



**United Nations  
Environment  
Programme**



Distr.  
Limited

UNEP/OzL.Pro/ExCom/29/27  
29 October 1999

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Twenty-ninth Meeting  
Beijing, 24-26 November 1999

**PROJECT PROPOSALS: BANGLADESH**

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

Refrigeration

- Refrigerant management plan: monitoring of the activities included in the refrigerant management plan UNDP
- Refrigerant management plan: national recovery and recycling project UNDP
- Refrigerant management plan: custom training UNEP
- Refrigerant management plan: Phase I - training of trainers in good refrigerant management practices, Phase II - national technicians training project UNEP

**PROJECT EVALUATION SHEET  
BANGLADESH**

SECTOR: Refrigeration ODS use in sector (199): ODP tonnes

Sub-sector cost-effectiveness thresholds: N/A

**Project Titles:**

- (a) Refrigerant management plan: monitoring of the activities included in the refrigerant management plan
- (b) Refrigerant management plan: national recovery and recycling project
- (c) Refrigerant management plan: custom training
- (d) Refrigerant management plan: Phase I - training of trainers in good refrigerant management practices, Phase II - national technicians training project

Project Data	Refrigerant management plan			
Enterprise consumption (ODP tonnes)				
Project impact (ODP tonnes)				
Project duration (months)	36	36	24	24
Initial amount requested (US \$)	15,455	455,000	30,000	108,000
Final project cost (US \$):				
Incremental capital cost (a)	14,050			
Contingency cost (b)	1,405			
Incremental operating cost (c)				
Total project cost (a+b+c)	15,455	298,270	22,500	88,000
Local ownership (%)	100%	100%	100%	100%
Export component (%)	0%	0%	0%	0%
<b>Amount requested (US \$)</b>	15,455	298,270	22,500	88,000
Cost effectiveness (US \$/kg.)				
Counterpart funding confirmed?				
National coordinating agency	Ministry of the Environment and Forest			
Implementing agency	UNDP	UNDP	UNEP	UNEP

<i>Secretariat's Recommendations</i>				
Amount recommended (US \$)	15,455	298,270	22,500	88,000
Project impact (ODP tonnes)				
Cost effectiveness (US \$/kg)				
Implementing agency support cost (US \$)	2,009	38,775	2,925	14,040
Total cost to Multilateral Fund (US \$)	17,464	337,045	25,425	102,040

## PROJECT DESCRIPTION

### Refrigerant Management Plan: Bangladesh

1. In 1997, the total ODS consumption in the refrigeration sector in the country was estimated at 268 ODP tonnes for servicing domestic and commercial refrigeration equipment and MAC units. The Ozone Cell has been conducting surveys since 1996 to identify all CFC consumers in the refrigeration sector. In total, 985 consumers have been identified, including industrial and commercial users and 393 service workshops of different sizes. There are over 4,000 refrigeration service technicians in the country and their skill level varies considerably. Based on a recent survey, there are about 3 million domestic refrigerators and freezers, 1,200 ice-making and ice cream factories, several other commercial and industrial refrigeration systems, and 15,000 vehicles with MAC units using CFC refrigerant.
2. The Government of Bangladesh is currently considering the enactment of an ODS phase out Act. In a meeting held in October 1999 by the Ministries of Environment and Commerce, the National Board of Revenue and Petro Bangladesh, it was decided to introduce a ban on imports of CFC-based refrigeration equipment and to introduce an export/import licensing system from January 2000. In addition, the Ozone Unit has decided to introduce a certification programme for service technicians.
3. In early 2000, the conversion of an aerosol plant from CFC-12 to hydrocarbon propellant will be completed, with a total phase out of 560 tonnes of CFCs, leaving the refrigeration servicing sector as the major consumer of ODSs in the country.
4. The RMP identified two basic training programmes: (i) training for customs officers to ensure the proper enforcement of the anticipated ban on imports of CFC based equipment and to enforce import/export regulations in Bangladesh with appropriate vigilance on entry of ODS and ODS using equipment into the country, together with a database of ODS importers/exporters for accurate data on imports and exports; and (ii) a "train the trainers" programme for refrigeration technicians in good management practices, aimed at improving service practices to prevent release of CFCs into the atmosphere and thus making it possible for refrigeration equipment to operate to the end of their useful life.
5. The RMP also includes a subproject for the establishment of a recovery and recycling network comprising 45 recovery units (including units to be used in the training programme on good servicing practices) and 9 recycling centres for servicing commercial and industrial refrigeration equipment, at a total cost of US \$298,000. This activity also provides for 6 one-day workshops for service technicians on practical demonstrations on recovery and recycling equipment.
6. Implementation of these projects will lead to recovery and recycling of 12.6 tonnes of CFC each year. This amount would be additional to the amount of refrigerant which should be saved from the teaching of good service and maintenance practices at the training seminars.
7. Bangladesh's Ozone Unit will be responsible for the monitoring, co-ordination and

implementation of proposed phase-out activities in the RMP. It will keep records of the amounts recovered; the quantities of recycled refrigerant stored at the recycling centres and monitor the quality of recycled gas as well as the price structure. The project also includes a request in the amount of US \$15,455 for engaging a local consultant to collect data from all the service workshops that are included in the recovery and recycling project.

## **SECRETARIAT'S COMMENTS AND RECOMMENDATIONS**

### **COMMENTS**

1. UNEP and the Secretariat discussed the level of funding requested for the training programmes. The costs associated with logistical arrangements for the workshops and the request for project assistance, monitoring and evaluation were reduced accordingly.
2. The Secretariat and the implementing agencies (UNDP and UNEP) also discussed the size of the recovery and recycling programme in relation to CFC consumption level and its sectoral distribution. UNEP and UNDP agreed to adjust the level of funding accordingly.

### **RECOMMENDATION**

1. The Fund Secretariat recommends blanket approval of the projects at the funding level indicated below:

	<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 included in the refrigerant management plan	15,455	2,009	UNDP
(b)	Refrigerant management plan: national recovery and recycling project	298,270	38,775	UNDP
(c)	Refrigerant management plan: custom training	22,500	2,925	UNEP
(d)	Refrigerant management plan: Phase I - training of trainers in good refrigerant management practices, Phase II - national technicians training project	88,000	14,040	UNEP