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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty-eighth Meeting
Montreal, 3-7 April 2006

PROJECT PROPOSALS: CHILLER DEMONSTRATION PROJECTS

- African fund for replacement of chillers (AFROC): Strategic demonstration project for accelerated conversion of CFC chillers in 5 African Countries (Cameroon, Egypt, Namibia, Nigeria and Sudan) UNIDO, France, Germany, and Japan
- Global technical assistance programme in the chiller sub-sector UNEP

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issue of the document.

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Country	Cameroon	Egypt	Namibia	Nigeria	Sudan
Project title	Bilateral/ implementing agency	Bilateral/ implementing agency	Bilateral/ implementing agency	Bilateral/ implementing agency	Bilateral/ implementing agency
African Fund for Replacement Of Chillers (AFROC)	France / Germany	Japan / UNIDO / Germany	UNIDO / Germany	Japan / UNIDO / Germany	UNIDO / France / Germany
Latest reported consumption data for CFC	148.5	1047.59	7.7	2116.09	203
A: Article-7 data as of 2004 (ODP tonnes)					
Project duration (months) once all funding components approved	42 months	42 months	42 months	42 months	42 months
Initial amount requested (US \$):	200,000	700,000	100,000	400,000	100,000
Investment activities considered as part of project cost (US \$)	353,379	778,809	149,066	629,330	199,145
Non-investment activities considered as part of project cost (US \$)	52,475	39,350	47,100	63,225	47,100
Implementation cost related to counterpart funding (US \$)	27,497	36,089	2,320	20,300	12,064
Total Project Cost (US \$)*	433,350	894,249	198,486	712,855	258,309
Proposed level of external resources from third parties (US \$)*	120,000	210,000	30,000	120,000	60,000
Activities not considered as project costs (US \$)	0	0	0	0	0
Adjusted level of external resources from third parties (US \$)*	106,195	185,841	26,549	106,195	53,097
Cost of MLF funded component (US \$; adjusted to available budget)	324,017	701,612	170,288	600,840	203,243
Number of chillers foreseen for replacement within the project	4	7	1	5	2
Proportion of counterpart funding to cost of replaced chillers	51%	39%	18%	31%	45%
Number of chillers in the country	16	230	6	64	13
CFC consumption for chillers as share of most recent consumption (2004)	3.2%	3.1%	2.2%	0.3%	1.1%
Share of third-party external resources in project costs	24.7%	20.9%	13.5%	15.0%	20.7%
Source and level of third-party external resources (co-funding)	FGFEP	FGFEP	FGFEP	FGFEP	FGFEP
Probability of third-party external resources (co-funding)	IIIa	IIIa	IIIa	IIIa	IIIa
MLF funding per chiller (average) (US \$)	70,225	91,191	129,897	108,418	81,671
Total project funding per chiller (average) (US \$)	87,560	110,288	147,417	124,702	98,588
Maximum funding per chiller (5 years, 30% discount rate, average) (US \$)	88,345	111,258	149,066	125,866	99,572
Legislation enacted and enforced	yes	yes	yes	yes	yes
General strategy for phase-out of all chillers in the country	yes	yes	yes	yes	yes
Inter-linkage with existing phase-out plan	N/A	yes	yes	yes	N/A
Request for revolving fund on a regional basis	no	no	no	no	no
Brief description of methodology proposed	AFROC considers the replacement of 19 chillers in 5 African Countries (Cameroon, Egypt, Namibia, Nigeria and Sudan). The project proposes to coordinate inputs from engineering facilities and energy contracting providers, investors, financial institutions, government and private sector stakeholders in the region. This coordination will enable stakeholders to identify additional financial, technical and regulatory incentives in order to remove local barriers for chiller investments. Thus the demonstration project will provide a valuable contribution of innovative strategic elements for implementation of complete CFC phase out in the region. Funding will be sought from FGEF to partially co-finance the project. The requested funding will be used in form of grants to cover part of the cost of early replacement of CFC chillers and non investment activities on a national and regional basis. Pending availability of funding and fulfillment of relevant decisions of the Executive Committee, activities can extend beyond the five countries targeted.				
Funding for France	285,517	-	-	-	74,483
Funding for Germany	38,500	38,500	38,500	38,500	38,500
Funding for Japan	-	350,000	-	350,000	-
Funding for UNIDO	-	313,112	131,788	212,340	90,260
Total project funding	324,017	701,612	170,288	600,840	203,243
Support cost for France	37,117	-	-	-	9,683
Support cost for Germany	5,005	5,005	5,005	5,005	5,005
Support cost for Japan	-	45,500	-	45,500	-
Support cost for UNIDO	-	23,483	9,884	15,926	6,770
Total support cost	42,122	73,988	14,889	66,431	21,457
Total cost of project to Multilateral Fund (US \$):	366,139	775,600	185,177	667,271	224,700
Project monitoring milestones included (Y/N):	yes	yes	yes	yes	yes

*Excluding support cost

BACKGROUND

1. The Executive Committee decided in its decision 47/26 to set aside for future chiller demonstration projects in the African region a total of US \$2,000,000 plus support costs, and requested UNEP to prepare an amended project proposal to disseminate experience gained in the chiller demonstration projects on a global level, in particular for the benefit of those countries not participating in the demonstration projects. This document presents a regional approach for chiller demonstration projects in Africa submitted by UNIDO as lead agency and the requested project proposal from UNEP.

2. The 46th Meeting of the Executive Committee had discussed a study on criteria and modalities for chiller demonstration projects contained in document UNEP/OzL.Pro/ExCom/46/37, which had been prepared pursuant to decision XVI/13 of the Sixteenth Meeting of the Parties and decision 45/4 (d) of the 45th Meeting of the Executive Committee, and decided to utilize a funding window of US \$15.2 million for additional demonstration projects in the chiller sub-sector. At the 47th Meeting of the Executive Committee, seven investment chiller demonstration projects to be implemented in 16 countries were approved on that basis. The 47th Meeting provided also guidance on the projects to be submitted for chillers and on the UNEP non-investment project.

AFRICAN FUND FOR REPLACEMENT OF CHILLERS (AFROC)

3. In decision 47/26, funding was allocated for future chiller demonstration projects in the region of Africa based on a number of conditions relating to a cap on the non-investment component of such projects, to chiller retrofits, and to the use of external resources. Further, the decision requested that any funds remaining in the funding window after approval of projects for Africa at the 48th Meeting would be rolled into the World Bank's global chiller replacement project, on the understanding that those additional resources would be used with priority for projects in Africa.

4. UNIDO, acting as lead agency for a regional approach called "African Fund for Replacement of Chillers (AFROC)", submitted a "Strategic Demonstration Project for accelerated conversion of CFC Chillers in 7 African Countries". The co-operating agencies were France, Germany and Japan. The project foresaw implementation in Cameroon, Egypt, Namibia, Nigeria, Malawi, Senegal and Sudan.

5. The project proposal has been evaluated by the Secretariat according to the criteria adopted by the Executive Committee in the decisions 46/33 and 47/26. A number of technical and cost issues have been clarified. The information submitted did not indicate any centrifugal chillers in Malawi and Senegal, and more information could not be obtained upon finalisation of this document. Malawi and Senegal were therefore removed from the list of the countries participating in the regional chiller project. UNIDO proposed that the project should be open to

additional countries in Africa outside the five countries now accepted as fulfilling the conditions set by the Executive Committee, provided that:

- (a) the presence of centrifugal CFC chillers has been clearly identified;
- (b) the funding is available; and
- (c) the other conditions established by the Executive Committee through its respective decisions regarding chiller demonstration projects are being met. This proposal is in line with similar undertakings by other agencies, namely the World Bank.

6. UNIDO proposes utilisation of external funding from the French Global Environment Facility (Fonds Français pour l'Environnement Mondial, FGEF). According to the information supplied by UNIDO and France, the average FGEF grant per project is 1.1 million Euros corresponding from 15 to 35% of the project costs for those projects supported. One of FGEF's priorities is to encourage projects which reduce carbon consumption through improved energy efficiency. The chiller demonstration project could therefore be considered for funding within this window, pending approval by the Supervising Committee.

7. The proposed contribution of the FGEF would be sufficient to cover the external funding of at least 5% of the project cost requested in decision 47/26; the external resources foreseen in the project document are US \$447,876 plus support cost and constitute 19% of the project costs. UNIDO presented several other sources of co-funding, in particular an in-kind financial contribution from Japan through the UNIDO investment and technology promotion office in Tokyo. Because of the non-cash character of this contribution, it could not be taken into account as part of the project funding.

8. The quantitative indicators of the projects showed that all countries involved in the projects have fulfilled the funding precondition of legislation enacted and enforced. Where national or terminal phase-out plans have already been approved, the project will link with the implementation of those. A long-term strategy for managing the entire CFC chiller sub-sector in the countries was provided in the documentation submitted.

9. Taking into account the results of the evaluation the Secretariat can recommend the approval as indicated in the recommendation part of this document below.

GLOBAL TECHNICAL ASSISTANCE PROGRAMME IN THE CHILLER SUB-SECTOR

10. In its decisions 46/33 and 47/26, the Executive Committee requested UNEP to prepare an amended project proposal to disseminate experience gained in the chiller demonstration projects on a global level, in particular for the benefit of those countries not participating in the demonstration projects, in collaboration with the implementing and bilateral agencies involved. The proposal was not to exceed the total of US \$200,000 plus support costs.

11. Accordingly, UNEP has submitted a project proposal “Global Technical Assistance Programme in the chiller sub-sector” to the Secretariat. It specifies that dissemination and assistance in understanding the lessons from the previously approved demonstration projects of other implementing agencies will be the central component of the project. All activities in this project will be coordinated with the bilateral and multilateral implementing agencies involved. The proposal lists in particular the following activities:

- (a) Thematic workshops at the regional network level, to be organized as part of the regional network activities. These workshops will be coordinated with other implementing agencies and will take into account the ongoing and planned activities by other implementing agencies. The workshops will result in regional reports reflecting the region/sub-region/country specific needs and options; all reports will subsequently be published on a web portal;
- (b) Development of small user-friendly guidance kits and quick reference tools based on UNEP’s chiller manual and other available technical materials on chillers. The kits will be targeting different stakeholders such as decision makers and chiller servicing personnel;
- (c) In conjunction with the thematic workshop reports and in cooperation with other implementing agencies, selected case studies and lessons learned booklets by regions/sub-region/project will be published. These materials will be disseminated through the existing CAP information clearing house, through the CAP regional infrastructure, and through the Sustainable Building and Construction Initiative networks, the latter being a private sector partnership co-ordinated by UNEP;
- (d) A Global Chiller internet portal will be set up. The portal will entail mainly three types of information: Technical information, information from ongoing projects funded through the Multilateral Fund, and various tools which may be useful for a wide range of stakeholders; and
- (e) A global chillers conference will bring together major stakeholders in the sub-sector and should provide a forum for information exchange on the global level between the various stakeholders. UNEP is considering various options to co-sponsor the event, e.g. by having it back-to-back with a Meeting of the Parties, or by co-operating with one of the major institutions in the field of refrigeration and chillers, namely the International Institute of Refrigeration or the American Society of Heating, Ventilation and Air Conditioning Engineers.

12. UNEP plans to conclude the activities under this project in the first half of 2009.

13. The project proposal meets the criteria specified by the Executive Committee, and appears well structured, with well selected activities. UNEP utilises for implementation several existing resources, both from the CAP team as well as infrastructure not funded by the Multilateral Fund. UNEP co-ordinated the project proposal with the other implementing agencies and the Secretariat and taking the inputs into consideration. The Secretariat can therefore recommend this project for approval.

SECRETARIAT'S RECOMMENDATIONS

14. The Executive Committee might wish to consider:

- (a) Approving the chiller demonstration project for the African Region, specifically Cameroon, Egypt, Namibia, Nigeria and Sudan, at the amount of US \$2,000,000 plus support costs of US \$218,887 for France, Germany, Japan and UNIDO, with external resources of US \$477,876 as indicated in the table below, to replace at least 19 chillers in the region, on the understanding that:
- (i) the external resources associated with the proposal were to be used only for activities considered to be part of the project costs as indicated in this document UNEP/OzL.Pro/ExCom/48/25;
 - (ii) disbursement of the amounts approved would be dependent upon the availability of external resources as specified, to be confirmed by the Secretariat based on the advice from the agency that external funding had been secured. The ratio between the maximum amount of Multilateral Fund resources that could be disbursed and the external resources confirmed by the Secretariat should be equal to the ratio between the amount approved and the corresponding amount of associated external resources as indicated in the respective sub-paragraphs; and
 - (iii) additional countries in Africa could receive support for phase-out in the chiller sector under this project, provided that funding under this project is available, and that all other conditions established by the Executive Committee through its respective decisions regarding chiller demonstration projects are being met;
 - (iv) UNIDO and the bilateral agencies involved will inform the Secretariat on an annual basis, in time for the last Meeting of the Executive Committee in every year of project implementation, as well as in the year of completion, on progress in terms of implementation, main experiences and additional external resources acquired for the chiller phase-out and major market transformations observed.
- (b) Approving the Global Technical Assistance Programme in the chiller sub-sector as indicated in the table below:

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	African fund for replacement of chillers (AFROC): Strategic demonstration project for accelerated conversion of CFC chillers in 5 African Countries (Cameroon, Egypt, Namibia, Nigeria, and Sudan)	360,000	46,800	France
		192,500	25,025	Germany
		700,000	91,000	Japan
		747,500	56,063	UNIDO
(b)	Global technical assistance programme in the chiller sub-sector	200,000	26,000	UNEP

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