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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 PROPOSAL: MAURITIUS

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

Phase out

- Implementation of an ODS terminal phase out management plan Germany

**PROJECT EVALUATION SHEET
MAURITIUS**

SECTOR: Phase-Out ODS use in sector 2002: 7.3 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Title:

(a) Implementation of an ODS terminal phase out management plan

Project Data	TPMP
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	*6.0
Project duration (months)	36
Initial amount requested (US \$)	110,000
Final project cost (US \$):	
Incremental capital cost (a)	
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	212,030
Local ownership (%)	100%
Export component (%)	0%
Amount requested for first tranche (US \$)	110,000
Cost effectiveness (US \$/kg.)	
Counterpart funding confirmed?	
National coordinating agency	National Ozone Unit
Implementing agency	Germany

Secretariat's Recommendations	
Amount recommended (US \$)	
Project impact (ODP tonnes)	
Cost effectiveness (US \$/kg)	
Implementing agency support cost (US \$)	
Total cost to Multilateral Fund (US \$)	

* The total impact of the plan is 6.0 ODP tonnes. The impact of the first tranche is 2 ODP tonnes.

PROJECT DESCRIPTION

1. Since the early 1990s, the Government of Mauritius has implemented several ODS phase out activities which has lead to a reduction of controlled substances from 70 ODP tonnes in 1992 to 7.3 ODP tonnes in 2002. The only ODS currently used in Mauritius is CFC-12, used to service refrigeration systems. The CFC baseline for compliance is 34.1 ODP tonnes.

Refrigeration servicing sector

2. It is estimated that there are about 160,000 CFC-based domestic refrigerators presently in use in Mauritius, of which 10,000 are serviced each year. There is a tendency of the population to replace refrigerators with non-CFC refrigerant and, in some cases, to retrofit the systems to HFC-134a refrigerant, albeit the cost is presently high. The larger end users (cooling and chilling plants, cold storages and supermarkets) and the MAC sector are gradually phasing out the use of ODSs. It is expected that there will not be large demands for CFCs from these sectors in the years to come.

3. Refrigeration systems based on R-502 are no longer being imported. Most split air conditioners operate with HCFC-22 refrigerant. Importers are being encouraged to shift to non-CFC based equipment. Only some centralized air conditioning systems in major Government buildings still operate with CFC-refrigerants.

4. The importers of refrigeration equipment have their own service workshops; in addition, there are about 150 small and medium size workshops using 20 to 50 kg of CFC-12 annually, and employing 300 technicians.

5. The current prices of refrigerants per kg are: US \$10.15 for CFC-12, US \$6.29 for HFC-134a and US \$2.40 for HCFC-22.

Solvents

6. A small amount of CTC and TCA is currently used mainly in laboratory applications and in dry cleaning. The terminal phase out plan will address this sector in order to ensure a complete phase out.

Methyl bromide

7. The major user of methyl bromide (MB) in Mauritius is the flour mill. For some years in the past, the mill used phosphine as a fumigant but decided to revert back to MB since phosphine was affecting electronic components of the mill.

Legislation

8. The control of CFCs imports (namely CFC-11 and CFC-12), HCFC-22 and TCA has been considered since 1991 under the Supplies Control Act of 1974. In 1998, this Act was

replaced by the Consumer Protection (Price and Supplies Control), which included the following regulations regarding ODSs:

- (a) Control of imports of all CFCs, halons, HCFC-22 and TCA. These substances require an import permit from the Import Division of the Ministry of Commerce under the recommendation of the Ozone Unit;
- (b) Import ban on ODS-based equipment including MAC units (new and used); and
- (c) Ban of CFC-based aerosol products except pharmaceutical products.

9. In the 2001-2002 budget, upon a recommendation by the Ministry of Environment, a 40 per cent tax has been imposed on ODSs with a view to further decrease imports and encourage the use of non-ODS alternatives.

Status of implementation of the RMP

10. Since 1999, the Government of Germany (bilateral cooperation) has assisted the Government of Mauritius in the implementation of the refrigerant management plan (RMP), which included: initiation of legislative and policy measures including economic instruments; training in good refrigeration services practices; training of customs officials; and recovery and recycling of CFCs.

11. Trainers from the Vocational Training Institute and from the service industry have been trained in good service practices in Germany. These trainers have trained 60 technicians of small service workshops and importing firms, who provide after sales service. The trainers have continued providing training through regular courses.

12. Customs officers were trained in a workshop held in 2000; additional training was provided to two customs trainers in a regional workshop held in Seychelles. Also, three one-day workshops were organised by the Ozone Unit to raise awareness on ozone-related issues among refrigerant workshop managers, service managers, policy makers, customs officers and other stakeholders.

13. The recovery and recycling programme has also been implemented; a 10-week evening course was held whereby technicians were trained on how to use and repair the recovery systems provided, 35 recovery units have been distributed. Since the price of CFC-12 has increased in the last year, the service industry has opted for retrofits to non-CFC refrigerants (where possible) or complete replacement especially for domestic refrigerators. Recovery and recycling units have been useful in servicing large commercial refrigeration and air conditioning units.

14. The recovery and recycling project also included a demonstration activity (to serve as a model for the rest of the industry) on technical know-how for retrofitting a CFC-based cold store to non-CFC refrigerants. Based on the experience gained and the success of this demonstration, the Agricultural Marketing Board has decided to retrofit the rest of the cold rooms and commercial refrigeration equipment at a cost of over US \$1 million.

Additional activities proposed

15. The Government of Mauritius has submitted an ODS terminal phase out management plan (TPMP) to completely phase out the consumption of ODS by January 2007.

16. The TPMP includes technical assistance for policy measures to reduce and eliminate imports of ODS; additional training for custom officers and refrigeration servicing technicians; transfer of technology for retrofitting some CFC-based systems; a training workshop for solvent users; and an incentive programme to assist these users to convert to the alternatives.

17. The cost for implementation of the TPMP amounts to US \$995,000; of this amount, the Government of Mauritius is requesting US \$212,030 from the Multilateral Fund.

SECRETARIAT'S COMMENTS AND RECOMMENDATION**COMMENTS**

18. The Secretariat drew the attention of the Government of Germany to relevant decisions taken by the Executive Committee related to the conversion of RMP updates to TPMPs, in particular Decision 40/21 through which the Executive Committee, *inter alia*, urged all Article 5 Parties concerned to ensure that all the provisions of Decision 38/64 were applied before submitting projects as a TPMP. Regarding the Executive Committee's criteria for project funding to accelerate phase out and/or to maintain momentum (Decision 40/7), the Secretariat noted that of the six criteria listed under this decision, criteria 4 and 5 (i.e., countries for which project preparation has been approved and utilized; and countries with a low level of residual consumption on a case-by-case basis) could be applied to Mauritius.

19. In this regard, the Secretariat was informed that the Government of Mauritius has decided to achieve complete phase out of ODSs in advance of the 2010 phase out date. During the preparation of the project proposal, the Government was made aware of all the obligations and requirements the country would have to meet for a TPMP.

20. The Secretariat sought a clarification for the additional training for refrigeration servicing technicians proposed as part of the TPMP which includes training on hydrocarbon refrigerant. The Government of Germany indicated that Mauritius has a national environmental policy which requires the country to aim towards not only complete phase out of ODS use but also to limit the use of technologies which have a global warming potential. Given that the international community and large companies are promoting hydrocarbon refrigerants as the long term solution, Mauritius would like to have its industry trained in the use of these refrigerants. Furthermore, Mauritius has decided to retrofit, wherever possible, the existing CFC and HCFC-based equipment to hydrocarbons and to complete phase out of HCFCs by 2020 if possible.

21. The TPMP includes requests for development of additional policies and additional training for customs officers and refrigeration technicians (US \$85,000). Bearing in mind the ODS regulations already in place and training programmes already implemented, the Secretariat

suggested to utilize this same level of funding to better equip registered workshops by providing basic tools that could enhance the management of refrigerants. The Secretariat was informed that the activities in the TPMP were selected based on discussions between the Government of Mauritius and major stakeholders (industry, customs department and the Ozone Unit). However, the Ozone Unit would discuss the Secretariat's suggestion with the industry.

22. The Secretariat and the Government of Germany also discussed and agreed on the overall cost of the TPMP, in light of Decision 31/48 and other TPMP projects for LVC countries so far approved by the Executive Committee.

23. The agreement between the Government of Mauritius and the Executive Committee for the implementation of the TPMP will be finalized prior to the 41st meeting.

RECOMMENDATION

24. Pursuant to Decision 38/64 (funding of terminal CFC phase-out plans for LVC countries might be considered on a case by case basis), the TPMP for Mauritius is submitted for individual consideration. The Executive Committee may wish to consider the project taking into consideration that all policy and cost issues have been resolved between the Government of Germany and the Fund Secretariat.
