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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-fourth Meeting
Montreal, 18-20 July 2001

PROJECT PROPOSALS: OMAN

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

Refrigeration:

- Implementation of the RMP: monitoring and evaluation of project results in particular the recovery and recycling UNIDO
- Implementation of the RMP: customs training UNIDO
- Implementation of the RMP: recovery and recycling project UNIDO
- Implementation of the RMP: training of trainers in good refrigerant management practices UNIDO

**PROJECT EVALUATION SHEET
OMAN**

SECTOR: Refrigeration ODS use in sector (1999): 217 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Titles:

- (a) Implementation of the RMP: monitoring and evaluation of project results in particular the recovery and recycling
- (b) Implementation of the RMP: customs training
- (c) Implementation of the RMP: recovery and recycling project
- (d) Implementation of the RMP: training of trainers in good refrigerant management practices

Project Data	Refrigerant management plan			
	Monitoring	Customs training	R&R	Training of trainers
Enterprise consumption (ODP tonnes)			259.64	
Project impact (ODP tonnes)			13.00	
Project duration (months)	36	24	24	24
Initial amount requested (US \$)	20,000	31,800	166,000	207,700
Final project cost (US \$):				
Incremental capital cost (a)				
Contingency cost (b)				
Incremental operating cost (c)				
Total project cost (a+b+c)		44,000	230,000	188,000
Local ownership (%)	100%	100%	100%	100%
Export component (%)	0%	0%	0%	0%
Amount requested (US \$)	20,000	42,000	230,000	178,000
Cost effectiveness (US \$/kg.)			17.69	
Counterpart funding confirmed?				
National coordinating agency	National Ozone Unit			
Implementing agency	UNIDO			

<i>Secretariat's Recommendations</i>				
Amount recommended (US \$)	20,000	42,000	230,000	178,000
Project impact (ODP tonnes)			13.00	
Cost effectiveness (US \$/kg)			17.69	
Implementing agency support cost (US \$)	2,600	5,460	29,900	23,140
Total cost to Multilateral Fund (US \$)	22,600	47,460	259,900	201,140

PROJECT DESCRIPTION

Implementation of the RMP: monitoring and evaluation of project results in particular the recovery and recycling

Implementation of the RMP: customs training

Implementation of the RMP: recovery and recycling project

Implementation of the RMP: training of trainers in good refrigerant management practices

1. Through a survey on the refrigeration conducted in 2000, the total CFC consumption in the refrigeration servicing sector in the country was estimated at 217 ODP tonnes for servicing domestic refrigerators (53 tonnes), commercial and industrial refrigeration equipment (14 tonnes) and MAC units (150 tonnes).

2. This equipment is serviced by 2,000 technicians. Industrial refrigeration equipment and large service organisations have well trained technicians while domestic refrigerators and small commercial equipment are serviced by technicians working in small workshops. There are 4 vocational training centres and 5 technical colleges which provide courses in refrigeration and air-conditioning.

3. All refrigeration and air conditioning systems are imported into the country. Non-CFC systems are already in operation (HCFC-22, HFC-134a, R-404A and R-407C). Since 1995, automobiles equipped with a MAC unit are based on HFC-134a refrigerant (Korean models switched to HFC-134a MAC units in 1998). The service centres of new car dealerships are equipped with recovery and recycling systems for both CFC-12 and HFC-134a. In small service workshops CFC-12 is being used (mainly in the MAC sector) as a top-up refrigerant for HFC-134a systems, since it is cheaper (the price of CFC-12 is US \$2.05/kg and the price of HFC-134a is US \$6.08/kg). This is the reason for the large consumption of CFCs in the refrigeration servicing sector.

4. The Government of Oman is proposing the following measures to freeze and eventually phase-out the use of ODSs: restrict expansion of central air-conditioned buildings using ODSs, unless there is a plan to convert to non-ODS refrigerants; enforce a licensing system for ODSs; consider establishment of import quotas for ODSs and ban imports of ODS-based equipment; assess the feasibility of implementing legislation making it illegal to use CFC-12 as a top-up refrigerant for HFC-134a MAC systems (the practical aspects of enforcing such a legislation appears to be difficult at the moment); and implement a public awareness programme for MAC users.

5. The RMP project for Oman includes a "train the trainers" programme in good service practice for refrigeration technicians, a training programme for customs and staff of the Ozone Unit in monitoring and control of ODS, a refrigerant recovery and recycling programme and additional activities to be determined after monitoring and assessing the impact of the activities included in the RMP. The total cost of the RMP project was estimated at US \$608,250.

6. The Oman RMP project was submitted with an official letter from the Director of Co-ordination and Follow-up of the Ministry of Regional Municipalities, Environment and

Water Resources, stating the Government's commitment to achieve the 50 per cent reduction in consumption of CFCs by 2005 and 85 per cent reduction by 2007, the current and expected future CFC consumption of all sub-sectors have been carefully assessed, and that it will review in 2005 whether or not further assistance would be needed for the post 2007 period over and above the funding level of the RMP.

7. The Ozone Unit will co-ordinate all the sub-projects included in the RMP project.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

8. The Secretariat requested further clarification on the statement by the Government that it was not feasible to enforce a legislation making illegal the use of CFC-12 in HFC-134a-based MAC units, taking into consideration that more than 70 per cent of the total CFC in the refrigeration servicing sector is to service MAC systems. Subsequently, UNIDO informed the Secretariat that enforcing any legislation, which makes it illegal to use CFC-12 in an HFC-134a MAC units, requires extensive public education and awareness. The Government of Oman is against using fiscal measures since it would not be practical to implement them, due to the proximity of free ports to the country. However, the Government is aware that stopping the use of CFC-12 in HFC-134a systems will lead to a large reduction in CFC consumption, making it possible to meet the 2005 and 2007 compliance requirements. In this regard, the Ozone Office will give priority to this issue; the curriculum in the training of technicians project will review the effects of undertaking such a practice and the need to stop it immediately; and a licensing scheme for the supply of CFC-12 will be implemented.

9. The Fund Secretariat and UNIDO discussed the level of funding for the Oman RMP project in light of Decision 31/48 (i.e., the level of funding for a new RMP could be increased up to 50 per cent of the total project cost compared to the level of funding typically approved for other RMPs). Based on the level of funding approved for a number of RMPs projects in Article 5 countries, and taking into consideration the large amounts of CFC-12 used to service HFC-134a based MAC units, the total funding level for the Oman RMP was agreed at US \$470,000, including a sub-project for the monitoring implementation of the RMP.

RECOMMENDATIONS

10. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below:

(a)	Implementation of the RMP: monitoring and evaluation of project results in particular the recovery and recycling	20,000	2,600	UNIDO
(b)	Implementation of the RMP: customs training	42,000	5,460	UNIDO
(c)	Implementation of the RMP: recovery and recycling project	230,000	29,900	UNIDO
(d)	Implementation of the RMP: training of trainers in good refrigerant management practices	178,000	23,140	UNIDO

11. The Executive Committee may also wish to request UNIDO not to disburse the approved funds for the recovery and recycling project until the price of CFC-12 is at least at US \$4.00/kg.
