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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: MOZAMBIQUE

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

- Phasing Out of CFCS at Industria de Aplicacoes Technico-Domesticas (Indatec)

UNIDO

PROJECT EVALUATION SHEET MOZAMBIQUE

SECTOR: Refrigeration ODS use in sector (1994): 324 ODP tonnes

Sub-sector cost-effectiveness threshold: Domestic refrigeration US \$13.76/kg

Project Title: Investment project for phasing out of CFCs at Indatec-Industria*

Project Data	Domestic Refrigeration
	Indatec-Industria
ODS phase-out (ODP tonnes)	41
Proposed project duration (Yrs)	1.3
Incremental capital cost (US\$)	581,515
Contingency (%)	10
Incremental operational cost (US\$)	0
Total project cost (US\$)	581,515
Local ownership (%)	100
Export component (%)	0
Amount requested (US\$) { Original	712,635
{ Revised	581,515
Cost effectiveness (US\$/kg)	9.2
National Coordinating Agency	NEC
Implementing Agency	UNIDO
Technical review completed?	Yes

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	581,515
Project impact (ODP tonnes)	41
Cost effectiveness (US \$/kg)	9.2
Implementing Agency support cost (US\$)	75,595
Total cost to Multilateral Fund	657,110

* New proposal to 18th Meeting

PROJECT DESCRIPTION

Domestic Refrigeration

Investment project for phasing out of CFCs at Indatec-Industria

1. CFC consumption in the domestic refrigeration sector is estimated at 51 MT. Indatec-Industria company accounts for 80 per cent of the total consumption in this sector.
2. The project covers phase out of 41 MT of CFC-11 and CFC-12 by converting to HFC-134a as a refrigerant and cyclopentane as a blowing agent.
3. The conversion will involve replacing the existing refrigeration system with charging board for HFC-134a, vacuum pumps and leak detectors as well as prototype testing.
4. The conversion will also replace the current foaming line, and will provide a high pressure foaming machine, a cyclopentane mixing station, new fixtures and plugs, cyclopentane delivery system, and the safety measures required for the handling of cyclopentane.
5. The refrigeration service will be provided with charging boards, CFC-12 recovery bags and a hand held leak detector for HFC-134a.
6. The capital costs include cost of commissioning and start up as well as cost of consultancy and ten per cent contingency.
7. The enterprise will not request the incremental operating costs.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The chosen technologies are proven.
2. The enterprise will share the cost of fixtures and plugs.
3. The Secretariat discussed with UNIDO the eligibility and incrementality of all cost items. The project budget has been adjusted accordingly.

RECOMMENDATIONS

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
Investment project for phasing out of CFCs at Indatec-Industria	581,515	75,595	UNIDO

2. The Fund Secretariat further recommends that the project be included in the Consolidated List.