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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Eighteenth Meeting
Vienna, 22-24 November 1995

PROJECT PROPOSAL: GUATEMALA

This document includes the Comments and Recommendations from the Fund Secretariat on the following project:

- Implementation of a National Programme for Recovery and Recycling of Refrigerant

UNDP

PROJECT EVALUATION SHEET GUATEMALA

SECTOR: **REFRIGERATION** ODS use in sector (1991): 224.3 ODP tonnes
 CFC RECOVERY AND RECYCLING

Project Title:

Recovery and recycling of CFC-12 in maintenance workshops for industrial refrigeration equipment

Project Data	Rcovery and recycling*
ODS hase-out (ODP tonnes)	26.2
Proposed project duration (Yrs)	1.5
Incremental capital cost (US \$)	256,780
Contingency (%)	10
Incremental operational cost (US \$)	-
Total project cost (US \$)	256,780
Local ownership (%)	-
Export component (%)	-
Amount requested (US \$) {Original	256,780
{Revised	256,780
Cost effectiveness (US \$/kg)	9.80
National Coordinating Agency	Comisión Nacional de Medio Ambiente, Comité Coordinador Ozono
Implementing Agency	UNDP
Technical review completed?	Yes

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	256,780
Project impact (ODP tonnes)	26.2
Cost effectiveness (US \$/kg)	9.80
Implementing Agency support cost (US\$)	33,381
Total cost to Multilateral Fund	290,161

* New proposal to the 18th Meeting

PROJECT DESCRIPTION

1. The project will implement a comprehensive national programme for recovery and recycling of refrigerants in the refrigeration and air conditioning sectors, excluding the mobile air conditioning sub-sector. This programme is part of an overall ODS phase out strategy for the refrigeration sector.
2. The first priority in this programme is to halt CFC discharge into the atmosphere by repairing leaks and controlling unnecessary emissions from refrigeration equipment, followed by CFC recovery from existing installations during maintenance and prior to retrofits or dismantlement.
3. A recovery and recycling nation-wide network comprised of 108 recovery units and 4 recycling centres will be established, at a cost of US \$230,780. In total, 26.6 tonnes of CFC will be recovered and recycled each year.
4. Four training workshops for service technicians of refrigeration and air conditioning equipment, at a cost of US \$19,000, are envisioned which will include a practical demonstration on recovery and recycling equipment; good service practices and safety in the handling of refrigerants during installation, servicing, retrofitting and dismantlement of refrigeration and/or air conditioning equipment; detection of CFC leaks and prevention of emissions, and recovery and recycling of refrigerants.
5. To ensure the success of the programme, the Government will introduce a monitoring system to check the amount of CFC being recovered and recycled by each piece of recovery equipment and assure the quality of the recycled refrigerant. The cost of the monitoring system is US \$7,000.

SECRETARIAT'S RECOMMENDATION

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

Project	Project Cost US \$	Support Cost US \$	Implementing Agency
Implementation of a National Programme for Recovery and Recycling of Refrigerant	256,780	\$33,381	UNDP

