project preparation/technical assistance for the halon sector in Iran (US \$31,500)

Project description

41. This project would identify and prepare projects in the fire fighting sector of Iran. The project is to be completed one year after approval.

Comments

42. The Government of Iran has updated its country programme to include information about the halon sector. The estimated level of halon 1211 and 1301 consumption is 320 metric tonnes (960 ODP tonnes) and 82 metric tonnes (820 ODP tonnes), respectively. The updated country programme foresees phasing out halon 1211 with ABC powder and halon 1301 with foam/water systems.

43. No projects have been funded in the halon sector in Iran.

44. In decision 22/12 on the Three-Year Business Plan of the Fund, the Executive Committee has given high priority to the preparation of projects in the halon sector due to the high ODP value of halons.

Project preparation/technical assistance for the solvent sector in Iran (US \$31,500)

Project description

45. This project includes a survey to identify solvent users and will result in the preparation of cost-effective investment projects in the solvents sector of Iran. Iran's updated country programme identifies about 80 metric tonnes of consumption in this sector.

Comments

46. In decision 22/12 on the Three-Year Business Plan of the Fund, the Executive Committee decided to continue to provide funding for all ODS consumption sector to maintain momentum. It also decided that priority should be given to approving projects with the highest ODP value.

Conversion to non-CFC facilities of 4 companies producing cars and wagons equipped with MACs (umbrella project) in Iran (US \$517,770)

Project description

47. This project will replace the current CFC-12 charging machines with HFC-134a-based machines and provide technical assistance and training for four companies in Iran that charge CFC-12 into air conditioners in cars, buses, and wagons (train cars). The MACs come assembled from mainly non-Article 5 countries (except Republic of Korea). The four Iranian-owned companies are licensed by the MAC suppliers.

48. Operating costs for the higher cost of HFC-134a are based on the net present value of two years of additional operational costs.

49. The project will replace 23.6 ODP tonnes of CFC-12. The cost-effectiveness of the project is US \$21.97/kg. There is no cost-effectiveness threshold for the MAC sub-sector.

50. The project was developed as a result of project preparation funds provided by the Multilateral Fund as recorded in the Report of the Twentieth Meeting of the Executive Committee.

51. According to the project document, the project will result in the total phase-out of the sub-sector in Iran and reduce the need of CFCs for maintenance and recharging.

52. This project will be completed 12 months after its approval.

Comments

53. The Secretariat is discussing with the Government of France the eligibility and level of operating costs.

Set up of a national program of recovery and recycling CFC-12 pilot project for MACs (Phase I: in Teheran) (US \$329,450)

Project description

54. This is Phase I of a national MAC recovery and recycling project. The project will provide training and equipment to 50 MAC service shops and the railway company in the capital, Teheran. Based on the results of this demonstration project, the Government will develop measures to encourage MAC servicing technicians to recover and recycle CFC-12 and possibly, a second phase will be submitted for funding to extend training and equipment to the rest of Iran.

55. The 50 technicians trained from the 50 service shops will serve as local trainers during Phase II of the project. There are 100 MAC service shops in Teheran.

56. This project should assist the Government of Iran in developing a strategy to reduce the consumption in the sector to meet the 1999 consumption freeze obligations.

57. While the level of CFC emissions expected to result from this project was not estimated, the project document notes that the MAC sector consumes 480 ODP tonnes in Iran, annually. Iran's updated country programme states that there are 600,000 cars equipped with MACs in Iran.

58. The project was developed as a result of project preparation funds provided by the Multilateral Fund as recorded in the Report of the Twentieth Meeting of the Executive Committee.

59. This project will be completed 12 months after its approval.

Comments

60. This project is included in Iran's updated country programme strategy which foreshadowed the ban of CFCs in mobile air conditioners in 1996 and policies to encourage the recovery and recycling of CFC-12 and the restriction of its emission during the repair and servicing of MACs.

61. The total costs for Phase II were not specified and thus, the total costs for MAC recovery and recycling could not be compared to similar projects approved by the Committee.

62. This project was prepared with approved project preparation funds in advance of the Executive Committee's decision 22/23 which requires that future refrigerant recovery and recycling projects should be prepared in the context of the refrigerant management plan/strategy of the country concerned.

LEBANON (request: US \$1,656,033)

"Conversion of refrigeration industrial facilities in Lebanon – Total sector phase-out (US \$158,184)

Project description

63. This project will convert 15 SME manufacturers of food store display refrigeration units from CFC-12 and HCFC-502 to HFC-134a and HFC-404a. The project will result in the total phase-out of the commercial refrigeration sector in Lebanon that has an estimated annual level of

consumption of 10.4 ODS tonnes. The choice of HFC technology is expected to result in increased productivity.

64. The following equipment will be provided to the 15 SMEs: manual re-charge boards (automatic for Leon Industries), vacuum pumps, electronic leak detectors, recovery units for CFCs and HCFCs, and by-pass systems. Operating costs are calculated on the basis of the net present value of 2 years' difference between the costs of the alternatives (US \$8/kg. for R-134a and US \$17/kg. for R-404a) and the costs of ODS (US \$3/kg. for R-12 and US \$15/kg. for R-502).

65. The project was developed as a result of project preparation funds provided by the Multilateral Fund as recorded in the Report of the Twentieth Meeting of the Executive Committee.

66. The project is expected to be completed 18 months after its approval.

Comments

67. This terminal umbrella project exceeds the established cost-effectiveness threshold for commercial refrigeration (US \$15.21/kg.) by US \$4.06/kg.

68. Decision 19/32 allows the consideration of an umbrella projects if the overall cost-effectiveness of the umbrella project falls within the sectoral threshold established by the Executive Committee and no individual enterprise proposal had a cost-effectiveness threshold more than 100 per cent above the established threshold. Two of the enterprises in the proposal have a cost-effectiveness more than 100 per cent above the established threshold of US \$15.21/kg.: Leon Industries (US \$60.19/kg.) and Steel Craft (US \$43.95/kg.); however, the total costs for Leon Industries' project is US \$38,892 and for Steel Craft is US \$2,637.

69. The proposal is designed to address only the refrigerant aspect of phase-out. One company, Leon Industries, has already converted from CFC-11 to HCFC-141b for the foam of its manufactured refrigeration units. Another company, MINA Industries, has a foam injection machine but has never used it and does not seek funding for this machine according to correspondence from the French government.

Training for professionals operating in the refrigeration sector in Lebanon (US \$84,000)

Project description

70. This project has two goals: 1) to provide information on alternative technologies to managers of 14 small manufacturers of refrigerated display cases for the food industry, and 2) to provide training for technicians to implement the use of HFCs in their manufactured products.

This project is expected to result in technology transfer of alternatives, a reduction in the amount of CFC emissions in new equipment, a reduction in the amount of substances used, and the establishment of a recovery network for CFCs recovered from used appliances.

71. The project will be developed through a preparation mission (US \$27,000), then two workshops will be held one for managers and the other for technicians. The costs for the consultants for the two workshops are US \$44,000; the course material, US \$4,500, and logistical costs, US \$8,000.

72. The project document indicates that Lebanon's commercial refrigeration sector has an annual consumption of 10.4 ODP tonnes.

73. The project was developed as a result of project preparation funds provided by the Multilateral Fund as recorded in the Report of the Twentieth Meeting of the Executive Committee.

74. The project is expected to be completed 18 months after its approval.

Comments

75. The Executive Committee has not approved other projects for the commercial refrigeration sector in Lebanon.

76. However, this project is directly linked to the aforementioned umbrella project for the same commercial manufacturers where the cost-effectiveness threshold has been exceeded. Normally, investment projects include training. If the training costs of this project were included in the aforementioned umbrella project, the cost-effectiveness of the overall project (US \$27.33/kg.) would significantly exceed the established threshold (US \$15.21/kg.).

Implementation of an ODS recovery and recycling network in Lebanon (US \$1,339,511)

Project description

77. This project will implement a national recovery and recycling network in Lebanon for the refrigeration and air conditioning sector. It is estimated that as a result of this project, about 62 ODP tonnes will be recovered per year of the country's consumption of 290 tonnes of ODS in the sector. The project's goals are to minimize emissions, to provide a sufficient supply of CFCs to enable the country to meet its servicing needs especially in essential and critical uses, and to reduce the demand for ODS in the country.

78. There are 35 companies involved in the production and servicing of refrigeration equipment for which there are 70 technicians. There are 40 servicing refrigeration/air conditioning workshops and approximately 2000 technicians servicing equipment in the informal

sector. 350 manual recovery machines and 40 electrical recovery/recycling machines will be provided for use of the 2000 technicians. The servicing workshops will be provide 28 machines and the 35 companies will be provided with a total of 50 recycling machines (some multiple machines for R-12, R-502, and R-22).

79. Four reclamation facilities will be established in the four main regions of the country. These facilities will be equipped with containers for storage and transfer, a 2-speed pneumatic compressor, a condenser, an oil separator, filters, and associated equipment.

80. Operating costs of US \$146,641 for recovery and US \$88,800 for reclamation facilities is included in the proposal. Additional operating costs US \$325,500 are included for the costs of ODS destruction for ODS that cannot be reclaimed.

81. The Government of Lebanon is considering a legislative programme to reduce emissions, establish a certification system, and encourage voluntary actions.

Comments

82. The Secretariat and the Government of France are currently discussing modifications to this proposal.

Training of refrigeration technicians on recovery and recycling methodologies in Lebanon (US \$74,338)

Project description

83. This project would train refrigeration trainers, refrigeration technicians, and refrigerant users in Lebanon in recovery and recycling techniques in good servicing practices for installing and maintaining refrigeration and air-conditioning equipment. This project is complementary and linked to the proposed project for Lebanon's national recovery and recycling network.

84. The first training workshops will occur shortly before the implementation of the national recovery and recycling network. Other workshops will occur after the implementation of the network. The initial training workshops will train 40 trainers (35 from refrigeration enterprises and 5 from training centers). The technical high school of Beirut will be provided with three recovery and recycling machines to facilitate additional local training of those not trained through this project. Other workshops will be held for refrigeration servicing technicians and refrigerant users. Over the 2-year project duration, 440 persons will be trained in good servicing practices and recovery and recycling techniques.

85. Training materials developed by UNEP and others will be utilized.

86. The project is expected to train 440 air-conditioning and refrigeration technicians, reduce the amount of ODS required for recharging, reduce CFC emissions, integrate technicians into the proposed national recovery and recycling network, improve servicing practices, create local expertise for future training, and identify training centres in the country.

87. This project is expected to assist Lebanon in meeting its 1999 consumption freeze obligations.

Comments

88. The Secretariat and the Government of France are currently discussing modifications to this proposal.

MOROCCO (request: US \$388,960)

Implementation of an ODS recovery and recycling network in Morocco (US \$338,140)

Project description

89. This project will implement a national recovery and recycling network in Morocco for the refrigeration sector (except for MACs). It is estimated that as a result of this project, 22 ODP tonnes will be recovered per year of the country's consumption of 240 tonnes of CFCs in the sector. The project's goals are to minimize emissions, to provide a sufficient supply of CFCs to enable the country to meet its servicing needs especially in essential and critical uses, and to reduce the demand for ODS in the country.

90. There are 630 servicing workshops in Morocco. 70 of these workshops are involved in servicing large commercial and industrial refrigeration systems and chillers. 80 of the workshops have a consumption greater than 500 kilograms per year. Each of these workshops will be provided with an electrical recovery machine, 50 kg. storage bottles for recovered ODS.

91. A recycling centre will be located in Casablanca. The recycling centre will be equipped with three 1000 kg. containers (2 for CFC-12 and one for R-502). It will also have a laboratory to assess the recovered ODS to determine if it should be recycled. The principal equipment is an infra-red spectrometer, it also includes a reclamation machine with a capacity of 50 kg/hr.

92. After project approval the Government will implement a regulatory regime to require the recovery and recycling of ODS, and measures to monitor recovered and recycled ODS.

Comments

93. This project was designed on the basis of a survey carried out during project preparation missions, which determined the number and location of recovery and recycling equipment and the need for one centralized low cost reclamation facility.

94. This project should be considered in combination with France's other submission for Morocco for a training project for refrigeration technicians.

Training of refrigeration technicians on recovery and recycling methodologies in Morocco (US \$50,820)

Project description

95. This project is for training refrigerant technicians in Morocco in recovery and recycling methods. The proposed project is an integral part of the national recovery and recycling network that is also being proposed for approval.

96. The objectives of the project are to improve the quality of refrigerant servicing, provide information to reduce emissions during servicing, and provide information on the use of recovered and recycled substances.

97. One technician from each of the 630 refrigerant servicing workshops in Morocco will be trained from local trainers that have received training themselves. In total, 630 technicians will be trained in 42 3-day workshops.

98. The project is expected to result in the reduction in the amount of CFCs used in recharging operations, a reductions in CFC emissions, and the integration of the technicians trained through the project in the national recovery and recycling network.

Comments

99. Morocco's country programme foresees a national recovery and recycling network. This project will provide training for trainers and technicians which should result in a reduction in ODS emissions during servicing.

100. This project was prepared as a result of a project preparation request approved by the Executive Committee at its Nineteenth Meeting in advance of the Committee's decision 22/23 which requires that future refrigerant recovery and recycling projects should be prepared in the context of the refrigerant management plan/strategy of the country concerned.

101. In most cases, training and recovery and recycling are combined in one project.

RECOMMENDATIONS

102. The Fund Secretariat recommends approval of the bilateral proposal from the Government of France in the amount of US \$865,410 and the Treasurer should credit this amount against France's 1997 contributions.

103. To request that the Government of France should not proceed with the disbursement of funds approved for the Implementation of an ODS recovery and recycling network in Morocco until the regulatory and legislative requirements and fiscal steps proposed by the Government of Morocco are put into place.

REQUESTS FROM THE GOVERNMENT OF GERMANY

104. The Government of Germany has submitted four requests for activities in recovery and recycling, hydrocarbon technology, refrigerant management plan development, and commercial refrigeration.

105. The following project is under discussion:

- Recuperation and recycling of R-12, integrated with the introduction of hydrocarbon technology in the service sector in Namibia (Germany) (US \$34,400)

106. The Executive Committee is requested to consider whether the following project should be eligible for funding:

- Recovery and recycling project - The phasing out of CFCs in the service sector by changing the refrigerant from CFC to hydrocarbon in the Philippines (Germany) (US \$70,828)

107. Germany has requested that these projects should be offset against its 1997 contributions to the Multilateral Fund. Pending the completion of ongoing discussions, US \$742,050 is recommended for approval. This amount does not exceed 20 per cent of Germany's pledged contributions to the Fund for 1997.

108. Germany is currently implementing a US \$1.3 million bilateral cooperation investment project in China with the United States.

AFRICAN REGION (request: US \$420,000)

Development of refrigerant management plans for 14 low-volume ODS-consuming countries in Southern and Eastern Africa (US \$420,000)

Project description

109. This project would develop refrigerant management plans for the following countries: Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe. These countries were chosen on the basis of their trade and economic associations to ensure the effectiveness of the establishment and enactment of legislation and the success of training projects. Through the involvement of countries within a region will ensure uniformity and cost-effective synchronization in the implementation of all activities in each country.

110. The refrigerant management plans will include:

- activities/projects already approved and ongoing and their effect on the phase-out of CFCs
- what the country further needs to meet the freeze
- additional projects/activities required by the country to meet its phase-out needs
- individual project proposals based on identified needs and cost implications
- regional action plan which incorporates the national plans

111. The Government of Germany and UNEP will be responsible for the overall monitoring of the regional project.

112. The project costs include US \$120,000 in administrative support, US \$90,000 for travel and DSA, US \$190,000 for local and international consultants, and US \$20,000 for contingencies.

Comments

113. This is the first request for a regional RMP.

114. It is to be noted that the Executive Committee at its 22nd Meeting (May 1997) authorized low-volume-consuming countries that have approved country programmes and now need to take near-term action in this area to meet the freeze, to submit RMPs along with any associated projects, and approved US \$200,000 under UNEP and UNIDO work programme for this purpose (the list of beneficiary countries is not available at the Secretariat).

115. The Executive Committee has approved several projects and activities for these 14 countries. The Secretariat discussed with the Government of Germany this project preparation request in light of the relevant projects approved for the countries concerned

GLOBAL PROJECT (request: US \$322,050)

Information video: "Working safely with hydrocarbons in domestic and small scale commercial refrigeration" (US \$322,050)

Project description

116. The project entails the production of a hydrocarbon safety awareness video and the accompanying hydrocarbon safety awareness manual. The video will be an introduction to the safety issues in foam production, in refrigeration, and in servicing. It will describe how companies throughout the world are using hydrocarbons in these uses. The primary objective of the project is to assist Implementing Agencies in the acquisition of new projects and the implementation of already approved projects in the affected sectors. The target audience is production personnel in factories while it may also be used by decision makers and ozone officers.

117. The video will address environmental concerns including ozone layer depletion, climate change and toxic wastes and include a comparative analysis of the environmental characteristics of different refrigerants and blowing agents. It will then provide a history of the use of hydrocarbons in refrigeration, hydrocarbons in our daily lives, flammability issues, issues concerning the choice of hydrocarbon technology, and safety issues in the production of refrigerators and servicing.

118. The video will be reviewed by members of TEAP, manufacturers of domestic appliances, and consultants and experts in hydrocarbon refrigerants.

119. The video and manual will be available in English, Spanish, French, Portuguese, Chinese, Russian and Arabic. 200 copies of the video will be delivered as part of the project and 2000 copies of the manual.

Comments

120. The Executive Committee has already approved a project under UNEP implementation that will provide an explanation of the alternative technologies available in the refrigeration and air conditioning sectors (GLO/SEV/16/TAS/75). The US \$90,000 project was expected to be ready by the middle of September 1997, however, the project does not address hydrocarbon refrigerants according to UNEP.

121. The German proposal for a video is intended to promote the introduction to hydrocarbon technology by addressing the safety issues associated with this technology while not addressing the full range of alternative technologies which are eligible for funding under the Multilateral Fund which include HFC and HCFC options.

122. The proposal is intended to assist the Implementing Agencies in the training of personnel working with hydrocarbon technologies. The Executive Committee has not previously approved a project for this purpose.

NAMIBIA (request: US \$34,400)

Recuperation and recycling of R-12, integrated with the introduction of hydrocarbon technology in the service sector in Namibia (US \$34,400)

Project description

123. This project would train 40 entrepreneurs on recovery and recycling and the safe use of alternative drop-in substitute hydrocarbon refrigerants. The project will demonstrate recovery and recycling techniques and provide information on the use of hydrocarbons and when it can be used. Three 3-day workshops will be held with 12-14 participants, each. The demonstration and training is meant to raise enthusiasm among the target group about the application of hydrocarbon refrigerants. Participants in the workshop will be given an exam and those successfully

completing the exam will receive a certificate which allows them to use hydrocarbons in their workshops. The participating entrepreneurs will be stimulated to create an organization that will provide them with technical and administrative support. Participants will have the opportunity to receive the following equipment for a reduced price: a CFC-12 recovery machine and storage cylinder, a filling set to assess pressures, vacuum and recharge with hydrocarbon refrigerants, a 5 kg. cylinder for hydrocarbon refrigerants, a pinchup-plier to determine inside pressures, and the choice of a vacuuming pump or a leak detector.

124. UNEP IE will implement the project for Germany and will organize the demonstration and training. Technical assistance will be provided by Ecozone of the Netherlands.

Comments

125. At its 20th Meeting, the Executive Committee approved a bilateral project for Namibia from the Government of Finland entitled "Implementation of a training programme for recovery and recycling of refrigerants" in the amount of US \$103,440 that is expected to result in the phase-out of 5.4 tonnes of CFCs. The project was proposed for approval with the understanding that after implementing this activity, it was expected that Namibia will not need any further direct support from the Multilateral Fund in phasing out ODS in the refrigeration sector.

126. The Governments of Namibia and Germany have indicated their support for this project as the Finnish project does not address the replacement or handling of hydrocarbon refrigerants.

127. Clarification is being sought to avoid an overlap with a prior approval for Finland in Namibia.

PHILIPPINES (request: US \$70,828)

Recovery and recycling project: The phasing out of CFCs in the service sector by changing the refrigerant from CFC to hydrocarbon in the Philippines (DM 127,490.91 = US \$70,828)³

Project description

128. This project is to enable a research and training center to develop, organize, direct, upgrade and evaluate activities in technical-vocational education and training curriculum development and related scientific matters. Germany will provide course material and training on recovery and recycling, conversion guidelines, safety instructions, regulations for flammable refrigerants and an overview of hydrocarbon technologies. This will culminate in a 3-day workshop at the training center.

³ The UN rate of exchange for September 1997 is DM 1.8 = US \$1.

129. The project is expected to train 10 technicians and result in a reduction of emissions of 20 kg. of ODS.

130. The project is expected to be completed in two months but it will enable the local training center to continue to provide a course over the next five years.

Comments

131. The Executive Committee has already approved six domestic refrigeration projects in the Philippines which cover the entire sub-sector in the Philippines. The Executive Committee has approved a group of projects for UNDP implementation that covers most in the Philippines. The technology chosen for all of these projects uses HFC-134a as the refrigerant.

132. The Executive Committee approved a national recovery and recycling programme for the Philippines at its 22nd Meeting for UNIDO implementation at a total costs of US \$629,975. In approving this project, the Executive Committee took into account "the statement by the Implementing Agency that the accompanying measures necessary for successful implementation were already or would be in place before implementation began and that the project had been prepared on the basis of in-depth discussions with the national authorities and trade associations" (UNEP/OzL.Pro/ExCom/22/79/Rev. 1, Annex VI, page 13).

RECOMMENDATIONS

133. The Executive Committee may wish to consider the request of the Government of Germany for a recovery and recycling project in the Philippines in the light of :

- The Philippines does not use hydrocarbon refrigerants in the domestic refrigeration sector.
- The approved UNIDO project.

134. The Fund Secretariat recommends approval of the bilateral proposal from the Government of Germany in the amount of US \$742,050 and the Treasurer should credit this amount against Germany's 1997 contributions.

REQUESTS FROM THE GOVERNMENT OF THE UNITED STATES OF AMERICA

135. The Government of the United States of America has submitted three requests for the servicing of mobile air conditioners (MACs) for Jamaica, Trinidad and Tobago, and Turkey.

136. These proposals build upon the experience gained through the implementation of 12 MAC demonstration projects approved by the Executive Committee as part of the United States' bilateral cooperation activities in 12 different countries.

137. The United States has requested that these projects should be offset against outstanding contributions. As noted in decision 20/31, the United States had project underruns amounting to US \$324,613 from previous approvals for bilateral cooperation. If the total amount requested for these three projects is approved (US \$452,000), US \$324,613 would be offset against the previously reported underruns and the balance (US \$127,387) would be offset against the contributions of the United States for 1997.

138. This amount (US \$127,387) does not exceed 20 per cent of the United States' pledged contributions to the Fund for 1997.

139. The United States is currently implementing 12 bilateral cooperation projects valued at US \$3.7 million for which US \$1.6 million was disbursed through December 1996.

140. All three projects rely upon resources from UNDP's Phase II Global MAC project. UNDP has verified to the United States that these approvals will exhaust the remaining funds in the Phase II Global MAC project, but there are sufficient funds available for the proposed UNDP portion of the proposed projects.

JAMAICA (request: US \$130,000)

MAC demonstration project in Jamaica (US \$130,000)

Project description

141. The project will provide training and equipment to 20-25 of the 30-35 MAC service shops in Jamaica. Based on annual reductions of 480 kg. per workshop, this project will result in the annual reduction of 9.6 metric tonnes of CFC emissions. Equipment may also be provided for servicing air-conditioned buses and refrigerated containers.

142. The project was developed as a result of project preparation request approved by the Executive Committee at its Nineteenth Meeting. The project is complementary to Jamaica's national programme for recovery and recycling of refrigerants under implementation by UNDP.

143. This project will be completed in the next 12 months.

US \$85,000 from UNDP's Phase II Global MAC Project will be provided primarily for the purchase of equipment.

Comments

144. The Executive Committee approved US \$194,885 for a national recovery and recycling project for Jamaica for UNDP implementation which excluded the MAC sector. The Committee's approvals for Jamaica (US \$1,055,945) should result in the phase-out of 98.6 ODP tonnes. With this approval, the Committee will have funded the phase-out of 108.2 ODP tonnes of the 151.6 ODP tonnes of annual consumption reported in Jamaica's country programme that was approved in October 1996. This project is consistent with Jamaica's country programme strategy which foreshadowed the ban of CFCs in mobile air conditioners in 1996.

145. This project was prepared with approved project preparation funds in advance of the Executive Committee's decision 22/23 which requires that future refrigerant recovery and recycling projects should be prepared in the context of the refrigerant management plan/strategy of the country concerned.

TRINIDAD AND TOBAGO (request US \$117,000)

MAC demonstration project in Trinidad and Tobago (US \$117,000)

Project description

146. The project will provide training and equipment to 18 of the estimated 20-30 MAC service shops in the country. Based on annual reductions of 90 kg. per workshop, this project will result in the annual reduction of 10 metric tonnes of CFC emissions. Equipment may also be provided for servicing refrigerated containers.

147. The project was developed as a result of project preparation request approved by the Executive Committee at its Nineteenth Meeting.

148. This project will be completed in the next 12 months.

149. US \$80,000 from UNDP's Phase II Global MAC Project will be provided primarily for the purchase of equipment.

Comments

150. The Executive Committee has approved US \$297,138 for Trinidad and Tobago for country programme preparation, training, institutional strengthening, and project preparation. This project will be the first project approved by the Committee that should result in the direct

reduction of ODS emissions in the country of 10 ODP tonnes of the reported 155.5 ODP tonnes in 1994 consumption in the country programme approved in October 1996. UNDP is submitting a refrigerant management plan to this meeting of the Executive Committee.

151. This project is consistent with Trinidad and Tobago's country programme strategy which foreshadowed the ban on the importation of any MACs using controlled substances in 1996 and the introduction of legislation requiring the use of ODS recovery/recycling equipment. The country programme also noted that some service companies in refrigeration and air conditioning sector have already purchased recycling equipment.

152. Under decision 17/12, operating savings are exempted from consideration of small demonstration projects.

153. This project was prepared with approved project preparation funds in advance of the Executive Committee's decision 22/23 which requires that future refrigerant recovery and recycling projects should be prepared in the context of the refrigerant management plan/strategy of the country concerned.

TURKEY (request: US \$205,000)

MAC demonstration project in Turkey (US \$205,000)

Project description

154. The project will design and implement a programme for providing training and equipment for MAC service shops in the country. It is estimated that the project will result in annual reductions of 12 to 14 metric tonnes of CFC emissions. Equipment may also be provided for servicing bus and rail servicing facilities and refrigerated transport and the fishing fleet depending upon cost-effectiveness considerations during project development.

155. The project will develop and demonstrate an approach to recover a portion of operating cost savings realized by beneficiaries on the basis of the US Government's experience in such approaches in three other countries.

156. The project will assist Turkey in meeting its ODS consumption freeze obligations.

157. This project will be completed in the next 12 months.

158. US \$50,000 from UNDP's Phase II Global MAC Project will be provided primarily for the purchase of equipment.

Comments

159. The Executive Committee has approved US \$14,774,817 for Turkey that is expected to result in the phase-out of 2,172 ODP tonnes of the 3,608 ODP tonnes of 1990 consumption reported in Turkey's country programme that was approved in October 1992. Of these approvals, two projects were approved for recovery, recycling and reclamation for the domestic refrigeration sector and for the production of domestic refrigerators at a cost of US \$465,000 that are expected to result in the reduction of 5 tonnes of ODS emissions.

160. Recovery and recycling is one of the three priority projects listed in Turkey's country programme approved at the Eighth Meeting of the Executive Committee. The country programme noted the government's intention to introduce a levy on CFC-12 to increase its price to the prevailing price of HFC-134a and to ban the use of CFCs in new air conditioners.

161. This project is consistent with the national recovery and recycling strategy/plan as articulated in the country programme as it addresses the MAC sector which has not been addressed in prior approvals. The Committee may wish to consider if under decision 22/23 which requires the preparation of recovery and recycling projects in the context of a refrigerant management plan applies to this request.

RECOMMENDATIONS

162. The Fund Secretariat recommends approval of the bilateral proposal from the Government of The United States of America in the amount of US \$452,000 and the Treasurer should credit this amount against The United States of America's 1997 contributions.