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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-eighth Meeting
Montreal, 14-16 July 1999

PROJECT PROPOSALS: TURKEY

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

Foam

- Conversion from CFC-11 into low index additive (LIA) technology for flexible slabstock foam at Elta — IBRD
- Phasing out of CFC-11 by conversion to HCFC-141b in the manufacture of rigid polyurethane panels for thermal insulation for cold rooms and cold storages at Izotek — UNIDO

PROJECT EVALUATION SHEET
TURKEY

SECTOR: Foam

ODS use in sector (Baseline): 2,344.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: Flexible Slabstock US $6.23/kg
Rigid US $7.83/kg

Project Titles:

(a) Conversion from CFC-11 into low index additive (LIA) technology for flexible slabstock foam at Elta
(b) Phasing out of CFC-11 by conversion to HCFC-141b in the manufacture of rigid polyurethane panels for thermal insulation for cold rooms and cold storages at Izotek

Project Data	**Flexible Slabstock**	**Rigid**
	Elta	**Izotek**
Enterprise consumption (ODP tonnes)	21.30	81.70
Project impact (ODP tonnes)	21.30	74.80
Project duration (months)	24	24
Initial amount requested (US $)	130,597	511,242
Final project cost (US $):		
Incremental capital cost (a)	42,000	226,600
Contingency cost (b)	4,200	20,600
Incremental operating cost (c)	84,397	204,121
Total project cost (a+b+c)	130,597	451,321
Local ownership (%)	100%	100%
Export component (%)	0%	0%
Amount requested (US $)	130,597	430,721
Cost effectiveness (US $/kg.)	6.13	5.75
Counterpart funding confirmed?		
National coordinating agency	Technology Development Foundation	Department of the Environment
Implementing agency	IBRD	UNIDO

Secretariat's Recommendations		
Amount recommended (US $)	130,597	430,721
Project impact (ODP tonnes)	21.30	74.80
Cost effectiveness (US $/kg)	6.13	5.75
Implementing agency support cost (US $)	16,978	55,994
Total cost to Multilateral Fund (US $)	147,575	486,715

PROJECT DESCRIPTION

(a) Conversion from CFC-11 into low index additive (LIA) technology for flexible slabstock foam at Elta

(b) Phasing out of CFC-11 by conversion to HCFC 141b in the manufacture of rigid polyurethane panels for thermal insulation for cold rooms and cold storages at Izotek

Sector Background

- Latest available total ODS consumption (1997)		4,655.4	ODP tonnes
- Baseline consumption* of Annex A Group I substances (CFCs)		3,805.3	ODP tonnes
- 1998 consumption of Annex A Group I substances		Not reported	
- Baseline consumption of CFCs in foam sector		2,344.7	ODP tonnes
- 1998 consumption of CFCs in foam sector		2,210	ODP tonnes
- Funds approved for investment projects in foam sector as of March 1999 (27th Meeting)	US $	9,566,040	
- Quantity of CFC to be phased out in foam sector as of March 1999 (27th Meeting)		2,014.2	ODP tonnes
- Quantity of CFC phased out in foam sector as of March 1999 (27th Meeting)		12	ODP tonnes

*Baseline consumption of Annex A controlled substances refers to average of the consumption for the years 1995-1997 inclusive.

Other relevant information:

1. Two projects are being submitted to the 28th Executive Committee Meeting in the foam sector. When approved and implemented 96.1 ODP tonnes of CFC-11 will be phased out.

Impact of the Projects

2. The 96.1 tonnes to be phased out constitutes 2.5 per cent of Turkey's baseline consumption of Annex A Group I substances and 4.1 per cent of its baseline foam sector consumption. There will be a residual ODP of 6.9 ODP tonnes due to the use of HCFC-141b as substitute blowing agent (at Izotek).

Justification for the Use of HCFC-141b

3. HCFC-141b will be used as substitute blowing agent by Izotek. Justification for the use of the HCFC-141b has been provided in the project document, including technical and economic analysis of the use of other alternative technologies in comparison with HCFC technology. The Government's concurrence of the use of HCFC technology has been provided in accordance with Executive Committee Decision 27/13 and is attached as Annex I to this evaluation.

(a) Conversion from CFC-11 into low index additive (LIA) technology for flexible slabstock foam at Elta

4. Elta produces flexible slabstock foam of densities 15 kg/m^3, 18 kg/m^3, and 30 kg/m^3 for the furniture industry. CFC-11 is used in the 15 kg/m^3 and 18 kg/m^3 foams. The company operates a Viking Vertifoam (cylindrical foam) installed in 1993 and a Viking Vertifoam

(rectangular foam) installed in 1987. This project covers the replacement of CFC-11 used as foam blowing agent by low index additive (LIA) technology for flexible slabstock foam at Elta.

5. The usage of LIA technology allows for phase-out of CFC-11 but still keep foam properties. Investments relate to installation of metering systems for additives (US 20,000), formulation assistance (US $20,000) and chemicals for trials (US $2,000). Incremental operating costs for 4 years (US $84,397) are requested.

(b) Phasing out of CFC-11 by conversion to HCFC 141b in the manufacture of rigid polyurethane panels for thermal insulation for cold rooms and cold storages at Izotek

6. Izotek used an average of 87.1 tonnes of CFC-11 to manufacture 12,275 m^3 (or 528 tonnes) of rigid PU foam. The production is to be converted to HCFC-141b as an interim technology with later conversion to an ODS-free technology. For this purpose the existing high pressure dispenser will be retrofitted, and two low pressure dispensers will be replaced with high pressure ones of equivalent capacities at the cost of US $163,000, relevant production equipment will be modified or purchased US $36,000, consultancy, engineering and training services will be provided (US $20,000). Incremental operating costs amount to US $270,343.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Flexible Polyurethane Slabstock Foam: Elta

1. The project costs were agreed between the Fund Secretariat and the World Bank. The total cost of the project is US $130,597.

Rigid Polyurethane Foam: Izotek

2. There is no provision for the foam sector in Turkey in UNIDO's 1999 business plan. Therefore the project is not in the 1999 business plan. However, UNIDO indicated that it had prepared the project to replace a project for Obod in Yugoslavia which is in its 1999 Business Plan but which will not be possible to prepare within the plan year, due to the current situation in the country. The project was reviewed on the basis of this explanation by UNIDO.

3. The incremental operating cost was recalculated, based on the review of the company's baseline use of chemicals and foam densities, resulting in US $204,121 instead of US $270,750. The Fund Secretariat and UNIDO have agreed on the project costs. The total project cost is US $430,721.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the Elta and Izotek projects with the funding levels and associated support costs indicated below.

	Project Title	Project Cost (US$)	Support Cost (US$)	Implementing Agency
(a)	Conversion from CFC-11 into low index additive (LIA) technology for flexible slabstock foam at Elta	130,597	16,978	IBRD
(b)	Phasing out of CFC-11 by conversion to HCFC-141b in the manufacture of rigid polyurethane panels for thermal insulation for cold rooms and cold storages at Izotek	430,721	55,994	UNIDO