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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Forty-third Meeting  
Geneva, 5-9 July 2004

**PROJECT PROPOSALS: GUINEA-BISSAU**

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

Refrigeration

- Refrigerant management plan: monitoring of the activities in the RMP UNEP
- Refrigerant management plan: training for customs officials, police, coast guards, border guards and commercial inspectors UNEP
- Refrigerant management plan: training for refrigeration technicians UNEP
- Refrigerant management plan: technical assistance project for MAC and refrigeration service and end-user sub-sectors UNDP

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**PROJECT EVALUATION SHEET**  
**GUINEA-BISSAU**

SECTOR: Refrigeration ODS use in sector (2003): 29.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Titles:**

- (a) Refrigerant management plan: monitoring of the activities in the RMP
- (b) Refrigerant management plan: training for customs officials, police, coast guards, border guards and commercial inspectors
- (c) Refrigerant management plan: training for refrigeration technicians
- (d) Refrigerant management plan: technical assistance project for MAC and refrigeration service and end-user sub-sectors

Project Data	Refrigerant management plan			
	(a)	(b)	(c)	(d)
Enterprise consumption (ODP tonnes)				
Project impact (ODP tonnes)	n/a	n/a	n/a	8.8
Project duration (months)	36	12	24	24
Initial amount requested (US \$)	30,000	107,000	90,000	309,400
Final project cost (US \$):	20,000	70,000	70,000	282,900
Incremental capital cost (a)				271,500
Contingency cost (b)				11,400
Incremental operating cost (c)				
Total project cost (a+b+c)	20,000	70,000	70,000	282,900
Local ownership (%)	100	100	100	100
Export component (%)	0	0	0	0
<b>Amount requested (US \$)</b>	70,000	70,000	70,000	282,900
Cost effectiveness (US \$/kg.)	n/a	n/a	n/a	n/a
Counterpart funding confirmed?	n/a	n/a	n/a	n/a
National coordinating agency		Bureau Ozone		
Implementing agency		UNEP		UNDP

<b>Secretariat's Recommendations</b>				
Amount recommended (US \$)	20,000	70,000	70,000	282,900
Project impact (ODP tonnes)	n/a	n/a	n/a	8.8
Cost effectiveness (US \$/kg)	n/a	n/a	n/a	n/a
Implementing agency support cost (US \$)	2,600	9,100	9,100	21,217
Total cost to Multilateral Fund (US \$)	22,600	79,100	79,100	304,117

## PROJECT DESCRIPTION

### Background

1. The Government of Guinea-Bissau has submitted a refrigerant management plan (RMP) project proposal for the consideration of the Executive Committee at its 43<sup>rd</sup> Meeting. This represents the first CFC phase-out project that has been submitted by the Government of Guinea-Bissau for the consideration of the Executive Committee.

### ODS consumption

2. Based on a survey on the consumption of ODS conducted during the preparation of the Guinea-Bissau country programme/RMP, in 2003, the total CFC consumption was estimated at 29.7 ODP tonnes, used for servicing domestic refrigerators (14.0 ODP tonnes), commercial and industrial refrigeration equipment (13.1 ODP tonnes), and MAC units (2.6 ODP tonnes).

3. On the basis of the ODS consumption data gathered in 2003, the national Ozone Committee decided to use a trend of the economic growth to estimate ODS consumption for the period 1986-2002. Subsequently, the estimated level of ODS consumption was reported to the Ozone Secretariat. The baseline for compliance was then calculated at 26.3 ODP tonnes.

4. There are about 70 refrigeration service companies and 40 garages in Guinea-Bissau servicing all types of refrigeration equipment. In addition, some industrial enterprises (ice factories) have their own refrigeration servicing department. The majority of the service workshops are located in the Bissau area.

5. Information gathered during the preparation of the RMP project, indicates that the CFC consumption by 64 service workshops amounted to 12.9 ODP tonnes of CFCs/year; of this amount, about 4.4 ODP tonnes of CFCs were consumed by three ice factories.

6. The majority of the vehicles in Guinea-Bissau that are equipped with MAC units are based on CFC-12 refrigerant.

7. The refrigeration servicing sector employs approximately 470 technicians; an additional 180 technicians are working informally on their own. Both the formal and informal sectors employ a large number of untrained technicians. The main causes for servicing in refrigeration equipment are wear and tear (due to hot and humid climate and proximity of the sea), and compressor failure due to frequent power failure. Some technicians still tend to use CFC to refill HFC-based equipment sometimes due to high cost of the alternative refrigerant. Presently, virtually no CFC refrigerant is being recovered or recycled and it is a general practice to vent the remaining refrigerant charge before maintenance.

### Policy framework

8. ODS regulations were drafted during the preparation of the country programme/RMP project. The Ozone Unit considers that the draft regulations could be signed by the Cabinet by the time of the approval of the country programme in July 2004.

### Sub-projects in the RMP

9. The RMP consists of the following two training programmes:
- (a) Training programme for refrigeration service technicians (US \$90,000), to train 20 refrigeration technicians as trainers in good refrigeration practices and introduce non-CFC refrigerants. The trainers will train a total of 600 service technicians;
  - (b) Training of 520 customs officers (US \$60,000), to train customs officers on the import/export regulations and identification of ODS and ODS-based equipment. It also includes a request for ODS identification kits;
  - (c) Technical assistance programme for the refrigeration servicing and MAC sub-sectors (US \$309,400), to provide an incentive to industrial and commercial end-users to convert or retrofit their installations to non-CFC refrigerants, supply basic servicing tools and equipment, recovery and recycling machines for servicing workshops; conduct training workshops for technicians to train them in recovery and recycling of refrigerants; and
  - (d) Management of the activities proposed in the RMP project (US \$20,000).
10. The Guinea-Bissau RMP project was submitted with an official letter from the Government of Guinea-Bissau (signed by the State Secretary of Natural Resources, Energy and Industry) 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**

11. Based on the methodology used by the Government for estimating ODS consumption over the 1986-2002 period, Guinea-Bissau appears to be in non-compliance with the 1999 CFC freeze (i.e., the current consumption is 3.4 ODP tonnes above the baseline). The Secretariat also raised the issues of non-compliance by Guinea-Bissau in the context of the Guinea-Bissau country programme (UNEP/OzL.Pro/ExCom/43/46).

12. Through the implementation of the RMP project, the Government of Guinea-Bissau is proposing to reduce CFC consumption from 29.7 ODP tonnes to 13.4 ODP tonnes (i.e., 50 per cent of the baseline consumption) by 1 January 2005. In this regard, the Secretariat sought further clarification from UNDP and UNEP on how the Government would be able to phase out over 16.3 ODP tonnes of CFCs in less than six months, taking into consideration that so far no phase-out activities have been approved for Guinea-Bissau and the activities proposed in the RMP might commence only by the end of 2004 or early in 2005, once relevant agreements with UNEP and UNDP are signed. Subsequently, the Secretariat was advised that the national Ozone

Committee has prepared a draft ODS regulation to introduce a licensing system which, combined with the training activities proposed in the RMP, would drastically reduce the use of ODS in 2005. Furthermore, the country is a member of the sub-regional economically integrated organization of West Africa (UEMOA) which is preparing to pass regional regulations on ODS that will also reinforce efforts taken by the Ozone Unit of Guinea-Bissau.

13. UNEP also advised that, through the UNEP CAP, the memorandum of understanding between the Government of Guinea-Bissau and UNEP could be signed in 1 or 2 months (after the RMP is approved), and the training programmes proposed in the RMP could start by October 2004. The combination of the UNEP DTIE control measures and awareness-raising among the technicians would allow the country to reduce its need in refrigerants for the servicing sector by half.

14. The Secretariat discussed with UNEP and UNDP issues related with the calculation of the level of CFC consumption in the refrigeration servicing sector. Specifically, the amounts of CFCs used during servicing of domestic and commercial refrigeration systems; the level of leakage rates reported; the number of vehicles with a CFC-based MAC unit still in operation. Also the RMP project included a training programme under UNEP's implementation, to provide good servicing practices to the service technicians in the country (US \$90,000), in addition to a training programme (over US \$50,000) within the technical assistance programme. As presented in the project, the two training activities appear not to be coordinated and could be considered as double counting. Several items were found to be more expensive than those requested in similar already approved projects, and/or their eligibility was in doubt. All these issues were addressed and further documented by UNDP and UNEP, and cost of the subprojects were adjusted as follows:

- (a) Training programme for refrigeration service technicians (US \$70,000);
- (b) Training of 520 customs officers (US \$70,000);
- (c) Technical assistance programme for the refrigeration servicing and MAC sub-sectors (US \$282,900); and
- (d) Management of the activities proposed in the RMP project (US \$20,000).

## **RECOMMENDATIONS**

15. On the basis of commitment by the Government of Guinea-Bissau to achieve the 2005 and 2007 CFC phase-out limits through the implementation of the RMP project, the Fund Secretariat recommends blanket approval of the projects at the funding level indicated below, without prejudice to any decisions that might be taken by the Parties following consideration by the Implementation Committee of the consumption data submitted under Article 7 by the Government of Guinea-Bissau, on the understanding that:

- (a) The Government of Guinea-Bissau would have flexibility in utilizing the resources available under the technical assistance programme for the refrigeration

servicing and MAC sub-sectors to address specific needs that might arise during project implementation;

- (b) To the extent possible, the technical assistance programme for the refrigeration servicing and MAC sub-sectors 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 this 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 at least similar;
- (c) UNDP and UNEP would provide appropriate monitoring throughout project implementation; and
- (d) Approval of the projects would be without prejudice to the operation of the Montreal Protocol's mechanisms dealing with non-compliance issues.

	<b>Project Title</b>	<b>Project Funding (US\$)</b>	<b>Support Cost (US\$)</b>	<b>Implementing Agency</b>
(a)	Refrigerant management plan: monitoring of the activities	20,000	2,600	UNEP
(b)	Refrigerant management plan: training for customs officials, police, coast guards, border guards and commercial inspectors	70,000	9,100	UNEP
(c)	Refrigerant management plan: training for refrigeration technicians	70,000	9,100	UNEP
(d)	Refrigerant management plan: technical assistance project for the refrigeration servicing and MAC sub-sectors	282,900	21,217	UNDP

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