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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty-fifth Meeting
Montreal, 4-8 April 2005

PROJECT PROPOSAL: BOTSWANA

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

Refrigeration

- Refrigerant management plan update Germany

**PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT
BOTSWANA**

PROJECT TITLES**BILATERAL/IMPLEMENTING AGENCY**

(a) Refrigerant management plan update	Germany
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NATIONAL CO-ORDINATING AGENCY	National Ozone Office, Botswana Meteorological Services
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LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT**A: ARTICLE-7 DATA (ODP tonnes, 2004, as of February 2005)**

Annex A, Group I CFCs	5.1		
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B: COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes, 2003, as of October 2004)

ODS Name	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity
CFCs	Refrigeration servicing 5.1			

CFC consumption remaining eligible for funding (ODP tonnes)	11.30
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Current Year Draft Business Plan Allocations		Funding US \$	Phase-out ODP tonnes
(a)		73,000	1.0

Project Title:	(a)
ODS use at enterprise (ODP tonnes):	5.1
ODS to be phased out (ODP tonnes):	*
ODS to be phased in (ODP tonnes):	n/a
Project duration (months):	36
Initial amount requested (US \$):	64,295
Final project cost:	
Incremental Capital Cost (US \$)	
Contingency (10%) (US \$)	
Incremental Operating Cost (US \$)	
Total Project Cost (US \$)	64,295
Local ownership (%):	100
Export component (%):	0
Requested grant (US \$):	64,295
Cost-effectiveness (US \$/kg):	n/a
Implementing agency support cost (US \$):	8,358
Total cost of project to Multilateral Fund (US \$):	72,653
Status of counterpart funding (Y/N):	n/a
Project monitoring milestones included (Y/N):	Y

SECRETARIAT'S RECOMMENDATION	Individual consideration
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* To be in compliance with the 2005 and 2007 Montreal Protocol limits (CFC baseline is 6.8 ODP tonnes)

PROJECT DESCRIPTION

1. In 2004, the total CFC consumption in Botswana was estimated at 5.1 ODP tonnes used to service refrigeration systems. The CFC baseline for Botswana is 6.8 ODP tonnes.
2. During the survey conducted to prepare the RMP update for Botswana, it was found that Botswana has not been able to effectively control imports of ODS. As a consequence, in 2003 CFC consumption was higher (5.1 ODP tonnes) than consumption in 2002 (3.6 ODP tonnes). It appears that, in the last few years, some of the CFCs imported into the country have been re-exported to neighbouring countries.
3. The survey also found that most CFC consumption was for servicing domestic refrigerators and freezers (about 230,000 units), commercial and industrial refrigeration systems (4,500 systems) and air-conditioning systems in residences and public buildings (48,000 units).
4. The refrigeration servicing sector consists of 200 to 300 small- and medium-sized workshops, from “one-man” shops to service companies consisting of 10 or more technicians. The training and know-how among the technicians also varies. There are technicians who have attended formal training programmes at schools, while others have only learnt their skills on the job. Currently, a small number of technicians, mainly from the informal sector, were found to be still using CFC-11 to flush refrigeration equipment during servicing.
5. The current prices of refrigerants per kg are: US \$11.30 for CFC-12, US \$5.31 for HFC-134a and US \$12.70 for HCFC-22.

ODS regulations

6. The approval of ODS regulations has been delayed since the Government was not certain which department would be responsible for their overall implementation, give the wide range of areas touched by ODS (environment, health, agriculture, trade). Recently, it was decided that ODS regulations would be included in a new Chemicals Act currently under development by the Department of Environmental Health. There is concern, however, that a delay in the approval of the Chemicals Act could have an impact on Botswana’s ability to meet its ODS phase-out obligations.

Refrigerant management plan (RMP)

7. The Botswana RMP was approved at the 26th Meeting of the Executive Committee as a German bilateral project. 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, training of refrigeration servicing technicians and training of customs officers.
8. The training of customs officers was held as part of the regional training programme; 4 customs officers and the Ozone Officer from Botswana were trained as trainers and an additional 40 officers have also been trained. Currently, ODS training is part of the regular training curriculum for customs officers.

9. Three refrigeration technicians were trained in Germany as trainers in good refrigeration servicing practices. The training centre in Botswana received the necessary tools and equipment to provide training courses to other refrigeration technicians. In August 2004, the trainers conducted a training course for 39 technicians as part of the RMP activity. Although the initial training programmes were delayed, the trainers claim that they have already trained about 100 technicians. It is also reported that the trainers have incorporated “good servicing practices” into the curriculum of the Technical College, from which an average of 20 students graduate every year.

10. Under the recovery and recycling sub-project (approved at the 26th Meeting of the Executive Committee), training workshops on recovery and recycling operations were conducted in which 21 technicians were trained. Ten recovery units and three recycling machines were only distributed to servicing workshops in 2004. The amount of CFC-12 recovered is not yet known.

RMP update

11. The RMP update proposal, as submitted, includes a request for assistance with finalization and approval of the ODS regulation; complementary training programmes for customs officers and refrigeration servicing technicians; and assistance for monitoring implementation of the RMP update. The total cost of the project is US \$64,295.

12. The Botswana RMP update project was submitted with an official letter from the Government of Botswana, signed by the Acting Director of the Botswana Meteorological Services, stating the Government's commitment to achieve, without further requests 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

13. The Secretariat 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.

Issues related to compliance by Botswana

14. At their 16th Meeting, the Parties to the Montreal Protocol noted that Botswana (among other countries) had still not reported data for 2003, and therefore Botswana (among other countries) was in non-compliance with its data reporting obligations under the Montreal Protocol. Furthermore, the Parties urged Botswana (among other countries) to work closely with the implementing agencies to report the required data to the Ozone Secretariat as a matter of urgency, and requested the Implementation Committee to review the situation of Botswana (among other countries) at its next meeting (Decision XVI/17 on data and information provided by the Parties in accordance with Article 7 of the Montreal Protocol).

15. In this regard, the Secretariat suggested that the Government of Botswana sends an official communication to the Ozone Secretariat (if this has not already been done) addressing the issues raised by the Parties to the Montreal Protocol, and reporting the relevant ODS consumption according to the data collected during the preparation of the RMP update. Subsequently, the Fund Secretariat received a copy of the letter sent on 16 February 2005 by the Government of Botswana to the Ozone Secretariat regarding its 2003 ODS consumption.

Issues related to CFC consumption

16. It is reported in the proposal that the volume of CFCs entering the country has increased since 2003; part of this amount is used locally, while the other part is re-exported to neighbouring countries. The proposal also states that many items of CFC-based refrigeration equipment are currently being imported into Botswana. In this regard, the Secretariat sought an explanation whether or not the 5.1 ODP tonnes reported as consumption in 2004 included any amount that had been re-exported to other countries. The Secretariat also sought additional information on the refrigeration systems being imported into the country.

17. Subsequently, the Government of Germany indicated that, as in almost all countries, ODS imports are more strictly controlled than exports. The source of information used by the Government of Botswana to report its 2003 CFC consumption to the Ozone Secretariat was the import records, which were also verified through discussions with the refrigerant importers directly. However, the refrigeration service industry believes that not all of the 5.1 ODP tonnes of CFCs imported into the country could have been used domestically, and part of this consumption was re-exported to neighbouring countries. However, due to the lack of regulations and limited control measures for exports, it is not possible to determine the amount of CFCs re-exported.

18. The Government of Germany also pointed out that the increase in CFC consumption in the recent past is associated with the increase in imports of second-hand refrigeration equipment and vehicles fitted with a CFC-based MAC unit (mainly from South Africa). Preliminary data collected for 2004 (prior to the end of the year) suggests a decrease in CFC consumption compared to the amount consumed in 2003. It is reported that between 20,000 and 25,000 refrigeration systems are imported annually into Botswana. However, the amount of CFC-based and non-CFC-based equipment is not known.

Recovery and recycling programme

19. The Secretariat sought additional information on the current status of the 10 recovery units and 3 recycling machines that had been distributed under the original recovery and recycling programme. The Secretariat was informed that the equipment was only distributed in 2004. In April and May 2005, the Ozone Unit will monitor the implementation of this programme to assess the level of utilization of the equipment and calculate the amount of recovered and recycled refrigerants.

20. The Secretariat noted that one of the activities proposed in the RMP update is the training of refrigeration technicians to retrofit refrigeration equipment. Taking into consideration the limited amount of equipment that could be technically and economically viable for retrofit and

the wide range in the current prices of CFC and non-CFC refrigerants, the long-term sustainability of any retrofit programme at this time is doubtful. In this regard, the Government of Germany pointed out that the training programme for service technicians was considered to be an important activity to enhance and harmonize technicians' skills and know-how. The training is not only in retrofitting, but also in good servicing practices. It will furthermore provide basic servicing tools to small workshops.

21. Based on the results achieved so far 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, the Secretariat suggested that the Government of Germany examine the merits of combining all of the activities proposed under one overall budget of US \$105,000. This would be earmarked to provide a mix of training and equipment/servicing 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 needs identified in the course of project implementation. Subsequently, the Government of Germany agreed to adopt this approach.

Proposed activities in the RMP update

22. Based on the RMP update proposal, the Secretariat noted that the following issues required the immediate attention of the Government of Botswana to achieve ODS phase-out according to the Protocol's schedule:

- (a) Approval, implementation and enforcement of ODS regulations including an operational ODS licensing system (to control imports of ODS and CFC-based refrigeration equipment); and
- (b) Introduction of non-CFC "drop-in" refrigerants in order to avoid premature retirement of CFC-based refrigeration systems.

23. Under the above circumstances, the Secretariat suggested that the Government of Germany examine the merits of providing all necessary support (technical and financial) to the Government of Botswana to enable it to put in place and enforce a licensing system for controlling imports of all ODS and CFC-based equipment. This would include establishing a procedure favouring the importation of non-CFC drop-in refrigerants, including training of refrigeration service technicians in good servicing practices including the use of drop-in refrigerants (it appears that the economic conditions prevailing in the country would allow for the introduction of non-CFC refrigerants, since the current price of CFC-12 (US \$11.30/kg) is more than double the price of HFC-134a (US \$5.31/kg)). Without an operational licensing system and a mechanism to facilitate the introduction of drop-in refrigerants, Botswana may not be able to achieve the 2005 and 2007 CFC consumption levels.

24. Bearing in mind that UNEP is the agency implementing the institutional strengthening project, and taking into account the Compliance Assistance Programme under UNEP, the Secretariat also suggested that the Government of Germany coordinate with UNEP CAP on

potential activities that could be implemented jointly to assist the Government of Botswana in introducing relevant ODS legislation.

25. Subsequently, the Government of Germany indicated that the Ozone Unit has had a positive response from the Department of Customs and Excise and considers that training of customs officers and refrigeration service technicians is a priority in order to control the imports of all CFCs and CFC-based refrigeration equipment. Furthermore, the regulations are viewed as an important requirement to phase out CFCs in Botswana; therefore, all effort will be made to approve and enforce the ODS regulations.

RECOMMENDATION

26. In light of Decision XVI/17 and the subsequent 2003 ODS consumption report submitted by the Government of Botswana to the Ozone Secretariat, the Executive Committee may wish to consider approval of the RMP update project for Botswana at a total cost of US \$64,295, plus agency support cost of US \$8,358 for the Government of Germany, on the understanding that the approval was without prejudice to the Montreal Protocol's mechanism dealing with non-compliance and that the Government of Germany would provide appropriate monitoring throughout project implementation.
