



**United Nations
Environment
Programme**



Distr.
LIMITED

UNEP/OzL.Pro/ExCom/19/12
14 April 1996

ORIGINAL: ENGLISH

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

Nineteenth Meeting
Montreal, 8-10 May 1996

PROJECT PROPOSALS: ARGENTINA

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

Refrigeration

- Elimination of the use of CFC's in the manufacture of display cabinet and walk-in freezers at Disthel UNDP
- Elimination of CFCs in the manufacturing plants of domestic refrigerators of Frimetal, Rosario World Bank

PROJECT EVALUATION SHEET **ARGENTINA**

SECTOR: REFRIGERATION ODS use in sector (1992): 1,441 ODP tonnes

Sub-sector cost-effectiveness thresholds: Domestic refrigeration US \$13.76/kg
Commercial refrigeration US \$15.21/kg

Project Titles:

- (a) Elimination of CFCs in the manufacturing plants of domestic refrigerators for Frimetal, Rosario
- (b) Disthel elimination of the use of CFCs in the manufacture of display cabinet and walk-in freezers

Project Data	Domestic	Commercial
	Frimetal, Rosario	Disthel
ODS phase-out (ODP tonnes)	89.7	12.90
Proposed project duration (Yrs)	2	1
Incremental capital cost (US\$)	2,070,524	335,000
Contingency (%)	9	10
Incremental operational cost (US\$)	0	0
Total project cost (US\$)	2,070,524	335,000
Local ownership (%)	100	100
Export component (%)	0	0
Amount requested (US\$) {Original	1,855,000	196,000
{Revised		
Cost effectiveness (US\$/kg)	13.44	15.21
National Coordinating Agency	SRHYAH-INTI	
Implementing Agency	World Bank	UNDP
Technical review completed?	Yes	Yes

Secretariat's Recommendations		
Amount recommended (US \$)	1,855,000	196,000
Project impact (ODP tonnes)	89.7	10
Cost effectiveness (US \$/kg)	13.44	15.21
Implementing Agency support cost (US\$)	241,150	25,480
Total cost to Multilateral Fund	2,096,150	221,480

PROJECT DESCRIPTION

Domestic refrigeration

(a) Elimination of CFCs in the manufacturing plants of domestic refrigerators for Frimetal, Rosario

1. There are fifteen major manufacturers of domestic appliances in Argentina. The Executive Committee approved ten projects in this sector for Argentina.

2. The current annual production in Frimetal company is 120,000 units. All of the current production is sold in Argentina and in other Article 5 countries. Under the projects submitted, the company will eliminate a total consumption of 89.74 MT of CFC-12 and CFC-11 by converting to isobutane as a refrigerant and to cyclopentane as a blowing agent.

3. Conversion to isobutane refrigerant involves the replacement of refrigerant charging boards, leak detectors, model redesign and testing.

4. Conversion to cyclopentane entails the retrofitting of existing high pressure foaming machines to meet safety requirements, modifying fixtures, providing storage and delivery systems for cyclopentane operations, and replacing the existing premixing stations. Conversion to cyclopentane and isobutane will necessitate also implementing a stringent safety programme to ensure personnel and plant safety owing to the flammable nature of cyclopentane and isobutane.

5. The supplier of compressors will provide technical assistance for model redesign and the modification of the production process. A reputable European company will assist in the adaptation of hydrocarbon technology including installation, start-up and compliance with safety regulations. Allocations for technical assistance will be provided as part of the Swiss- Argentina bilateral project submitted at this meeting of the Executive Committee.

6. The enterprise does not request incremental operational costs.

Commercial refrigeration

(b) Disthel elimination of the use of CFCs in the manufacture of display cabinet and walk-in freezers

7. Under this project, Disthel company will eliminate the use of 12.88 ODP tons in the manufacture of display cabinets and walk-in freezers by converting from CFC-11 to HCFC-141b blowing agent and from CFC-12 and R502 to HFC-134a refrigerant.

8. The conversion of this company will involve retrofit of the existing charging board, the replacement of leak detectors with the equipment suitable for HFC-134a, replacement of vacuum pumps, prototype testing, technology transfer and training.

9. The available low pressure machines will be replaced with high pressure machines to accommodate new requirements in foaming operations.

10. This company recognizes the transitional nature of HCFC technology. There are limitations in adapting the existing equipment to a safe operation with cyclopentane. Disthel's management accepts that all future costs related to subsequent transition to zero-ODP technology will be borne by the companies themselves.

11. Disthel company does not request incremental operational costs.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The chosen technologies are proven.
2. The Secretariat discussed with the World Bank the eligibility and incrementality of the requested costs.

RECOMMENDATIONS

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

	Project Cost US \$	Support Cost US \$	Implementing Agency
(a) Elimination of CFCs in the manufacturing plants of domestic refrigerators for Frimetel, Rosario	1,855,000	241,150	World Bank
(b) Disthel elimination of the use of CFCs in the manufacture of display cabinet and walk-in freezers	196,000	25,480	UNDP