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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-sixth Meeting
Cairo, 11-13 November 1998

REQUESTS FOR BILATERAL COOPERATION

The Fund Secretariat received the following requests for bilateral cooperation:

- Development of a regional halon bank management plan for the English-speaking Caribbean (Region: LAC) (Canada)
- Methyl bromide replacement demonstration programme in Kenya (Canada)
- Refrigerant management plan implementation project for Antigua and Barbuda (Canada)
- Small and medium enterprises study in Iran (France)
- Phase-out of CFC-11 by conversion to methylene chloride in the manufacture of flexible polyurethane foam at Fofy Industrie in Mali (France)
- Project preparation (refrigeration) in Syria (France)
- Technical assistance (refrigeration/air conditioning) in Syria (France)
- Development of halon bank plans for West Asia countries (France/Germany)
- Project preparation/technical assistance at Arnatoury S.A.R.L., Sin-El-Fil in Lebanon (Germany)
- Training in improved operations, service, and maintenance for refrigeration technicians in using hydrocarbons (Germany)
- Project preparation/technical assistance at Chem Tech in Mauritius (Germany)
- Project preparation for ODS phase-out at Fridgemaster in Zimbabwe (Germany)
- Refrigerant management plans for 14 eastern and southern African countries (Germany)
- Demonstration project – four alternatives to the use of methyl bromide in horticulture in Egypt (strawberries, tomatoes, cucurbits) (Germany)
- Application of methyl bromide alternatives in grain storage in Egypt (Germany)
- Comprehensive approach to disseminate soil solarization technology for methyl bromide substitution in Jordan (Germany)
- Demonstration project – three alternatives to the use of methyl bromide: enemy plants, organic amendments and grafting on resistant rootstocks in combination with an integrated pest management system in Morocco (Germany)

REQUESTS FROM THE GOVERNMENT OF CANADA

1. The Government of Canada has submitted requests for bilateral cooperation projects for the Development of a Regional Halon Bank Management for six countries in the English-speaking Caribbean; for a methyl bromide demonstration project in Kenya; to implement the Antigua and Barbuda refrigerant management plan. Canada has requested the cost of the project (US $401,810) be offset against its 1998 bilateral contribution to the Multilateral Fund. The amount recommended (US $401,810), including previous approvals offset against Canada's 1998 contribution, does not exceed 20 per cent of Canada's pledged contributions to the Fund for 1998.

Development of a halon bank management plan for the English-speaking Caribbean (US $177,410)

Project description

2. The Halon Management Plan (HMP) is a comprehensive and integrated national strategy for the cost-effective management of halons that will help support LVHCs in meeting the 2002 freeze and future phase-out targets. This strategy supports the management of a supply of halons in the region and promotes the shift to non-halon alternatives. The goal of the HMP is to enable these countries to maintain their current level of fire protection safety and to avoid economic disruption while gradually reducing their dependence on halons and ensuring that essential uses are provided for. The countries to be included in the projects are Bahamas, Barbados, Grenda, Guyana, Jamaica, and Trinidad and Tobago. Only Trinidad and Tobago have provided 1997 consumption data. For Trinidad and Tobago, its 1997 consumption was 2 metric tonnes.

3. The project is to be implemented by UNEP. Therefore, the US $157,000 in project costs is supplemented by US $20,410 for UNEP's support costs.

Comments

4. The existing halon banking guidelines (decision 18/22) do not require the development of a halon banking management plan (HBMP). There are no guidelines for the development of HBMPs as there are for refrigerant management plans (RMPs).

5. The halon banking guidelines state that countries with a low level of installed capacity (such as those included in this request) should qualify for a one-time funding of US $25,000 which can be used for the acquisition of recycling equipment or as an incentive to recover halons from existing systems, or the establishment of exchange programmes to be decided by the country (decision 18/22 (a)(iii)).

6. The six countries would qualify for a total of US $150,000 based on the guidelines. The planned HBMP for the region is US $177,410.

7. At the 18th Meeting, the Executive Committee also approved a regional halon banking project in Venezuela. The extent to which this project could be utilized by at least some of the countries in this proposal should be assessed.

8. The implementing agencies have completed, several projects that should assist ozone units with halon banking issues including: a halon management banking information kit, a phase out strategy for small consuming countries, a country use assessment methodology, and UNEP's International Halon Bank Management Information Clearinghouse since 1994. The "Halon Bank Management Case Study Logbook" and the "Self-help" Guide for Small Halon-Consuming Countries" should be completed shortly.

9. These documents should provide low-halon consuming countries with information materials to assess level of consumption and applications, identify low-cost options and alternatives for reducing halon use and determine technical and financial support required for the elimination of halon dependency. Moreover, the Executive Committee has funded UNEP's International Halon Bank Management Information Clearinghouse Services since 1994.

Methyl bromide replacement demonstration programme in Kenya (US $100,000)

Project description

10. The project will demonstrate alternative integrated pest management (IPM) projects for Kenya in both stored grains and structural treatment. Collaborative field trials in Kenya will demonstrate the value and usefulness of Protect-It™, as part of an IPM in Kenya. A workshop will be held in Kenya to present IPM alternatives to methyl bromide use in grain storage and ship treatment, including the results of the field trial project, and followed by strategy meetings to develop a programme of future technology transfer.

Comments

11. US $55,000 of project costs are for project coordinators from Canada and Kenya and Kenyan support staff.

12. The Executive Committee has approved two demonstration projects for Kenya: one for soil fumigation (cut flowers) and one grain storage conducted by the Government of Australia.

13. The Protect-It™ technology was demonstrated in China.

Refrigerant management plan implementation project for Antigua and Barbuda (US $124,400)

Project description

14. The Government of Antigua and Barbuda is submitting to the 26th Meeting a request for implementation of a refrigerant management plan (RMP). The RMP was prepared with technical assistance from UNEP. The Government of Canada will implement all the activities contained in the RMP.

15. In 1996, total ODS consumption in the country was estimated at 10.6 tons, mainly CFCs used for servicing refrigeration, air-conditioning, and MAC units. There are 120 service technicians working in the refrigeration and air-conditioning sector. The skill level of service technicians in the country varies considerably. The industrial users and large service organizations have reasonably well-trained in-house technicians while there are many informal service workshops with unskilled or untrained technicians, who service household refrigerators and smaller refrigeration equipment and electrical and mechanical equipment. Industrial systems are well maintained, usually by in-house technicians. In the commercial and domestic sector, most repairs of the equipment are related to compressor burn out caused by voltage fluctuation. In the MAC sub-sector, the newer models of vehicles have HFC-134a based systems. The authorized MAC service centres are aware of the new systems and are equipped to handle these systems including some recovery and recycling.

16. The Government's Action Plan proposes to develop and implement specific control measures including, *inter alia*, ban on new installations and equipment using ODS, establish a Consumption Tax on CFCs to encourage recovery and recycling, establish a licensing system to monitor and regulate importation of ODSs and ODS containing products, provide import concessions and tax incentives to promote use of substitutes and alternative technologies, and a total ban on imports of CFCs.

17. The RMP identified three basic training programmes: (i) training the refrigeration service technicians, using the 'train the trainer' approach; (ii) training customs officers to implement new import policies and to identify and monitor imports of ODS and ODS containing equipment, and (iii) training in policy and economic instruments to support the ODS phase out programme.

18. The RMP also includes a sub-project for the establishment of a recovery and recycling network comprising six recovery units (four for commercial and industrial equipment and two for servicing MAC units) and related equipment at a cost of US $29,000. This activity also provides for a one-day workshop for service technicians on practical demonstration on recovery and recycling equipment.

19. Implementation of these projects will lead to recovery and recycling of one tonne of CFCs each year. This amount does not consider the amount of refrigerant that might be saved owing to the teaching of good service and maintenance practices at the training seminars.

20. The Ozone Unit (Ministry of Planning and Implementation) will be responsible for implementing the refrigerant management plan and will co-ordinate with other ministries, suppliers, and industry associations for its implementation.

Comments

21. The Antigua and Barbuda RMP follows the approved guidelines for preparation of RMP.

22. The Secretariat together with the Government of Canada and UNEP discussed in detail the major components of the RMP, in particular, the timing of implementation of policies, regulatory measures and incentives which are listed in the action plan proposed in the RMP; the modalities for the implementation of the training programmes for servicing technicians in good management practices and customs officials; the monitoring and evaluation roles of the Ozone Unit and the responsibilities of government agencies and industrial associations during implementation of the RMP.

23. The cost of the equipment associated with the recovery and recycling programme, which are more expensive than similar projects approved by the Committee at previous meetings, was also discussed. The costs of some of the equipment items were adjusted accordingly.

RECOMMENDATION

1. The Fund Secretariat recommends that the Project Review Sub-Committee consider the Secretariat's comments in its review of Canada's request for Development of a halon bank management plan for the English-speaking Caribbean and the methyl bromide project in Kenya in the light of the Australian approval.

2. The Fund Secretariat recommends approval of the bilateral proposal from the Government of Canada for the implementation of the RMP in Antigua and Barbuda in the amount of US $124,400. The Treasurer should credit this amount against Canada's 1998 contributions.

3. To request that the Government of Canada not to proceed with the disbursement of funds approved for recovery and recycling programme in Antigua and Barbuda until the accompanying measures necessary for successful implementation are already or would be in place before implementation began as per previous approvals of such projects by the Executive Committee.

REQUESTS FROM THE GOVERNMENT OF FRANCE

24. The Government of France has submitted several requests for a bilateral cooperation project. France has requested the cost of these projects, (US $381,000) should be offset against its 1998 contributions to the Multilateral Fund.

25. The amount requested (US $381,000), including previous approvals offset against France's 1998 contribution, does not exceed 20 per cent of France's pledged contributions to the Fund for 1998.

Technical Assistance in air-conditioning sector in Syria (US $30,000)

Project description

26. There are about 3,000 chillers in Syria using CFCs and HCFCs. The owners of these chillers are facing problems with leaks and maintenance. The objectives of the project are:

- to provide technical assistance to reduce the leaks (demonstration, training, etc.),
- to propose alternatives for retrofitting and/or drop in,
- to evaluate the costs of the substitution of refrigerant versus the cost of equipment modification.

Comments

27. The Government of France has conducted this type of activity in the past in Iran and Morocco.

Project preparation in the commercial refrigeration sector in Syria (US $25,000)

Project description

28. Agence Française de Développement has received an official request from the Government of Syria for the preparation of an investment project in the commercial refrigeration sector for three producer companies: Al Shokairy Co., Al Sweid Co., and Jano Co.

29. The combined consumption of these three producers is 25 ODP tonnes. The consumption in the refrigeration sector in Syria is 389.6 ODP tonnes, and to date projects to phase out 189 tonnes have been approved. UNDP has submitted to the 26th Meeting three projects in the commercial refrigeration sub-sector for the phase-out of approximately 100 ODP tonnes of CFCs.

Comments

30. UNDP is also requesting US $25,000 for project preparation in Syria for the commercial refrigeration sector. UNDP plans to submit an additional four projects in 1999 in this sub-sector.

Small and medium enterprises study in Iran (US $75,000)

Project description

31. This study will result in the identification of ODS consuming SMEs in all sectors and will assist Iran in preparation of a phase-out strategy for ODS use in aerosol and foam enterprises in Iran. The study is conducted with a view toward developing a project for submission according to the SME guidelines approved at the 25th Meeting of the Executive Committee.

Comments

32. Iran's country programme update noted the need to identify a comprehensive list of SMEs that are consuming ODS.

33. Similar studies have been approved in other countries.

Phase-out of CFC-11 by conversion to methylene chloride in the manufacture of flexible polyurethane foam at Fofy Industrie in Mali (US $151,000)

Project description

34. Fofy Industrie will phase out the use of 19.5 tonnes of CFC-11 in the manufacture of flexible foam. The production is to be converted to methylene chloride technology. The company will install a methylene chloride storage and metering system on the production line (US $30,000), a storage and metering system for a softening additive (US $10,000), will upgrade the enclosure and ventilation of the production line and hall (US $65,000), and will improve the electrical control system (US $10,000) for the flexible foam machine. Other costs include trials (US 415,000) and technology transfer (US$ 20,000). The incremental operating benefits of methylene chloride use (US $14,000) are subtracted from the requested grant.

Comments

35. This project raises no issues and is recommended for approval.

Development of halon bank plans for West Asia countries (project preparation/technical assistance) (Total cost: US $200,000; French component: US $100,000)

Project description

36. The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and Agence Francaise de Development have received an official request from the Governments of Bahrain, Kuwait, Lebanon, Oman, Qatar and Yemen for the identification and preparation of a Halon Bank in the region. This project will produce two reports: a technical paper on the alternatives for halons that will be elaborated through a review of existing documentation and the second report will be a policy paper presenting the Halon Bank Management Plan for each country and the region.

37. The policy paper will be developed by international consultants, who will be working closely with the National Ozone Units and the Ozone Officers Network in each country, locally recruited experts, if necessary, relevant local stakeholders and other implementing agencies.

Comments

38. The Fund Secretariat discussed this project with Germany and France. The Secretariat was informed that a revised proposal would be submitted. As of this writing, the Secretariat has not received a revised proposal.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the bilateral proposals from Government of France in the amounts listed and the Treasurer should credit these amounts against France's 1998 contributions:

- Technical Assistance in air-conditioning sector in Syria (US $30,000)
- Project preparation in the commercial refrigeration sector in Syria (US $25,000)
- Small and medium enterprises study in Iran (US $75,000)
- Phase-out of CFC-11 by conversion to methylene chloride in the manufacture of flexible polyurethane foam at Fofy Industrie in Mali (US $151,000)

REQUESTS FROM THE GOVERNMENT OF GERMANY

39. The Government of Germany has submitted several requests to be offset against its 1997 and 1998 contributions to the Multilateral Fund.

40. Germany has requested that all but the RMP implementation projects should be counted against its 1997 contributions. The amount requested against Germany's 1997 contributions (US $1,551,557) including previous approvals offset against Germany's 1997 contribution, does not exceed 20 per cent of Germany's pledged contributions to the Fund for year 1997. The request for the RMP implementation projects (US $1,429,475) including previous approvals offset against Germany's 1998 contributions, does not exceed 20 per cent of Germany's pledged contributions to the Fund for the year 1998.

41. This is the first time that a bilateral donor has requested the offset of contributions against multiple years of contributions.

Development of halon bank plans for West Asia countries (project preparation/technical assistance) (Total cost: US $200,000; German component: US $100,000)

Project description

42. The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and Agence Francaise de Development have received an official request from the Governments of Bahrain, Kuwait, Lebanon, Oman, Qatar and Yemen for the identification and preparation of a Halon Bank in the region. This project will produce two reports: a technical paper on the alternatives for halons that will be elaborated through a review of existing documentation and the second report will be a policy paper presenting the Halon Bank Management Plan for each country and the region.

43. The policy paper will be developed by international consultants, who will be working closely with the National Ozone Units and the Ozone Officers Network in each country, locally recruited experts, if necessary, relevant local stakeholders and other implementing agencies.

Comments

44. The Fund Secretariat discussed this project with Germany and France. The Secretariat was informed that a revised proposal would be submitted. As of this writing, the Secretariat has not received a revised proposal.

Project preparation/technical assistance at Amatoury S.A.R.L. and Sin-El-Fil in Lebanon (US $15,000)

Project description

45. GTZ has received an official request from the Government of Lebanon for the identification and preparation of an investment project in the aerosol sector for Amatoury S.A.R.L., the last remaining aerosol filler in Lebanon still using CFC-12. The objective of this project is to prepare a conversion study for the elimination of ODS use such as CFC-12 in the production of aerosols at Amatoury S.A.R.L.

Comments

46. This project was identified in Lebanon's country programme. This request is consistent with the criteria for project preparation.

Training in improved operations, service, and maintenance for refrigeration technicians in using hydrocarbons (US $49,500)

Project description

47. The project follows the request of the Government of Lebanon to carry out training in improved operations, service, and maintenance for refrigeration technicians in using hydrocarbons. The aim of the Government of Lebanon is to offer the full range of available alternatives to the service technicians in the refrigeration sector.

Comments

48. The Government of France has a bilateral project to train refrigeration technicians in Lebanon in recovery and recycling, but this does not include the servicing of refrigeration using hydrocarbon refrigerants.

Project preparation/technical assistance at Chem Tech, Port Louis in Mauritius (US $15,000)

Project description

49. GTZ has received an official request from the Government of Mauritius for the identification and preparation of an investment project in the aerosol sector at Chem Tech, Port Louis. The objective of this project is to prepare a conversion study for the elimination of ODS use such as CFC-12 in the production of aerosols at Chem Tech, Port Louis.

Comments

50. GTZ verified that the subject company had a consumption of ODS before 1995 and was majority owned by citizens of Mauritius. This request is consistent with the criteria for project preparation.

Project preparation for phasing out of ODS at the domestic refrigeration factory, Fridgemaster, Zimbabwe (US $25,000)

Project description

51. GTZ has received an official request for project preparation for phasing out of ODS at the domestic refrigeration factory Fridgemaster, Zimbabwe. The objective of this project is to assess in detail the activities and equipment needed for Fridgemaster Zimbabwe to convert the foam-blowing production lines from R11 to cyclopentane.

Comments

52. GTZ verified that the subject company was majority owned by citizens of Zimbabwe. This request is consistent with the criteria for project preparation.

Refrigerant management plans for 14 eastern and southern African countries (US $1,429,475)

Project description

53. At its 23rd meeting, the Executive Committee approved a request from the Government of Germany for the preparation of a regional RMP for 10 eastern and southern African countries. Technical assistance was received through UNEP and GTZ. During project preparation it was found that in four countries of the region (Botswana, Lesotho, Mozambique, and Tanzania) RMPs had already been developed but had not been approved. To reach the objective of developing a regional RMP, it was decided to include these countries in the proposal.

54. The RMP was developed in a regional context. Botswana, South Africa, Swaziland, Lesotho, and Namibia are members of the southern African Common Customs Union; goods are traded free of duties and quotas between the member states. Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia, and Zimbabwe are also members of the South African Development Community (SADC), which seeks to achieve collective self-reliance, mutual interdependence and economic integration through co-operation and the co-ordination of agreed activities. Trade matters are dealt with by the Preferential Trade Agreement for eastern and southern Africa, the PTA.

55. A regional approach will, *inter alia*, prohibit the possibility that end users and service companies will profit from a different legislation across the border; customs officers will profit from an exchange of information to avoid illegal import of CFCs; all service technicians in the region will have equal access to the latest knowledge on ODS-alternative technologies and training will be based on the same curriculum in every country; and will provide a sound basis for the countries involved to achieve the 1999 CFC consumption freeze, and also be the basis for further ODS phase out activities.

56. A baseline data collection survey was carried out in 14 countries in early 1998 to identify the major issues and problems and to assist the National Ozone Units in the preparation of the RMPs. During the preparatory mission, a questionnaire was used to collect data from end users and service companies, and a one-day workshop was held with stakeholders from the public and private sectors in each of the 14 countries.

57. In each of the 14 countries covered under the project proposal, assistance will be provided to the Governments concerned with the design of policies and regulations regarding ODS phase out and a training programme for refrigeration service technicians in good refrigeration practice. Within this training programme, assistance for the establishment of a refrigeration association is requested (this request is of vital importance for the ongoing quality control of the level of trained technicians). Implementation of a recovery and recycling programme has been proposed for Botswana (US $45,375), Kenya (US $98,725) and Swaziland (US $45,75) covering the commercial/industrial and MAC servicing sub-sectors.

58. At the regional level the project proposes implementation of the following activities: (i) training of customs officers (US $512,850); (ii) training of trainers for the courses in good refrigeration practice (US $438,350); (iii) creation of increased public awareness on the new standards and regulations (US $493,900); and (iv) harmonization of standards for the refrigeration sector (US $102,300).

59. The project includes a regional training programme for customs officers from the 14 countries. In total, 420 officers will be trained (15 officers from countries with CFC consumption below 10 tonnes; 30 with CFC consumption between 10 and 80 tonnes; and 45 with CFC consumption over 80 tonnes). The number of customs officers to be trained from this project has been determined according to the level of CFC consumption in these countries.

60. The project also proposes to implement a “training of trainers for courses in good refrigeration practice programme” for technicians from the 14 countries. In total, 140 officers will be trained (5 trainers from countries with CFC consumption below 10 tonnes; 10 with CFC consumption between 10 and 80 tonnes; and 15 with CFC consumption over 80 tonnes). The number of technicians to be trained is based on a minimal necessity calculation per country. The training of trainers programme also includes a workshop for curriculum development (US $84,000). Once the trainers receive training on the most recent developments in refrigeration technologies, they will be able to indicate what part of the existing training curricula needs to be upgraded.

61. The public awareness component is aimed at highlighting the activities proposed in the regional programme (information on new developments, rules and regulations will have to be communicated to the public). Finally, a workshop for representatives of the Bureau of Standards is proposed to make them aware of international standards concerning rules and regulations on ODS and ODS containing equipment and will ensure a regional approach on this matter.

Comments

62. The RMP for the 14 eastern and southern African countries follows the approved guidelines for preparation of RMPs.

63. The Secretariat and the Government of Germany discussed in detail the major components of the RMPs, in the light of the country programmes and institutional strengthening projects approved for the 14 countries concerned, ODS consumption data reported to the Ozone Secretariat, projects and activities so far approved by the Executive Committee related to the refrigeration sector in these countries, and RMPs, recovery/recycling projects and training programmes for refrigeration service technicians so far approved under the Multilateral Fund.

64. Particular attention will be given to the size of and modalities for implementation of training programmes for servicing technicians in good management practices (at the regional and national levels), the customs officials training programme; and the assistance for implementation and enforcement of regulations and legislation, as well as the monitoring and evaluation roles of the Ozone Units during implementation of the RMP.

65. The Secretariat and the Government of Germany also discussed eligibility and cost issues related to the recovery machine requested for each training of service technicians programme (considering that recovery and recycling programmes are already under implementation in 10 countries and that three additional recovery and recycling programmes are proposed under the umbrella project); and the request for public awareness activities considering that funds for these activities have been allocated within the institutional strengthening projects. Subsequently, the Government of Germany adjusted the project accordingly.

66. The Government of Germany deferred, *inter alia*, public awareness, harmonization of standards for refrigeration sector, and establishment of refrigeration associations, pending the conclusions of the workshop on RMPs to be held in association with the Meeting of the Parties. Based on the outcome of the workshop and subsequent decisions of the Executive Committee, some of these activities may be resubmitted in the future by the Government of Germany.

Demonstration project: four alternatives to the use of methyl bromide in horticulture (strawberries, tomatoes, and cucurbits) in Egypt (US $352,000)

67. The total consumption of methyl bromide in Egypt is estimated at 410 metric tonnes. Methyl bromide as soil fumigant is mostly used for high value vegetable cash crops such as

strawberries, tomatoes, cucurbits, and sweet peppers (305 metric tonnes). Intensive vegetable production is mainly conducted in sandy soil and under drip irrigation.

68. The Egyptian Agricultural Research Centre (ARC) has been researching the development of alternative control methods to replace methyl bromide. Several recommendations are available that include the use of metam sodium and/or chloropicrin, applying appropriate crop rotation practices or the use of soil solarization. However, none of these recommendations have been put into practice as their efficacy has not yet been demonstrated. Growers hesitate to adopt alternatives because of their complexity and lower cost effectiveness.

69. The objectives of the project are to demonstrate and disseminate technically, economically, and ecologically feasible alternative methods to methyl bromide. Target crops are strawberries, tomatoes, cucurbits, and sweet peppers. The project will also provide broader awareness on the methyl bromide issue by passing on information on proven alternative control methods to growers.

70. The project will be implemented by the Ministry of Agriculture and Land Reclamation (MALR), coordinated by the Egyptian Environmental Affairs Agency, and assisted by the Egyptian-German project for integrated pest management (GTZ).

71. It is intended to establish a technical steering committee composed of selected representatives of the three implementing parties involved: representatives of growers, extension staff involved in demonstration projects and local and international scientists. The task of this committee will be to plan demonstration projects and assess the results carefully according to predetermined quality criteria, and to coordinate the programme.

72. The Secretariat indicated to the Government of Germany that soil solarization, one of the alternatives proposed in the fumigation project, had been introduced in the country in 1981. In this regard, the Government of Germany stated this technique alone cannot solve all the problems, since nematodes escape downward to cooler soil layers and come up again when soil temperature drops. Thus, this technique must be complemented with other measures. Another reason that growers are still reluctant about using this technique is its high cost.

73. The Secretariat also indicated that the overall project cost was higher when compared to similar projects so far approved by the Committee. Subsequently, the Government of Germany agreed to review the costs associated with national and international experts and travel (reduced by US $44,000).

Application of methyl bromide alternatives in grain storage in Egypt (US $401,500)

74. Methyl bromide is used in Egypt to control pests in stored produce in shounas, warehouses, silos, and ships. The major commodities fumigated with methyl bromide are cereals, grain, legumes, nuts, dates, dried fruits, and animal feeds.

75. Phosphine is also commonly used in Egypt. However, insect resistance has appeared due to poor sealing and non-compliance with minimum exposure periods. Phosphine kills insects and mites in stored produce, but it is known that mite eggs are highly tolerant (a second treatment may be required after hatching of the eggs). In Egypt, with low labor cost, phosphine fumigation will be an economically acceptable alternative to methyl bromide.

76. The objective of the project is to demonstrate and disseminate the technical and economical feasibility of four methyl bromide alternative methods in fumigation of wheat grain in storage: gaseous phosphine in carbon dioxide; controlled or modified atmospheres of high carbon dioxide concentrations, and hermetic storage technology.

77. A national workshop will be organized to discuss how this demonstration project can be scaled up to an investment project, aiming at reducing methyl bromide consumption in fumigation of stored cereal grain in Egypt.

78. The project will be coordinated by the Environmental Affairs Agency and implemented by the German Agency for Technical cooperation (GTZ) in collaboration with the Ministry of Agriculture and Land Reclamation. The technical and economical analysis for the alternatives will be published and discussed during a national workshop at the end of the demonstration project.

79. The Secretariat sought clarification from the Government of Germany on issues regarding equipment, operating costs and labor, the number of phosphine applications to be carried out and the fate of the equipment once the project is implemented. In this regard, the Government of Germany indicated that at least 10 applications are foreseen with a total consumption of 15 kg of phosphine. The equipment purchased will also be used for dissemination of the proposed technologies. The Government of Germany agreed to reduce the cost of the equipment by US $20,000.

80. The Secretariat also indicated that the project cost was higher when compared to similar projects. Subsequently, the Government of Germany agreed to review the costs associated with national and international experts and travel (reduced by US $104,000).

Comprehensive approach to disseminate soil solarization technology for methyl bromide substitution in Jordan (US $297,327)

81. The main objective is to demonstrate, in a participatory approach with 240 farmers, how to phase out methyl bromide using soil solarization in combination with *Trichoderma* as biological control. The programme is aimed at small and large farmers, in both the private and public sectors. The project is expected to result in a phasing-out of methyl bromide in Jordan within a period of 3 to 5 years; training farmers while providing an alternative to methyl bromide; establishment of a local group of experts for preparation of an investment project; development of an information dissemination system; an increase in general awareness; and promotion of policy measures to assist Jordan to meet its methyl bromide phase out targets.

82. The Fund Secretariat sought clarification on the level of the request regarding international and national experts (US $186,000) and whether the proposed activities in the project would overlap with the activities included in the demonstration project approved for Jordan at the 24th Meeting (under UNIDO implementation), or with the Jordan-German integrated pest management project also under implementation (with assistance outside the Multilateral Fund). In this regard, the Government of Germany indicated that each of these projects have completely different tasks to accomplish, including field trials, expendables, and non-expendables. After discussions, the Government of Germany agreed to adjust the costs of the project (reduced by US $64,500).

Demonstration project: three alternatives to the use of methyl bromide: enemy plants, organic amendments and grafting on resistant rootstocks in combination with an integrated pest management system in Morocco (US $296,230)

83. Methyl bromide consumption in Morocco increased from 19 metric tonnes in 1986 to 1,300 metric tonnes in 1995. A survey conducted in 1995 indicated that 50% of the tomato area and 15% of the cucurbits area is regularly treated with methyl bromide.

84. The objectives of the project are to demonstrate three alternatives to the use of methyl bromide as a fumigant in tomato and cucurbits crops: (1) use of enemy plants, (2) organic amendments and (3) grafting on resistant varieties, all in combination with an integrated pest management system; and to disseminate the results among tomato and cucurbit growers in Morocco, combined with an awareness campaign.

85. The project will be implemented in Souss-Massa and El Jadida. Farmers will receive training courses on the three technologies. Results will be presented to local agriculturists in cooperation with UNIDO's methyl bromide project currently under implementation.

86. The project will be carried out in coordination with the Ozone Bureau and implemented by GTZ.

87. The Fund Secretariat and the Government of Germany discussed issues regarding international and national experts (US $127,000) and the overlapping of activities in previously approved projects, i.e., the project approved at the 22nd Meeting for demonstration of four alternatives to methyl bromide under UNIDO implementation. In this regard, the Government of Germany indicated that the project proposes implementation of biological alternatives that were not included in UNIDO's project. Also, the Government of Germany agreed to adjust the costs requested for consultants (reduced by US $66,700).

RECOMMENDATION

The Fund Secretariat recommends:

1. The approval of the proposal to implement the Refrigerant management plans for 14 eastern and southern African countries from the Government of Germany in the amount of US $1,429,475 with the following breakdown:

Botswana	US $70,375
Ethiopia	US $20,000
Kenya	US $118,725
Lesotho	US $25,000
Malawi	US $35,000
Mauritius	US $35,000
Mozambique	US $35,000
Namibia	US $20,000
Seychelles	US $25,000
Swaziland	US $90,375
Tanzania	US $45,000
Uganda	US $25,000
Zambia	US $25,000
Zimbabwe	US $45,000
Regional	US $815,000

2. That the Treasurer should accordingly offset this amount against Germany's 1998 contributions to the Multilateral Fund.

3. That the Government of Germany should be requested not to proceed with the disbursement of funds approved for recovery and recycling programmes for Botswana, Kenya, and Swaziland until the accompanying measures necessary for successful implementation are already or would be in place before implementation began as per previous approvals of such projects by the Executive Committee.

4. Blanket approval in the amounts requested for the following projects:

- Project preparation/technical assistance at Amatoury S.A.R.L. and Sin-El-Fil in Lebanon (US $15,000)
- Training in improved operations, service, and maintenance for refrigeration technicians in using hydrocarbons (US $49,500)
- Project preparation/technical assistance at Chem Tech, Port Louis in Mauritius (US $15,000)
- Project preparation for phasing out of ODS at the domestic refrigeration factory, Fridgemaster, Zimbabwe (US $25,000)

5. Approval in the amounts specified for the following projects:

- Demonstration project: four alternatives to the use of methyl bromide in horticulture (strawberries, tomatoes, and cucurbits) in Egypt (US $308,000)

- Application of methyl bromide alternatives in grain storage in Egypt (US $ $297,000)
- Comprehensive approach to disseminate soil solarization technology for methyl bromide substitution in Jordan (US $232,789).
- Demonstration project: three alternatives to the use of methyl bromide: enemy plants, organic amendments and grafting on resistant rootstocks in combination with an integrated pest management system in Morocco (US $229,523).

6. That the Treasurer should credit the amounts specified in recommendations 4 and 5 above against Germany's 1997 contributions.