



**United Nations
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Programme**



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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol
Twenty-sixth Meeting
Cairo, 11-13 November 1998

PROJECT PROPOSAL: MOROCCO

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

Refrigeration

- Phaseout of CFC-11 by conversion to HCFC-141b technology in the manufacture of rigid polyurethane foam (spray) at Group Project Valcom

UNDP

PROJECT EVALUATION SHEET MOROCCO

SECTOR: REFRIGERATION ODS use in sector (1994): 35 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US \$15.21/kg

Project Title:

Replacement of CFC-12 with HFC-134a for commercial refrigeration at SMIFAM

Project Data	Commercial
	SMIFAM
ODS phase-out (ODP tonnes)	4.9
Proposed project duration (months)	12
Incremental capital cost (US \$)	62,447
- including contingency (%)	10
Incremental operational cost (US \$)	0
Total project cost (US \$)	62,447
Local ownership (%)	100
Export component (%)	0
Amount requested (US \$) {Original}	68,937
{Revised}	62,447
Cost effectiveness (US \$/kg)	12.74
National Coordinating Agency	Ministère de l'Industrie du commerce et de l'Artisanat
Implementing Agency	UNIDO
Technical review completed?	Yes

<i>Secretariat's Recommendations:</i>	
Amount recommended (US \$)	62,447
Project impact (ODP tonnes)	4.9
Cost effectiveness (US \$/kg)	12.74
Implementing Agency support cost (US \$)	8,118
Total cost to Multilateral Fund (US \$)	

PROJECT DESCRIPTION

Replacement of CFC-12 with HFC-134a for commercial refrigeration at SMIFAM

1. The total annual ODP consumption based on 1994 figures was 758 tonnes of which 280 MT are used in domestic refrigeration and 35 MT by industrial and commercial refrigeration. The Executive Committee approved two projects in the commercial refrigeration sector to phase out 12 ODP tonnes. The project will phase out 4.9 MT of CFC-12, contributing, according to UNIDO, to achieving the 1999 freeze target.
2. SMIFAM is a 100% Moroccan company, established in 1980. It assembles freezers, refrigeration and display cabinets and cold chambers from ready-made insulated panels and refrigeration kits. Its average production for the past three years is 3,500 units.
3. The company seeks the incremental costs associated with one HFC-134a charging board, one new vacuum pump for HFC 134a use, the retrofitting of two existing vacuum pumps, one production leak detector, one HFC 134a manual leak detector, one portable HFC 134a charging machine, and four pressure gauges/manifolds. A basic package of laboratory test equipment for prototypes and prototype materials are included in the incremental costs.
4. The incremental operating costs are not claimed.
5. The company agrees that the old equipment or components to be replaced by new ones will be destroyed or rendered unusable. A certification of destruction will be issued by an independent inspection agency.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The replacement of a hand-held leak detector with a production leak detector was recognized as ineligible. The capital cost was adjusted accordingly.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the project with the funding level and associated support cost as indicated below.

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Replacement of CFC-12 with HFC-134a for commercial refrigeration at SMIFAM	62,447	8,118	UNIDO