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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty first Meeting
Montreal, 17 -19 December 2003

PROJECT PROPOSALS: RWANDA

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposals:

Refrigeration:

- Implementation of the refrigerant management plan: train the trainer programme for refrigeration service technicians UNEP
- Implementation of the refrigerant management plan: training for customs technicians UNEP
- Implementation of the refrigerant management plan: refrigeration manufacturing and centralized recovery and recycling of refrigerants UNDP
- Implementation of the refrigerant management plan: monitoring the activities UNEP

**PROJECT EVALUATION SHEET
RWANDA**

SECTOR: Refrigeration ODS use in sector (2002): 29.9 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Titles:

- (a) Implementation of the refrigerant management plan: train the trainer programme for refrigeration service technicians
- (b) Implementation of the refrigerant management plan: training for customs technicians
- (c) Implementation of the refrigerant management plan: refrigeration manufacturing and centralized recovery and recycling of refrigerants
- (d) Implementation of the refrigerant management plan: monitoring the activities

Project Data	Refrigerant management plan			
	(a)	(b)	(c)	(d)
Enterprise consumption (ODP tonnes)				
Project impact (ODP tonnes)			4.4	
Project duration (months)	12	12	36	36
Initial amount requested (US \$)	50,000	50,000	118,758	20,000
Final project cost (US \$):				
Incremental capital cost (a)	47,000		116,114	
Contingency cost (b)	3,000		2,644	
Incremental operating cost (c)				
Total project cost (a+b+c)	50,000	50,000	118,758	20,000
Local ownership (%)				
Export component (%)				
Amount requested (US \$)	50,000	50,000	118,758	20,000
Cost effectiveness (US \$/kg.)			27.15	
Counterpart funding confirmed?				
National coordinating agency		National Ozone Unit		
Implementing agency	UNEP	UNEP	UNDP	UNEP

Secretariat's Recommendations				
Amount recommended (US \$)	50,000	50,000	118,758	20,000
Project impact (ODP tonnes)			4.4	
Cost effectiveness (US \$/kg)			27.45	
Implementing agency support cost (US \$)	6,500	6,500	10,688	2,600
Total cost to Multilateral Fund (US \$)	56,500	56,500	129,446	22,600

PROJECT DESCRIPTION

Background

1. The Government of Rwanda has submitted a refrigerant management plan (RMP) project proposal for the consideration of the Executive Committee at its 41st Meeting.

ODS consumption

2. Based on a survey on the consumption of ODS conducted during the preparation of the Rwanda country programme/RMP, in 2002, about 29.9 ODP tonnes of CFCs were used in the country to service domestic refrigerators (4.5 ODP tonnes), commercial refrigerators (9.2 ODP tonnes), industrial refrigerated systems (13.6 ODP tones) and MAC units (2.6 ODP tonnes).

3. During the preparation of the project proposal it was also found that there is a company, Naktec, producing 600 refrigeration systems and consuming 600 kg of CFC-12 annually. The technicians of that company will be trained through the activities under the RMP and will be in a position to adjust to non-CFC technologies without requiring investment funding.

4. The number of domestic and commercial refrigerators in Rwanda has been estimated at 100,000 and 500, respectively, and the number of vehicles at 31,000. This equipment is serviced by 80 specialized service technicians working in 10 established service workshops and by an additional 200 skilled and semi-skilled technicians operating in the informal sector.

5. Most of the failures in refrigeration systems are caused by fluctuations in the power supply; almost all commercial/industrial refrigeration systems are serviced at least once a year.

6. The current prices of refrigerants are: US \$6.00/kg for CFC-12, US \$22.25/kg for HFC-134a and US \$7.70/kg for HCFC-22.

Policy framework

7. The Government of Rwanda is proposing the establishment of legislation and a regulatory system to control imports of ODSs and ODS-based equipment, as well as introducing fiscal measures.

Sub-projects in the RMP

8. The RMP consists of the following two training programmes:

- (a) Training programme for refrigeration service technicians (US \$50,000), to train 20 refrigeration technicians as trainers in good refrigeration practices and introduce non-CFC refrigerants. The trainers will train a total of 100 service technicians;
- (b) Training of 100 customs officers (US \$50,000), to train customs officers the import/export regulations and identification of ODS and ODS-based equipment;

9. The project also contains a proposal for the establishment of one CFC recovery and recycling centre (to be located in Kigali) to be operated by a small number of service technicians (US \$118,758). During servicing/repair operations to a refrigeration system, technicians from the centre will accompany the service technician who will perform the repairs, to recover the CFC refrigerants from the system. The repair technician will receive credits for recycled refrigerants. The recycling centre will be provided with recovery machines, suitable for recovering CFCs and other non-CFC refrigerants provided that extra costs of the machines fall within budget. The technicians from the centre will also receive basic repair and servicing tools (including vacuum pumps and leak detectors) to assist the technicians in performing proper servicing operations. Hands-on training on recovery and recycling techniques and proper maintenance and installation of refrigeration and air conditioning equipment will be provided to technicians at the centres.

10. The proposal includes funding for the operating costs of the centre, including transportation costs, salaries for the technicians and sundries, for a three year period. Payments for the technicians in the recycling centre will be given every six months, and will be based on the amounts of CFCs recovered and recycled. A system for monitoring the quantity and quality of the CFC recycled is planned to ensure the success of the centralized recovery and recycling programme.

11. An additional US \$20,000 is requested for monitoring and management of the activities proposed in the RMP project.

12. The Rwanda RMP project was submitted with an official letter from the Government of Rwanda (signed by the Ministry of Land, Environment, Forest, Water and Natural Resources) stating the Government's commitment to achieve, without further request for funding, at least 50 per cent reduction in consumption of CFCs by 2005 and 85 per cent reduction by 2007.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

13. The Secretariat noted the new activity proposed by UNDP for establishment of a centralized recovery and recycling of refrigerants in Rwanda (as well as in other several Article 5 countries in Africa). The proposal is consistent with the provisos of Decision 31/48.

Issues related to baseline for compliance by Rwanda

14. The Implementation Committee, at its 31st Meeting noted with appreciation the fact that Rwanda (among other Parties) has reported its ODS data (pursuant to Decisions XIV/14 and XIV/16 of the Parties to the Montreal Protocol), thus bringing the country into compliance with the provisions of Article 7.

15. The Secretariat sought a clarification on whether or not Rwanda would be able to comply with the 50 per cent reduction step in 2005 and the 85 per cent reduction step in 2007, on time. Subsequently, UNDP and UNEP informed the Secretariat that if the phase-out activities are approved as presented in the current country programme and RMP project, UNEP and UNDP

will expedite the implementation of the proposed activities to ensure that Rwanda meets the Montreal Protocol's compliance requirements.

Issues related to the activities proposed in the RMP

16. Several progress reports on recovery/recycling programmes in other Article 5 countries indicate that recovered amounts of CFCs are smaller than the amounts estimated in the project proposals. In this regard the Secretariat sought an explanation from UNDP on the soundness of the assumptions made for estimating that 3.9 ODP tonnes of CFCs would be recovered in Rwanda. UNDP informed the Secretariat that in previous recovery/recycling programmes, the repair technicians carried the recovery machine and ancillaries to the repair site even though in many cases no more refrigerant was available in the refrigeration system. In the new approach, the service technicians will call the technician at the centre when there is a substantial amount of CFC to be recovered. The repair technician will have the incentive to call the centre, since he/she will receive a voucher to obtain 90 per cent of recycled refrigerant back for free. Also, payments to the technicians at the recycling centre will be based on the actual amounts of CFCs recovered/recycled.

17. UNDP also mentioned that, in case where other refrigerants are processed (HCFCs or HFCs), in addition to the CFC quotas established in the UNDP subcontract, additional resources will be available to the centres (as per relevant decisions by the Executive Committee, the extra cost to handle non-CFC refrigerants will be borne by the recipients). By the time the project is completed, and if it proves to be successful, the Government of Rwanda could request further funding in 2007 in order to maintain the centres. Furthermore, the centres may become self-sufficient if they are able to process other refrigerants in addition to CFCs.

18. The Secretariat noted that project is for the establishment of only one centre and sought a clarification on how would it address the phase out of CFCs used in other cities (e.g., Butare). UNDP reported that the distances in Rwanda are relatively small (travel times between cities is in the order of 2-3 hours). One of the technicians in the centre could spend one or two days per week in other cities when it is found that repairs of major refrigeration systems have been planned.

19. The Secretariat proposed that UNDP should have flexibility in utilizing the resources available under the centralized recovery and recycling programme (approximately US \$118,758) when specific needs arise during project implementation (e.g., to provide more recycling machines in the event of a steep rise in the price of CFCs, or to purchase basic service tools should technicians experience difficulties in implementing good practices). Thus, the objective would be to continuously monitor and survey the needs of technicians and adapt the project accordingly.

RECOMMENDATIONS

20. The Fund Secretariat recommends blanket approval of the projects at the funding level indicated below, on the understanding that:

- (a) The Government of Rwanda would have flexibility in utilizing the resources available under the centralized recovery and recycling programme, to address specific needs that might arise during project implementation;
- (b) The sub contracts from the centralized recovery and recycling programme would be funded in stages so that resources can be diverted to other activities, such as additional training or procurement of service tools, if the proposed results from the programme are not achieved;
- (c) The centralized recovery and recycling programme should not commence until the legislation controlling CFC imports is in place and measures have been taken to ensure that the local market prices of CFCs and non-ODS refrigerants are similar;
- (d) UNDP and UNEP would provide appropriate monitoring throughout project implementation; and
- (e) Approval of the projects would be without prejudice to the operation of the Montreal Protocol's mechanisms dealing with non-compliance issues.

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Implementation of the refrigerant management plan: train the trainer programme for refrigeration service technicians	50,000	6,500	UNEP
(b)	Implementation of the refrigerant management plan: training for customs technicians	50,000	6,500	UNEP
(c)	Implementation of the refrigerant management plan: refrigeration manufacturing and centralized recovery and recycling of refrigerants	118,758	10,688	UNDP
(d)	Implementation of the refrigerant management plan: monitoring the activities	20,000	2,600	UNEP
