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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: TUNISIA

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

Foam

- Conversion to LCD technology in the manufacture of PU flexible foam and HCFC-141b with water in PU rigid foam at Sotim — World Bank

PROJECT EVALUATION SHEET
TUNISIA

SECTOR: FOAM ODS use in sector (1996): 570 ODP tonnes

Sub-sector cost-effectiveness thresholds: General US $9.53/kg

Project Titles:
Conversion to LCD technology in the manufacture of PU flexible foam and HCFC-141b with water in PU rigid foam at Sotim.

Project Data	**General**
	Sotim
ODS phase-out (ODP tonnes)	95.25
Proposed project duration (months)	24
Incremental capital cost (US $)	689,700
- including contingency (%)	9
Incremental operational cost (US $)	(80,250)
Total project cost (US $)	609,450
Local ownership (%)	100
Export component (%)	0
Amount requested (US $) {Original}	609,450
{Revised}	
Cost effectiveness (US $/kg)	6.40
National Coordinating Agency	Agence Nationale pour la Protection de l'Environnement (A.N.P.E.)
Implementing Agency	The World Bank
Technical review completed?	Yes

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

PROJECT DESCRIPTION

Conversion to LCD technology in the manufacture of PU flexible foam and HCFC-141b with water in PU rigid foam at Sotim.

1. Information provided by the Agence Nationale de Protection de l'Environnement in the progress of implementation of Tunisia's country programme indicates the consumption of CFC-11 in 1997 to be 530 ODP tonnes, a 10% increase over the 1996 consumption. the flexible slabstock foam sector consists of six main manufacturers. Four projects have already been approved to phase out 233 ODP tonnes. Approval of this (Sotim) flexible slabstock foam project would complete the projects for the identified flexible foam companies.

2. The rigid foam sub-sector consists of eight main producers. Seven projects have been approved in this sub-sector to phase out 206 ODP tonnes.

3. The project document indicates that there are other CFC-11 users who are not yet identified accounting for 119 ODP tonnes.

4. The World Bank indicates that the foam sector represents at least 47.4% of the total ODP being consumed in Tunisia. In order for Tunisia to meet the 1999 freeze, the proposed foam project is therefore, submitted for financing at the 25th Executive Committee Meeting.

5. The project for Sotim covers both the flexible slabstock and rigid polyurethane foam sub-sectors. The company is reported to be one of the largest manufacturers of flexible and rigid foams in Tunisia. It is a 100% Tunisian owned company established in 1967 to produce flexible polyurethane foam for the local market using a Sucmer machine. The company installed and commissioned a maxfoam 500 continuous line in 1984 to increase its production of the flexible foam. The company produced 1005 tonnes in 1997/98 using about 86 tonnes CFC-11.

6. The rigid foam operation was started in 1990. It produces rigid foam blocks on a low pressure machine. The company produced 65 tonnes of rigid foam using 10.5 tonnes CFC-11.

7. The CFC-11 used for flexible slabstock foam production will be phased out through the use of LCD technology. The capital cost of conversion includes LCD system (US $350,000) and miscellaneous equipment, and US $50,000 license fee. The total capital cost amounts to US $537,000. There are incremental operating savings of US $ 98,000.

8. CFC use in the rigid foam will be phased out with HCFC-141b and water. It is proposed to replace the current low pressure machine with a 100 kg/min high pressure machine at US $110,000. Trials, technology transfer and training amount to US $25,000.

SECRETARIAT'S COMMENTS

COMMENTS

Flexible Slabstock (LCD) Foam

1. The capital costs are consistent with the guidelines. The incremental operational savings were recalculated to ensure consistency with the approved guidelines, resulting in the amount of US $97,800.

Rigid Foam

1. The company is proposing to convert the rigid foam block production to HCFC-141b and requests replacement of the low pressure machine with a high pressure machine (US $110,000). The Secretariat has been advised (which has been communicated to the implementing agencies) that conversion of block foam production to HCFC-141b does not require the change requested (from low pressure to high pressure machine). It was proposed to the World Bank to provide an appropriate amount to the company to retrofit the dispenser to be compatible with HCFC use.

2. The proposed incremental capital cost for this component of the project is US $135,000, while the incremental operational cost is US $17,550 for a total project cost of US $152,550. Since the ODS to be eliminated from the project is about 9.7 tonnes, the cost-effectiveness would be US $ 15.75/kg, which exceeds the sector threshold for rigid foam projects by over 100%.

3. The project costs of the rigid foam component are still under discussion between the Secretariat and the World Bank. The outcome will be communicated to the Project Review Sub-Committee.