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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-fifth Meeting
Montreal, 29-31 July 1998

PROJECT PROPOSAL: NICARAGUA

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

Refrigeration

- Phasing out of CFC-11 and CFC-12 with HCFC-141b and HFC-134a at Fogel S.A. in the manufacture of commercial refrigeration equipment.

UNIDO

PROJECT EVALUATION SHEET **NICARAGUA**

SECTOR: REFRIGERATION ODS use in sector (1995): 100 ODP tonnes

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

Project Titles:

Phasing out CFC-11 and CFC-12 with HFC-141b and HFC-134a in the manufacture of commercial refrigeration equipment at Fogel S.A.

Project Data	Commercial Refrigeration
	Fogel S.A.
ODS phase-out (ODP tonnes)	8.8
Proposed project duration (months)	12
Incremental capital cost (US \$)	74,890
- including contingency (%)	10
Incremental operational cost (US \$)	55,137
Total project cost (US \$)	130,027
Local ownership (%)	100
Export component (%)	0
Amount requested (US \$) {Original}	131,935
{Revised}	130,027
Cost effectiveness (US \$/kg)	15.07
National Coordinating Agency	Ministerio de Recursos Naturales (MARENA)
Implementing Agency	UNIDO
Technical review completed?	Yes

<i>Secretariat's Recommendations:</i>	
Amount recommended (US \$)	130,027
Project impact (ODP tonnes)	9.6
Cost effectiveness (US \$/kg)	13.54
Implementing Agency support cost (US \$)	16,903
Total cost to Multilateral Fund (US \$)	146,930

PROJECT DESCRIPTION

Phasing out CFC-11 and CFC-12 with HFC-141b and HFC-134a in the manufacture of commercial refrigeration equipment at Fogel S.A.

1. The Country Programme for Nicaragua was approved by the Executive Committee in 1997. According to the country Programme the total ODS consumption was 110 ODP tonnes in 1995. About 100 ODP tonnes of CFC-11 and CFC-12 consumption is in the refrigeration sector. There is only one manufacturer of commercial refrigeration equipment in Nicaragua with annual consumption of 9.6 ODP tonnes. The rest of the consumption in the sector is for servicing and maintenance of refrigeration and air-conditioning equipment.
2. The proposal indicates that the implementation of the project "will contribute to the country's 1999 CFC consumption freeze".
3. This project has been designed to phase-out the use of CFC-11 as blowing agent and CFC-12 as refrigerant in the production of display cabinets for supermarkets, upright and chest freezers, drinking water coolers and cold storage rooms in Fogel in Managua. The enterprise selected HCFC-141b as a substitute blowing agent and HFC-134a as a refrigerant. Fogel S.A. has already converted to the substitute technologies in 1997. Funds are requested retroactively.
4. The company was using low pressure machines in CFC-11 foam operations. The same foam equipment is used with HCFC-141b providing the foam with comparable insulation parameters. CFC-11 has been supplied preblended with polyol. HCFC-141b is used in the same way. No funds are requested for production equipment in conversion to HCFC-141b in foam operation.
5. Conversion to HFC-134a involved replacement of a charging board, a vacuum pump, a leak detector and purchasing a basic package of test equipment.
6. The proposal describes the implementation procedure, including respective obligations of UNIDO and the enterprise.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS**COMMENTS**

1. The Secretariat has discussed with UNIDO ODS consumption data in the refrigeration sector in Nicaragua, density of baseline and new foam, and the requested incremental capital and operating costs. Several issues have also been raised related to the retroactive nature of the project i.e. contingencies claimed for the capital cost and costs requested for consultancy. All the issues have been resolved.

RECOMMENDATION

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

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Phasing out CFC-11 and CFC-12 with HFC-141b and HFC-134a in the manufacture of commercial refrigeration equipment at Fogel S.A.	130,027	16,903	UNIDO