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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Forty-second Meeting  
Montreal, 29 March - 2 April 2004

**PROJECT PROPOSAL: ZAMBIA**

This document consists of the comments and recommendation of the Fund Secretariat on the following project proposal:

Refrigeration:

- Refrigerant management plan update: refrigeration and air conditioning sector Germany

**PROJECT EVALUATION SHEET  
ZAMBIA**

SECTOR: Refrigeration ODS use in sector (2002): 10.6 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Title:**

(a) Refrigerant management plan update: refrigeration and air conditioning sector

<b>Project Data</b>	<b>Refrigeration</b>
	<b>RMP update</b>
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	n/a
Project duration (months)	36
Initial amount requested (US \$)	136,000
Final project cost (US \$):	
Incremental capital cost (a)	136,000
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	136,000
Local ownership (%)	100%
Export component (%)	0%
<b>Amount requested (US \$)</b>	136,000
Cost effectiveness (US \$/kg.)	n/a
Counterpart funding confirmed?	
National coordinating agency	National Ozone Office, Environmental Council of Zambia
Implementing agency	Germany

<b>Secretariat's Recommendation</b>	
Amount recommended (US \$)	136,000
Project impact (ODP tonnes)	n/a
Cost effectiveness (US \$/kg)	n/a
Implementing agency support cost (US \$)	17,680
Total cost to Multilateral Fund (US \$)	153,680

## PROJECT DESCRIPTION

1. In 2002, the total CFC consumption in Zambia was estimated at 10.6 ODP tonnes used for servicing refrigeration systems. The CFC baseline for Zambia is 27.4 ODP tonnes.
2. According to the survey conducted for the preparation of the RMP update, about 70 per cent of the total CFC consumption is used for servicing commercial and industrial refrigeration systems, 22 per cent domestic refrigerators and air conditioning units and the remaining 8 per cent for medium and large size air conditioning systems and MAC units. About half of the banks, hospitals and hotels had acquired new non-CFC based refrigeration equipment.
3. The current prices of refrigerants per kg are: US \$3.96 for CFC-12, US \$10.40 for HFC-134a and US \$3.58 for HCFC-22.

### ODS regulations

4. Regulations for controlling trade and use of ODS in Zambia have been in place since 2001. Through the regulations all importers/exporters of ODS must apply for a permit with the Environmental Council of Zambia; import of all CFC-based equipment including MAC units are banned; importers/exporters of ODS are required to keep a list of names and addresses of all ODS vendors and buyers; and all technicians servicing and maintaining refrigeration equipment must be certified.

### Refrigerant management plan (RMP)

5. The Zambia RMP was approved at the 26<sup>th</sup> Meeting of the Executive Committee as a bilateral contribution by the Government of Germany. The RMP was developed as a national/regional project involving 14 South and East African countries. The activities covered under the RMP were related to legislation/policy, establishment of a licensing system, training of refrigeration servicing technicians and training of customs officers.
6. The training for customs officers was held as part of the regional training programme; 38 customs officers from Zambia were trained. Also, three technicians were trained in Germany as trainers in good refrigeration servicing practices. The training centre received the necessary tools and equipment to provide training courses for other refrigeration technicians. The trainers conducted two training courses for 20 technicians as part of the RMP activity.
7. Under the recovery and recycling sub-project (approved for UNDP at the 19<sup>th</sup> Meeting of the Executive Committee), 40 trainers and technicians were trained on recovery and recycling practices. In addition, 30 recovery units and 2 recycling machines were distributed among service workshops. Based on an evaluation conducted by the Ozone Unit, it was reported that approximately 3.5 tonnes of refrigerants were recovered. It was also reported that the refrigeration servicing sector had problems related to the disposal of contaminated CFCs (about half a tonne) and the location of recycling centres. Because of these issues, the servicing sector lost interest in recovery and recycling operations.

### RMP update

8. The RMP update proposal, as submitted, includes additional training for refrigeration servicing technicians including tool kits (US \$53,000), MAC training programme (US \$10,000); an incentive programme for end-users (US \$40,000); customs training and ODS identification kits (US \$17,000) and monitoring and implementation (US \$16,000).

9. The Zambia RMP update project was submitted with an official letter from the Government of Zambia, signed by the Environmental Planning and Management Unit of the Environmental Council of Zambia, stating the Government's commitment to achieve, without further request for funding, at least the 50 per cent reduction in consumption of CFCs by 2005 and the 85 per cent reduction by 2007.

## **SECRETARIAT'S COMMENTS AND RECOMMENDATION**

### **COMMENTS**

10. The Secretariat notes that the 2002 CFC consumption in Zambia (10.6 ODP tonnes) is 16.8 ODP tonnes below the Zambia's CFC baseline consumption (e.g., 27.4 ODP tonnes). The Secretariat also notes that the project proposal has been submitted in accordance with the provisos of Decision 31/48 and subsequent decisions taken by the Executive Committee regarding RMP proposals, including the level of funding requested.

11. Based on the results so far achieved in the implementation of recovery and recycling programmes (e.g., much lower amounts of CFCs recovered than the amount originally estimated) and the limited number of end-users that could benefit from the small incentive programme that was proposed in the RMP update project proposal, the Secretariat suggested that the Government of Germany examines the merits of combining all the activities proposed (for a total of US \$136,000) under one overall budget dedicated to the provision of a mix of training and equipment/service tools (such as ancillary equipment for the recovery/recycling units already purchased in the original RMP, brazing equipment, vacuum pumps, leak detectors and other basic tools) to be selected on the basis of the needs identified over the 3-year project implementation time-frame. Thus, the objective would be to continuously monitor and survey the needs of technicians and adapt the project accordingly. Subsequently, the Government of Germany agreed to adopt this approach.

### **RECOMMENDATION**

12. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below, on the understanding that:

- (a) The Government of Zambia would have flexibility in utilizing the resources available under the RMP update, to address specific needs that might arise during project implementation;

- (b) To the extent possible, the project would be implemented in stages so that resources can be diverted to other activities, such as additional training or procurement of service tools, if the proposed results are not achieved; and
- (c) The Government of Germany would provide appropriate monitoring throughout project implementation

	<b>Project Title</b>	<b>Project Funding (US\$)</b>	<b>Support Cost (US\$)</b>	<b>Implementing Agency</b>
(a)	Refrigerant management plan update: refrigeration and air conditioning sector	136,000	17,680	Germany

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