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

PROJECT PROPOSAL: VENEZUELA

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

Foam

- Phasing out CFC-11 with HCFC-141b at Liderfrio in the production of rigid PU panels — UNIDO

PROJECT EVALUATION SHEET
VENEZUELA

SECTOR: FOAM ODS use in sector (1997): 642 ODP tonnes

Sub-sector cost-effectiveness thresholds: Rigid US $7.83/kg

Project Titles:
Phasing out CFC-11 with HCFC-141b at Liderfrio in the production of rigid P.U. panels.

Project Data	**Rigid**
	Liderfrio
ODS phase-out (ODP tonnes)	15.6
Proposed project duration (months)	16
Incremental capital cost (US $)	16,500
- including contingency (%)	10
Incremental operational cost (US $)	91,648
Total project cost (US $)	108,148
Local ownership (%)	100
Export component (%)	0
Amount requested (US $) {Original}	108,148
{Revised}	
Cost effectiveness (US $/kg)	7.79
National Coordinating Agency	FONDOIN
Implementing Agency	UNIDO
Technical review completed?	Yes

Secretariat's Recommendations:	
Amount recommended (US $)	107,850
Project impact (ODP tonnes)	13.88
Cost effectiveness (US $/kg)	7.77
Implementing Agency support cost (US $)	14,021
Total cost to Multilateral Fund (US $)	121,871

PROJECT DESCRIPTION

Phasing out CFC-11 with HCFC-141b at Liderfrio in the production of rigid P.U. panels.

1. Venezuela's 1996 consumption of CFCs reported to the Ozone Secretariat was 3,041 ODP tonnes.

2. Consumption of CFC-11 in 1997 was reported to be 658 ODP tonnes, 642 tonnes of which was used in the foam sector. 333 tonnes CFCs including 259 tonnes CFC-12 and 84 tonnes CFC-11 have been approved in six projects to be phased out. The 259 tonnes CFC-12 used by one company has been phased out.

3. UNIDO reports that when Liderfrio project is implemented as scheduled, the elimination of 13.9 CFC-11 in the foam sector, which currently constitutes 17% of the country's consumption will contribute to its 1999 CFC consumption freeze.

4. Liderfrio is a 100% Venezuelan owned company established in 1992. It manufactures polyurethane metal faced, painted steel and aluminum sandwich panels and doors for cold stores and refrigerated rooms. The company used 15.6 tonnes CFC-11 in 1997. It operates a Cannon C-150 RF2 low pressure machine installed in 1979. The company will phase out the use of CFC-11 by replacement with HCFC-141b.

5. The company's existing low-pressure machine will be retrofitted to be capable of using HCFC-141b. The capital cost includes a charge of 20%, the cost of the existing machine to compensate for lower output (US $10,000). The company will bear the cost of trials and general consulting services commissioning and start-up. The incremental operational cost amounts to US $60,946 for one year.

6. The justification for the use of HCFC-141b is provided in the analysis of the technology selection. UNIDO also indicates that:

- The company has been briefed on the relevant rules relating to the use of HCFC-141b as transitional foam blowing agent and the company will not seek further funding for final conversion from HCFC-141b.
- All foaming equipment which was operating with CFC-11 will be destroyed after conversion and evidence document will be provided by the counterpart in cooperation with the local ozone officer.

7. Liderfrio C.A. manufactures polyurethane sandwich panels and doors for cold stores and refrigerated rooms. The company uses one Cannon C160 RF2 low pressure machine installed in (1979), which will be retrofitted for the conversion to the use of HCFC-141b. The project cost includes the retrofit of the existing low pressure machine at US$ 10,000, trials, technology transfer and training (US$ 4,000). The incremental operational cost for two years amounts to US$ 91,648. The foam density is reported to require increase of by at least 15 % when using HCFC-141b.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The incremental capital costs were agreed. Regarding the incremental operational cost, the original calculation had been based on 15% additional foam resulting in the amount of US $91,648 per year or US $159,468 NPV for 2 years. UNIDO requested incremental operational cost for 1 year. However following agreement that 7.5% additional foam should be applied to HCFC-141b projects where applicable, the incremental operational cost calculation was revised resulting in the amount of about US $91,350 NPV for 2 years. This figure has been applied to the project cost. The total project cost therefore amounted to US $107,850.

RECOMMENDATIONS

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

Project Title	Project Cost US $	Support Cost US $	Implementing Agency
Phasing out CFC-11 with HCFC-141b at Liderfrio in the production of rigid P.U. panels.	107,850	14,021	UNIDO