EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-eighth Meeting
Montreal, 14-16 July 1999

BILATERAL COOPERATION

The Fund Secretariat received the following requests for bilateral cooperation:

- Conversion from CFC-11 to HCFC-141b technology in the manufacture of rigid polyurethane in Bolivia (Belgium).
- Refrigerant management plan: technician training in Burkina Faso (Canada) (withdrawn)
- Refrigerant management plan: training of customs officials in Burkina Faso (Canada) (withdrawn)
- Refrigerant management plan: recovery and recycling programme in Burkina Faso (Canada) (withdrawn)
- Refrigerant management plan: training of custom officers in Panama (Finland) (withdrawn)
- Refrigerant management plan: monitoring and evaluation project in Panama (Finland) (withdrawn)
- Project preparation of phase out of use of ODS solvent in production of parts working in high voltage conditions in China (France) (deferred)
- Preparation of phase-out projects in soil fumigation, commodities and structures treatment in Costa Rica (France)
- Phase-out of carbon tetra chloride (CTC) use from quality control process on polyester fibres and threads at Iran Polyacril (France).
- Conversion of ODS-free technology at Dorcharkh Company in Iran (France).
- Preparation of a refrigerant management plan in Iran (France).
• Halon management program in Iran (France).
• Remaining issues for a RMP and preparation of strategy and projects for reduction of CFC emissions in centrifugal chillers in Lebanon (France).
• Survey for halon banking management plan in West Asia countries (Bahrain, Lebanon, Qatar and Yemen) (France).
• CFC emission reductions in spinning halls’ air conditioning systems --Chillers pilot project in Viet Nam (France)
• Recovery and recycling project in Kenya (Germany).
• Demonstration project: introduction of integrated soil management as an alternative to methyl bromide in horticultural production systems in Kenya (Germany) (withdrawn)
• Remaining issues for a RMP and preparation of strategy and projects for reduction of CFC emissions in centrifugal chillers in Lebanon (Germany).
• Survey for halon banking management plan in West Asia (Germany).
• Promoting compliance with the Montreal Protocol in countries with economies in transition (Croatia and Romania) (Germany).
• Phasing out ODS in the production of compressors at Changshu Refrigerating Equipment Works in China (Japan).
• Project preparation assistance for enterprises in the city of Shenzhen for the elimination of ODS (CFC-113 and TCA) in the production lines of LC display and TV picture tube in China (Japan) (deferred)
• Chiller concessional lending pilot project in Mexico (United Kingdom).
REQUESTS FROM THE GOVERNMENT OF BELGIUM

1. The Government of Belgium has submitted requests for bilateral cooperation for a project in Bolivia.

2. The amount requested does not exceed 20 per cent of Belgium’s total contributions for 1999.

Conversion form CFC-11 to HCFC-141b technology in the manufacture of rigid polyurethane foam at Quimica Andina (US $108,480)

Project description

3. Quimica Andina uses 5 tonnes of CFC-11 in the manufacture of rigid polyurethane foam for insulation applications. The production is to be converted to HCFC-141b as an interim step, with a likely permanent solution being water based formulations. The project includes replacement of the low pressure spray foam dispenser with a high pressure spray foam dispenser (US $35,000), and installation of a metering system to use HCFC-141b for the boxfoam dispenser (US $15,000). Other costs include trials (US $10,000), training and technology transfer (US $10,000) and contingency (US $7,000). The project also includes incremental operating costs for two years of US $19,000.

Comments

4. The project has been agreed with the Government of Belgium.

5. The cost-effectiveness of the project is US $21.33/kg. However since Bolivia’s consumption of 46.1 ODP tonnes classifies it as a low volume consuming country (LCV) the threshold does not apply to it.

Recommendations

6. The Fund Secretariat recommends blanket approval of the Quimica Andina project in the amount of US $108,480.

7. The Treasurer is authorized to offset the approved amount against the balance of the Government of Belgium’s bilateral contribution to the Multilateral Fund for 1999.
REQUESTS FROM THE GOVERNMENT OF FRANCE

8. The Government of France has submitted requests for bilateral cooperation for projects in Costa Rica, Iran, Lebanon and for one regional project in West Asia countries (Bahrain, Lebanon, Qatar, and Yemen). The Executive Committee decided to allow flexibility in the year for which bilateral projects would be credited provided that bilateral agencies submit their work plans to the first meeting of the year. France submitted its 1999 work plan.

9. The amount requested, including previous approvals offset against France’s bilateral contributions, does not exceed 20 per cent of France’s total contributions for the 1998 through 1999 triennium replenishment.

Preparation of phase-out projects in soil fumigation, commodities and structures treatment in Costa Rica (US $52,500)

Project description

10. France received a request from the Ministry of Agriculture for technical and financial assistance for the elimination of the use of methyl bromide in Costa Rica.

11. Costa Rica ratified the Copenhagen Amendment on 11 November 1998 and therefore is eligible for funding for methyl bromide phase out projects under the Multilateral Fund.

12. In 1997, the Methyl Bromide consumption of Costa Rica was 845 MT. About 71% is used in soil fumigation for melon crops, 15% for soil fumigation for cut flowers and the remaining 16% for fumigation of other crops, commodities and structures.

13. For the two first applications, UNDP prepared demonstration projects, approved during the 27th Executive Committee Meeting.

14. In co-operation with the Ministry of Agriculture and FAO, France will fund investment projects for the remaining applications (fumigation of other crops, commodities and structures) which represent 135.2 MT.

Comments

15. Pending.

Phase-out of carbon tetra chloride (CTC) use from quality control process on polyester fibres and threads at Iran Polyacril (US $129,342).

Project description

16. Iran Polyacril is a state-owned company producing artificial fibres made of acrylic and polyester. CTC is used in the control quality section in order to control the finished products by
means of IR spectroscopy. The project includes equipment to support this conversion, and provisions for technology transfer and training.

Comments

17. There is no technical review provided with the project. A technical review is a prerequisite for submission of any investment project to the Executive Committee (including bilaterals).

18. It is noted that baseline ODS consumption for Iran (1995-97) was not included in the background information and that updated sectoral information is not available.

19. A basis needs to be provided for the cost of the nuclear magnetic resonance machine, such as specifications and a manufacturer’s quotation for the equipment including delivery and installation.

20. The NMR machine is said to be quick (60 seconds per test) and highly accurate. What is the average length of time needed to perform one test on the existing IR spectrometer and what is the accuracy of the test. You should be aware that additions to capacity (such as through decreases in testing time) and technological upgrades (through increased accuracy) provide benefits to the enterprise that are not eligible for funding and may need to be taken into account in determining the level of incremental costs which are eligible.

21. Technical assistance is higher than usually provided in similar solvent projects. In the absence of detailed explanation/justification for funding at this level, costs should be no more than US $12,000 if an international consultant is essential and proportionately less if one is not. In this case as it is proprietary testing equipment and there is no production process to be changed, the cost should be minimal.

22. Yield loss does not seem relevant to this project and has never been included in solvent sector IOC/savings considered by the Executive Committee. Unless there are specific reasons to the contrary, it should be deleted.

23. Maintenance is not an eligible IOC and has never been included in solvent projects. It should be deleted.

24. On this basis the project has IO savings of US $6,050 pa or US $19,179 NPV over 4 years.

Recommendations

25. Pending.
Conversion to ODS-free technology at DORCHARKH Company in Iran (US $223,127)

Project description

26. IRAN DOCHARKH is a 100 per cent Iranian-owned company producing motorcycles and bicycles and using Carbon TetraChloride for the degreasing of tubular metal parts before welding. The purpose of the project is to phase out the use of 10 metric tonnes of Carbon TetraChloride through a new degreasing process. The project includes equipment to support this conversion, provisions for technology and training.

Comments

27. There is no technical review provided with the project. A technical review is a prerequisite for submission of any investment project to the Executive Committee (including bilaterals).

28. It is noted that the baseline ODS consumption for Iran (1995-97) was not included in the background information and that updated sectoral information is not available.

29. A basis needs to be provided for the cost of the new aqueous cleaner, such as specifications similar to those provided for the baseline equipment together with a manufacturer’s quotation for the equipment including delivery and installation.

30. Technical assistance is higher than usually provided in similar solvent projects. In the absence of detailed explanation/justification for funding at this level, costs should be no more than US $12,000 if an international consultant is essential and proportionately less if one is not.

31. On this basis the capital costs would be US $183,700, including 10% contingency

32. Yield loss does not seem relevant to solvent projects and has never been included in solvent sect IOC/savings considered by the Executive Committee. Unless there are specific reasons to the contrary, it should be deleted.

33. Maintenance is not an eligible IOC and has never been included in solvent projects. It should be deleted.

34. On this basis the project has IO savings of US $3,853 pa or US $12,124 NPV over 4 years.

35. This would give an overall incremental cost for the project of US $171,576.

Recommendations

36. Pending.
**Preparation of a refrigerant management plan in Iran (US $55,000).**

**Project description**

37. The Government of France has received an official request from the Government of Iran for the preparation of a RMP.

38. The Fund has approved activities only in the MAC servicing sector in Iran. There are about 1800 refrigerator-freezers service workshops in Iran, of which about 1250 are under license of large manufacturing companies and constitute the formal sector. There are three categories in the formal sector: 330 large sized workshops, 350 medium sized workshops, and 560 small sized workshops.

**Comments**

39. Pending.

**Halon management program in Iran (US $511,175)**

**Project description**

40. The objectives of the project are to phase out the use of halons for non essential uses, promote use of non-halon fire protection technology, limit safety impacts and halon phase-out costs through fire protection capacity building, implement halon management and banking program. In order to ensure the success of the national halon management program in Iran, technical and financial assistance is requested to provide equipment and training.

41. As accompanying measures, the Government will take the necessary regulation in order to ban the import of halons, except in the framework of the relations with other international bank systems. This project will ensure that Iran will meet the 2002 freeze target.

**Comments**

42. This project complies with the guidelines for halon banking approved at the 18th Meeting (Decision 18/22).

43. The total costs to the Multilateral Fund (US $511,175) includes US $63,206 in support costs (13 per cent of the project cost of US $486,200). Prior to this approval, France was charging an agency fee of 5 per cent.

**Recommendation**

44. This project is recommended for blanket approval in the amount of US $511,175.
Remaining issues for a RMP and preparation of strategy and projects for reduction of CFC emissions in centrifugal chillers in Lebanon (US $83,300 – US $45,750 component from France; US $37,550 component from Germany)

Project description

45. GTZ and Agence Francaise de Developpement have received an official request from the Government of Lebanon for the identification, preparation and implementation of a customs officer training and a chiller replacement strategy as part of a national refrigerant management plan.

46. The activities under this project are:
   - Preparation of a customs officers training workshop.
   - Organising a national customs officers’ workshop.
   - Conducting a survey on the state of the centrifugal water chillers.

47. Thanks to these activities, the following goals will be achieved:
   - Enforcement of national regulation for ODS phase out
   - Preparation of strategy and projects for reduction of CFC emissions in centrifugal chillers.

48. The project will be developed and implemented jointly by Germany and France.

Comments

49. Legislation will be in place before customs training begins. A great part of the training will be based on new regulations.

50. The project will be fully incorporated into the existing approvals for components of Kenya’s RMP.

Recommendation

51. This project is recommended for blanket approval in the amount of US $45,750.
Survey for halon banking management in West Asia Countries (Bahrain, Lebanon, Qatar, and Yemen) (US $35,000 – US $17,500 component from France; US $17,500 component from Germany)

Project description

52. Germany and France submitted on behalf the above mentioned countries a Regional halon banking management plan at the 27th Executive Committee.

53. The Executive Committee deferred at its 27th meeting the request for a halon banking management plan for these countries to enable complete halon-consumption data to be proved (Decision 27/26).

Comments

54. The Secretariat had concerns about this request particularly that establishing sectoral consumption data was a priority role of ozone units. The two bilateral donors indicated that it would be necessary to use expert assistance to establish the regional institutional framework of co-operation between these countries and to organise the halon bank. Moreover, they indicated, that it would be difficult to certify the accuracy of the data provided on installed capacity without the assistance from national experts.

Recommendation

55. This project is recommended for blanket approval in the amount of US $17,500.

CFC emission reductions in spinning halls air conditioning systems chillers pilot project (US $251,361)

56. This pilot project will achieve CFC 11/12 emission reductions for refrigerants used in the centrifugal chillers of six Vinatex large spinning mill air conditioning systems, in Viet Nam, by implementing confinement and recovery and recycling strategies. It will implement the feasibility study of replacement of most of the centrifugal chillers. It will also build the capacity of Vinatex service engineers to provide training to technicians working on centrifugal chillers in the Textile Industry.

57. In the first phase, the project will provide some equipment, training and technical assistance to Vinatex:

a. To prepare detailed definitions and specifications of equipment needed and propose it for acceptance by Vinatex

b. To provide first training phase to Vinatex engineers and operation and maintenance teams of chilled water plants in three training session (HCMC, Nha Trang, and Hanoi)

c. To evaluate the technical and financial possibilities to replace existing chillers using CFC refrigerants by new ones using CFC free refrigerants, and

d. To make proposals for the dissemination of the project.
58. In the second phase, the project will supply all equipment defined in the first phase to reduce CFC emissions of existing chillers and after delivery of the equipment, to undertake the second practical training phase of Vinatex engineers and operation/maintenance teams of chilled water plants to use equipment supplied in three training sessions.

Comments

59. Pending.
REQUESTS FROM THE GOVERNMENT OF GERMANY

60. The Government of Germany has submitted requests for bilateral cooperation for projects in Kenya, and Lebanon and for two regional projects one in West Asia countries, and the other in countries with economies in transition (Croatia, Romania, Slovenia). The Executive Committee decided to allow flexibility in the year for which bilateral projects would be credited provided that bilateral agencies submit their work plans to the first meeting of the year. Germany submitted its 1999 work plan.

61. The amount requested, including previous approvals offset against Germany’s bilateral contributions, does not exceed 20 per cent of Germany’s total contributions for the 1998 through 1999 triennium replenishment.

Recovery and recycling project component in Kenya (US $98,725)

Project description

62. The objective of the project is to implement a comprehensive National Programme for Recovery and Recycling (R&R) of refrigerant in the refrigeration, mobile air conditioning and air conditioning subsectors.

63. The RMP will provide policy and financial incentives for recovering and recycling of CFC. This will be done through a loan system: “equipment against recovered CFC”. The companies benefiting from a recovery unit have to pay back the investment with recovered CFCs. If the company is not able to prove that they have recovered 100kg CFC they have to hand over the equipment to another company.

64. Adequate recovery units for the different sectors will be an incentive for the companies to recover CFC repairing refrigeration systems.

Comments

65. The Executive Committee approved at its 26th Meeting refrigerant management plans for 14 eastern and southern African countries (including Kenya) as a bilateral cooperation by the Government of Germany. While approving these plans, the Committee decided to approve the components for customs training, and the training of technicians in the servicing sector of the Kenya RMP, on the understanding that the technical training and capital costs associated with recovery and recycling would be approved at a later date after resolution of the customs problems that were holding up implementation of other projects in the country (decision 26/18).

66. The Secretariat received and official communication from the Ministry of Environmental Conservation (dated 22 May 1999) stating that the Government of Kenya has granted Duty and VAT exemptions to all materials, equipment, accessories and components previously shipped into Kenya in order to implement ODS phase out projects funded by the Multilateral Fund.
67. The Fund Secretariat recommends blanket approval of the bilateral proposal from the Government of Germany in the amount of US $98,725.

Remaining issues for a RMP and preparation of strategy and projects for reduction of CFC emissions in centrifugal chillers in Lebanon (US $83,300 – US $45,750 component from France; US $37,550 component from Germany)

Project description

68. See description for France.

Comments

69. See comments for France.

Recommendation

70. This project is recommended for blanket approval in the amount of US $37,550.

Survey for halon banking management in West Asia Countries (Bahrain, Lebanon, Qatar and Yemen) (US $35,000 – US $17,500 component from France; US $17,500 component from Germany)

Project description

71. See description for France.

Comments

72. See comments for France.

Recommendation

73. This project is recommended for blanket approval in the amount of US $17,500.

Promoting compliance with the Montreal Protocol in countries with economies in transition (Croatia and Romania) (US $67,800).

Project description

74. The goal of the project is to enable Croatia and Romania to participate in the project “Promoting compliance with the Montreal Protocol in Countries with Economies in Transition” undertaken for non-Article 5 CEITs by UNEP DTIE with funding provided by the Global Environment Facility (GEF). The project will enhance the capacity of the national ozone focal points to design and implement effective phase out policies to decrease the incidence of illegal trade in ozone depleting substances.
Comments

75. The Executive Committee approved, at its 27th Meeting, a request from Canada to enable Georgia to participate in this activity. It also approved, at its 25th Meeting, Moldova’s participation as part of its overall implementation of its RMP.

Recommendation

76. This project is recommended for blanket approval in the amount of US $67,800.
REQUESTS FROM THE GOVERNMENT OF JAPAN

77. The Government of Japan has submitted requests for bilateral cooperation for two projects in China. The Executive Committee decided to allow flexibility in the year for which bilateral projects would be credited provided that bilateral agencies submit their work plans to the first meeting of the year. Japan submitted its 1999 work plan.

78. The amount requested, including previous approvals offset against Japan’s bilateral contributions, does not exceed 20 per cent of Japan’s total contributions for the 1997 through 1999 triennium replenishment

Phasing out ODS in the production of compressors at Changshu Refrigeration Equipment Works in China (US $3,596,441)

Project description

79. The project will be implemented by UNIDO. After competitive bidding, performed according to UNIDO’s financial rules and procedures, a technology partner will be appointed by UNIDO for the implementation of the technology transfer, product design etc. UNIDO will select the technically acceptable cheapest equipment manufacturers (contractors) who will be responsible for the supply of machinery and instruments, installation, commissioning an on-the-job training of Changshu’s staff. UNIDO with the assistance of the Japanese Government will identify such experienced technology and equipment suppliers in the donor country which are capable of participating in the implementation of the project. In the selection of technology partner and suppliers of equipment and services due consideration will be given to the Japanese companies in accordance with UNIDO’s rules and procedures.

Domestic Refrigeration Compressor Sector in China

80. In 1993, there were about 16 compressor production enterprises in China with a total annual output of 5.9 million units. Currently, there are 18 compressor plants in operation in China with a production in 1997 of about 7.4 million units of hermetic compressors.

81. The Executive Committee approved US $10.9 million for the conversion of 8 of these plants to non-ODS technology. The combined annual production capacity of these plants after conversion will be 10.75 million compressors.

82. There are 57 domestic refrigerator and freezer plants in China. The total production level of domestic refrigerators and freezers using hermetic compressors was reported by the Government of China to be 14.5 million units in 1997. The production of refrigerators and freezers was 8.1 million units in 1993.

83. The Executive Committee approved 28 conversion projects for manufacturers of refrigerators and freezers.

84. This proposal is submitted by Japan as a bilateral co-operation project to convert Changshu compressor manufacturing facilities from CFC-12 based technology to HFC-134a
refrigerant. The implementation of the project will result also in phasing out of 75 ODP tonnes of CFC-113 used as a cleaning agent.

Comments

85. The Secretariat discussed with the Government of Japan the issues of cost for several items proposed in the project. The Executive Committee has approved 20 investment projects for the conversion of domestic refrigeration manufacturing facilities (including 8 from China). The production capacity of these enterprises ranges between 100,000 units/year to 2 million units/year. The eligible incremental costs per project approved by the Executive Committee are between US $3.2 million (excluding support cost) would be the most expensive proposal the Multilateral Fund has received so far for conversion of domestic compressor manufacturing facilities.

86. Given the fact that the baseline of this enterprise is very similar to those for which conversion projects have been approved, eligible cost of conversion of the Changshu enterprise to HFC-134a technology should be comparable to other conversion projects approved for China and other Article 5 countries in the same sector.

87. The major component in the proposal is related to provision of cleaning equipment. The proposal contains a request for installation of 9 phosphating, degreasing, passivating, and drying lines at the total cost of US $1,460,000. Both the number of requested lines and the cost of individual items significantly exceed requests for similar equipment in other projects approved by the Executive Committee. The project document indicates that modification of existing machinery and equipment will be applied wherever technically and economically feasible and/or necessary. The Secretariat proposed to examine the possibility of modifying the existing cleaning equipment at the reduced cost.

88. New cleaning lines include passivating equipment for provision of corrosive resistance for metal parts of compressors which has not been part of the baseline. These technology process has been considered by the Secretariat as not essential for the conversion to HFC-134a and therefore, not eligible for funding from the Multilateral Fund.

89. The Secretariat identified that cost of individual cleaning lines as requested in the proposal is very high in comparison with similar equipment approved in compressor conversion projects. The Government of Japan has been informed about costs for this equipment in approved projects and requested to consider reducing the funding level.

90. According to the proposal, the conversion to non-CFC cleaning process will lead to phasing out of 93 tonnes (75 ODP tonnes) of CFC-113. This will result in significant incremental operating savings (IOS). The Government of Japan has been requested to include IOS in the calculation of net incremental costs.

91. The proposal indicates also that some equipment replaced by the project might be sold for use in non-ozone depleting technologies. The Secretariat proposed to assess the salvage value of this equipment and deduct this value from the requested incremental costs.
92. The technology transfer fee is requested at US $600,000 in the proposal. However, the maximum amount approved so far by the Multilateral Fund under this item is US $300,000. The Secretariat proposed to follow the same policy in the case of Changshu enterprise.

93. The Secretariat requested to include the existing oil handling and charging system as well as the old stamping dies for shells, in the list of equipment to be decommissioned and destroyed.

94. The Secretariat is still discussing with the Government of Japan the issues mentioned above. The Sub-Committee on Project Review will be informed about the results of these discussions accordingly.

Recommendation

95. Pending.
REQUESTS FROM THE GOVERNMENT OF THE UNITED KINGDOM

96. The Government of United Kingdom has submitted a request for bilateral cooperation for a project in Mexico.

97. The amount requested does not exceed 20 per cent of the United Kingdom’s total contributions for the year 1999.

Chiller concessional lending pilot project in Mexico (US $1,184,984)

Project description

98. The project intends to use a grant from the Multilateral Fund to leverage matching funds from local sources to set up a revolving fund to finance replacement of 20 CFC chillers in Mexico with high-energy efficient chillers using HFC-134a (and HCFC-123 when necessary) as refrigerants.

99. Currently there are 114 CFC-based chillers in the city of Monterrey from an estimated 1,500 of them in Mexico. Typically a chiller contains about 400 kg. of CFC, with an annual leakage of 15% (60 kg.) of the CFC. Assuming the project is successful, the CFC saved through 2010 would amount to 52 MT, which would be recovered to service the existing chillers, thus reducing the demand for virgin CFC. The date of installation of these chillers ranged from 1963 to 1990.

100. The replaced chillers would be primarily HFC-134a-based; HCHC-123 will be used only in those situations where no other alternative is viable. Compared to existing CFC chiller (12-15 years old), the new chillers are known to be more energy-efficient and thus reduce electricity costs over the life of the system. However two factors deter investment in chiller replacements, (1) the high investment cost and lack of adequate financing; and (2) the uncertainty about the actual level of electricity savings.

101. The purpose of the project is to test various financing conditions to assess which are acceptable to chiller owners while charging a reasonable rate of interest on fund-users to minimise erosion of the revolving fund. The project will also try to ensure chiller performance by linking it to chiller purchase and installation contract.

102. The project will be implemented in two phases. Phase I will be funded by US$500,000 of the UK share for bilateral activities and a matching US$500,000 from the Mexican executing entity (FIDC). Another US$150,000 will be financed from the building owners. The total US$1,15 million will purchase 10 new chillers in the first year. An additional US$1,15 million of the same financing combination, will be implemented as Phase II after an evaluation of the first phase according to indicators such as owner acceptance of financing options, timeliness of repayments, cost-savings in contract packaging and electric efficiency performance. Phase II may also raise additional funding from other sources.
103. The replacement of the 10 chillers in the first year will lead to a direct phase out of 5 MT of CFCs, and assuming a successful implementation of the 20 chillers with the loan recovered, the US$2.3 million (with US$1 million from the Multilateral Fund) will support 113 chiller replacements after 11 years (to year 2010) and reduce the consumption of CFC by 52 MT.

Comments

104. This is the second project that being proposed to replace chillers in Article 5 countries. The other proposal was the Thai EGAT concessional loan project jointed funded by the Global Environment Facility (GEF) and the Multilateral Fund.

105. The Government of the United Kingdom is requesting US $1,184,984 to be credited against its 1999 contributions to the Multilateral Fund for a grant that will be internalised into on-lending.

Recommendation

106. The Executive Committee may wish to consider the above in its discussion of this project proposal.