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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: MALAWI

This document consists of the comments of the Fund Secretariat on the following projects:

Foam

- Phaseout of CFC-11 by conversion to methylene chloride in the manufacture of flexible polyurethane foam at Robry Ltd. — UNDP

PROJECT EVALUATION SHEET
MALAWI

SECTOR: FOAM — ODS use in sector (1997): 33 ODP tonnes

Sub-sector cost-effectiveness thresholds: Flexible Slabstock — US $6.23/kg

Project Title:

Conversion to methylene chloride blown technology in the manufacture of flexible polyurethane foam at Robry Ltd.

Project Data	**Flexible**
	Robry
ODS phase-out (ODP tonnes)	33
Proposed project duration (months)	24
Incremental capital cost (US $)	214,500
- including contingency (%)	10
Incremental operational cost (US $)	(14,900)
Total project cost (US $)	199,600
Local ownership (%)	100
Export component (%)	0
Amount requested (US $) {Original}	199,600
{Revised}	
Cost effectiveness (US $/kg)	6.05
National Coordinating Agency	Ministry of Research and Environmental Affairs
Implementing Agency	UNDP
Technical review completed?	Yes

Secretariat's Recommendations:	
Amount recommended (US $)	Pending
Project impact (ODP tonnes)	
Cost effectiveness (US $/kg)	
Implementing Agency support cost (US $)	
Total cost to Multilateral Fund (US $)	

PROJECT DESCRIPTION

Conversion to methylene chloride blown technology in the manufacture of flexible polyurethane foam at Robry Ltd.

1. The Malawi country programme indicates that the total ODP consumption based on 1992 figures was 60.0 tonnes. This was made up of 35 tonnes of CFC-12 used for refrigeration and air conditioning and 8.5 tonnes of CFC-11, of which 6 tonnes were used for air conditioning and only 2.5 tonnes are used for foams. Other ODS used included 14 tonnes Halon 1211 and about 2 tonnes CFC-115.

2. Consumption data reported by the Government of Malawi to the Ozone Secretariat for 1995 and 1996 indicated 26.5 tonnes and 19.9 tonnes of Annex A Group 1 substances (CFCs) respectively. The report on implementation of the Malawi Country Programme indicated for 1995 23.9 tonnes CFC-12 used in the refrigeration sector and no CFC-11 usage. The data for 1996 showed 4 tonnes CFC-11, and 15.2 tonnes CFC-12 all used in the refrigeration sector. Thus, for the two years 1995 and 1996, there was no usage of CFC in the foam sector. However, data provided during a UNDP mission to the foam industry in 1997 showed that the total consumption of CFC-11 for the foam sector was 33 tonnes.

3. UNDP has included a letter from the Government of Malawi explaining the discrepancy in CFC-11 consumption. This is attached as Annex 1

4. UNDP indicates that Malawi has small number of projects approved under the Multilateral Fund to phaseout ODS, as compared to other countries with similar consumption. The projects being presented at the 26th Executive Committee Meeting are therefore considered critical to assist the country in meeting the 1999 freeze requirements under the Montreal Protocol.

5. Robry Ltd. is the most important foam manufacturer in Malawi. It currently uses one low pressure conventional Laader Berg machine (1971) and a Vicking Maxfoam 375 machine (no installation year provided) in different towns. It will phase out the use of CFC-11 through conversion to methylene chloride technology. It will consolidate the foam production on the Maxfoam machine, decommissioning the much older conventional machine. The conversion costs of the company includes the upgrade of the enclosure and ventilation system of the production line and hall (US $80,000), the installation of a MC storage and metering system (US $45,000), the installation of a storage and metering system for the softening additive (US $20,000), and the improvement of the electrical control system (US $15,000). Technology transfer, training, and trials amount to US $35,000. The project also includes incremental operating benefits of US $14,900.

SECRETARIAT'S COMMENTS

COMMENTS

1. The Secretariat and UNDP have discussed and agreed on the project costs as follows:

Incremental Capital Cost	US $181,500
Incremental Operational Savings	US $ 25,000
Total Project Cost	US $156,000

2. In view of the discrepancy between the country's CFC-11 consumption and sector consumption reported in the project, the Fund Secretariat could not recommend blanket approval of the project. The project is submitted for individual consideration.