UNITED NATIONS **EP**

United Nations Environment Programme

Distr.
LIMITED

UNEP/OzL.Pro/ExCom/27/30
23 February 1999

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE
OF THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-seventh Meeting
Montreal, 24-26 March 1999

PROJECT PROPOSAL: ROMANIA

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

Foam

•	Phase out of CFC-11 and CFC-12 in the manufacture of extruded polyethylene and polystyrene foams through the use of n-butane as a blowing agent at Romcarbon S.A.	UNIDO

PROJECT EVALUATION SHEET
ROMANIA

SECTOR: FOAM ODS use in sector (1997): 399.1 ODP tonnes

Sub-sector cost-effectiveness thresholds: Polystyrene/Polyethylene US $8.22/kg

Project Titles:

(a) The phase out of CFC-11 and CFC-12 in the manufacture of extruded polyethylene and polystyrene foams through the use of n-butane as a blowing agent at Romcarbon S.A.

Project Data	**Polystyrene/Polyethylene**
	Romcarbon S.A.
ODS phase-out (ODP tonnes)	132.4
Proposed project duration (months)	18
Incremental capital cost (US $)	689,460
- including contingency (%)	9
Incremental operational cost (US $)	(118,118)
Total project cost (US $)	516,512
Local ownership (%)	100
Export component (%)	0
Amount requested (US $) {Original}	840,801
{Revised}	516,512
Cost effectiveness (US $/kg)	3.90
National Coordinating Agency	Ministry of Waters, Forests and Environmental Protection
Implementing Agency	UNIDO
Technical review completed?	Yes

Secretariat s Recommendations:	
Amount recommended (US $)	516,512
Project impact (ODP tonnes)	132.4
Cost effectiveness (US $/kg)	3.90
Implementing Agency support cost (US $)	66,816
Total cost to Multilateral Fund (US $)	583,328

PROJECT DESCRIPTION

Sector Information

1. Baseline consumption (average 1995-1997) of Annex A Group I substances (CFCs) is not available, since Romania has not reported its consumption data for 1997.

2. The inventory of approved projects shows that as of November 1998 US $176,770 had been approved for projects in the foam sector, including one investment project to phase out 30 ODP tonnes. US $22,980 had been disbursed and the 30 ODP tonnes had been phased out.

3. The project document states that the ODS consuming foamed plastic industry in Romania consists largely of flexible polyurethane foams and thermoplastic polyethylene and polystyrene foams. In 1997 the industry consumed about 399.1 tonnes CFCs, of which about 66 tonnes was CFC-12 and 333 tonnes was CFC-11. The demand for these substances is met by import from various European countries.

4. The polyethylene/polystyrene foam of which Romcarbon is the sole producer was not included in the Romania Country Programme approved in 1995. The Government of Romania is preparing an update of the country programme to include the polyethylene/polystyrene foam sector. A summary of the Government's explanation of the discrepancy in the data is attached.

Impact of the Project on the Country's Montreal Protocol Obligations

5. UNIDO indicates that when implemented, CFC consumption eliminated from the foam sector which currently constitutes 25.3% of the country's CFC consumption, will be reduced by 399.1 ODP tonnes. Since Romania has not reported its 1997 CFC consumption for its baseline consumption to be determined, the impact of the project on its baseline could not be assessed.

(a) The phase out of CFC-11 and CFC-12 in the manufacture of extruded polyethylene and polystyrene foams through the use of n-butane as a blowing agent at Romcarbon S.A.

6. Romcarbon Co. produces extruded polystyrene and polyethylene foams for food packaging and insulation purposes. It will phase out 66.3 tonnes CFC-11 and 66.1 CFC-12 from the production of extruded polystyrene and polyethylene foams by converting to n-butane blown technology. The company has two production lines using two LMP (Italy) extruders which were installed in 1977. The capital cost of conversion proposed for the project includes replacement of the two extrusion screws (US $60,000), the two barrels (US $31,000), extrusion head (US $60,000), gas injectors (US $20,000), and installation of homogenizers (US $60,000). The total cost of replacements and retrofit of the extruder is costed at US $445,500. Other costs include civil works, installation of butane storage and pumping facility, building of a technological storage facility, installation of a safety system (US $374,900), services, safety certification, consultancy, commissioning and training including safety training (US $31,500).

SECRETARIAT S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. UNIDO and the Fund Secretariat discussed the projects' costs and agreed on the capital costs as follows:

Extruder retrofit	US $260,000
Foaming agent supply (butane tank and pumping system)	US $152,800
Safety systems	US $135,000

The total incremental capital cost was agreed as US $634,630, including contingency of US $54,830, consultancy and certification.

The costs of replacement of the extrusion screws, extruder barrels, extrusion heads, gas injectors and homogenizers and other ancillary facilities such as emergency water supply, emergency lighting etc. were not considered as eligible incremental capital costs.

2. With regard to the calculation of incremental operational cost, it was agreed that the costs associated with learning curve amounting to US 52,530 were not eligible incremental cost. Based on the prices of US $1.95/kg, US $1.65/kg and US $0.90/kg for CFC-12, CFC-11 and butane respectively, the calculation of incremental operation savings resulted in US $ 118,118 instead of US $16,029 originally assessed in the project.

3. Based on the above conclusions the project cost was agreed to be US $516,415.

4. As at the time of preparation of this document information obtained from the Ozone Secretariat showed that Romania had not reported data for 1997. Unless this is done there will not be any baseline data which could provide the basis for the Executive Committee's evaluation of the impact of approved projects on the ODS phase out of the country.

RECOMMENDATIONS

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

Project Title	Project Cost US $	Support Cost US $	Implementing Agency
The phase out of CFC-11 and CFC-12 in the manufacture of extruded polyethylene and polystyrene foams through the use of n-butane as a blowing agent at Romcarbon S.A.	516,512	66,816	UNIDO

2. The Executive Committee may wish to urge the Government of Romania to expedite reporting of its 1997 ODS consumption data if it has not already done so, in order to facilitate future evaluations of the impact of Multilateral Fund projects on the phase out of ODS in Romania.

Annex I

Explanation by the Government of Romania Submitted by UNIDO Regarding the Differences in the ODS Consumption in the Romania Country Programme and Data in the Romcarbon Project.

1. The production of thermoplastic extruded foams was not mentioned in the Country Programme for Romania as a sub-sector. At the time of preparation, Romcarbon the only producer of PS and PE foams in the country was part of a larger company and the National Ozone Secretariat had not been established. Therefore, the assistance from the Government side was not sufficient, which resulted in the omission of the company from the list of eligible companies for conversion to non-ODS technology.

2. Beginning 1998, when the national Ozone Office was established, an amendment to the Country Programme was initiated. The National Ozone Office informed the Multilateral Fund about this amendment on 18 December 1998, giving information on the PE and PS extruded foams sub-sector, the company profile, their product range, production equipment, market sector, actual ODS consumption and possible alternatives for conversion.

3. The additional information on ODS consumption for the years 1995-97 and the installed production capacity with related ODS consumption can be summarized as follows:

ODS consumption:

PRODUCT	**ODS**	**1995 [tonnes/year]**	**1996 [tonnes/year]**	**1997 [tonnes/year]**
Polystyrene foam	CFC-11	89.2	46.2	63.5
Polyethylene foam	CFC-12	91.0	40.1	67.2
	Total ODS	**180.2**	**86.3**	**130.7**

Installed capacity:

Product	**ODS**	**CONSUMPTION [tonnes/year]**
Polystyrene foam (700 tonnes/year)	CFC-11	109.2
Polyethylene foam (800 tonnes/year)	CFC-12	120.0
	Total ODS	**229.2**