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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Twenty-first Meeting
Montreal, 18-20 February 1997

PROJECT PROPOSALS: SYRIA

This document includes the Comments from the Fund Secretariat on the following projects:

Aerosols

- Phasing out CFCs at Careesse Cosmetics

UNIDO

Foam

- Phasing out CFC-11 at Walid & Nabil Rankousi
- Phasing out CFC-11 at Abdul Karim Sbei

UNIDO
UNIDO

Sub-sector cost-effectiveness threshold: 4.4 US \$/kg

Phasing out CFCs at Careesse Cosmetics (Aerosol)

Project Data	AEROSOL
	Careesse Cosmetics
ODS phase-out (ODP tonnes)	185
Proposed project duration (Yrs)	1.67
Incremental capital cost (US \$)	485,500
Contingency (%)	10
Incremental operational cost (US \$)	(86,379)
Total project cost (US \$)	399,121
Local ownership (%)	100
Export component (%)	0
Amount requested (US \$) {Original}	\$399,121
{Revised}	272,621
Cost effectiveness (US \$/kg)	1.47
National Coordinating Agency	General Commission for Environmental Affairs
Implementing Agency	UNIDO
Technical review completed?	Yes

<i>Secretariat's Recommendations:</i>	
Amount recommended (US \$)	272,621
Project impact (ODP tonnes)	185
Cost effectiveness (US \$/kg)	1.47
Implementing Agency support cost (US \$)	35,441
Total cost to Multilateral Fund (US \$)	308,062

PROJECT DESCRIPTION

1. In 1991, 260 tonnes of CFC were used for manufacturing aerosol cosmetic sprays in Syria (country programme).
2. At its 19th Meeting, the Executive Committee approved a project for the phase out of 104 tonnes of CFCs used in the manufacturing of aerosol products at Gaston Banna and Sons Company.
3. The project proposal under consideration is for the replacement of CFCs with hydrocarbon propellant used in manufacturing of aerosol household products at Careesse Cosmetics. Approval of the project will lead to the elimination of 185 tonnes of CFC-12. Implementation of the two projects will lead to the elimination of 289 tonnes of CFC-12, about 30 tonnes more than the total CFC consumption in the sector in 1991.
4. Careesse Cosmetics produces different sized presentations of deodorants (0.50 million cans/year), hair spays and hair lacquer (1.05 million cans/year) and air freshener (0.25 million cans/year).
5. The present aerosol filling line consists of two semi-automatic filling machines, manual can loading table with conveyer system, manual placing of the valve, crimper and gas filler.
6. The enterprise will convert to HAPs technology. Conversion entails installation of an open air filling station including crimping, propellant handling and filling, a water bath for testing filled cans, HAP storage and purification system, gas detectors and a fire control system. A conveyor system, explosion-proof lighting and ventilation system is also requested.
7. Technical assistance will be provided for performance and supervision of engineering designs, equipment installation and commissioning of the plant. Training in production, quality control and safety procedures will also be provided.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

1. UNIDO reviewed the project proposal in accordance with discussions with the Fund Secretariat. Cost of some pieces of equipment (water bath, LPG storage tank and purification system) were adjusted according to the size of the enterprise.
2. The capital costs of conversion are US \$359,000 including 10% contingency. The operational savings (NPV) for four years are US \$86,379.

3. The enterprises will finance costs associated with land acquisition for gas storage and open air filling room, construction of LPG storage area and purification system, water tank and pump house, estimated at US \$570,000.

RECOMMENDATION

1. The Fund Secretariat recommends approval of the project at the funding levels indicated below:

<u>Project Title</u>	<u>Project Cost</u> <u>US \$</u>	<u>Support Cost</u> <u>US \$</u>	<u>Implementing</u> <u>Agency</u>
Phasing out CFCs at Careesse Cosmetics	272,621	35,441	UNIDO

PROJECT EVALUATION SHEET SYRIA

SECTOR: FOAM ODS use in sector (1993): 493 ODP tonnes

Sub-sector cost-effectiveness thresholds: US \$6.23/kg

Project Titles:

- (a) Phasing out CFC-11 at Walid & Nabil Rankousi (Foam)
- (b) Phasing out CFC-11 at Abdul Karim Sbei (Foam)

Project Data	FOAM	
	Abdul Karim Sbei	Walid & Nabil Rankousi
ODS phase-out (ODP tonnes)	60	55
Proposed project duration (Yrs)	1.3	1.3
Incremental capital cost (US \$)	99,550	138,050
Contingency (%)	10	10
Incremental operational cost (US \$)	10,854	18,938
Total project cost (US \$)	110,404	156,988
Local ownership (%)	100	100
Export component (%)	0	0
Amount requested (US \$) {Original}	110,404	156,988
{Revised}	92,256	86,782
Cost effectiveness (US \$/kg)	1.84	2.85
National Coordinating Agency	Ministry of Environment	
Implementing Agency	UNIDO	
Technical review completed?	Yes	Yes

Secretariat's Recommendations:		
Amount recommended (US \$)	92,256	86,782
Project impact (ODP tonnes) ⁽¹⁾	61.7	38.7
Cost effectiveness (US \$/kg)	1.49	2.24
Implementing Agency support cost (US \$)	11,993	11,282
Total cost to Multilateral Fund (US \$)	104,249	98,064

(1) Project impact based on the average consumption data of the enterprises for the years 1993-1995 provided by the Government of the Syrian Arab Republic

PROJECT DESCRIPTION

Flexible Slabstock polyurethane Foam Projects

- (a) Phasing out CFC-11 at Abdul Karim Sbei (Foam)
- (b) Phasing out CFC-11 at Walid & Nabil Rankousi (Foam)

1. The two companies (Abdul Karim Sbei and Walid and Nabil Rankousi) produce flexible slabstock polyurethane foam for the furniture industry. Abdul Karim Sbei operates a conventional type Hennecke UBT slabstock machine installed in 1972 with installed annual capacity of 4,000 - 5,000 tonnes but currently producing about 2,200 tonnes/year. Walid and Nabil Rankousi operates a LaaderBerg F8 maxfoam machine and also has installed capacity of 4,000 - 5,000 tonnes per year with current output of 2,200 tonnes per year. Both foaming machines are reported to be kept in reasonably good condition and having useful life of at least 10 years after conversion.

2. In line with Executive Committee decision on calculation of ODS consumption, the consumption data which were based on 1993 were updated to provide data based on consumption for the years 1993-1995, the three years preceding the final project preparation. On the basis of the updated data, the average consumption of ODS of the two companies (Abdul Karim Sbei and Walid and Nabil Rankousi) was found to be 61.7 tonnes and 38.7 tonnes of CFC-11 per year respectively.

3. Both companies will phase-out the use of CFC-11 through replacement with methylene chloride. Conversion at each enterprise will involve replacement of the existing CFC-11 metering pump with a pump suitable for metering methylene chloride (US \$15,000), encapsulation of appropriate sections of the foaming lines and upgrading of the ventilation systems for efficient extraction of methylene chloride fumes in order to ensure occupational safety (US \$48,500) and provision of safety devices (airflow meter and methylene chloride monitor) at US \$7,000. Commissioning and start-up, technology transfer and training amount to US \$20,000 in each case. In addition to these items an amount of US \$35,000 was also budgeted for extra ventilation in cure area for Walid and Nabil Rankousi Ltd.

4. The total incremental capital costs were estimated to be as follows:

Abdul Karim Sbei	US \$99,550
Walid and Nabil Rankousi	US \$138,050

5. Uncontrolled use of methylene chloride as a cleaning solvent for equipment was reported in the project document of Walid and Nabil Rankousi. The need to mitigate the potential impact of methylene chloride emission was expressed in view of the location of the machine on the third floor of a former apartment building in a busy residential area.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The two projects were discussed between UNIDO and the Fund Secretariat and agreed.
2. In view of the fact that the projects had been prepared about two years prior to their final submission, UNIDO was requested to update the data in the project documents. Consequently, after consultations with the Government, UNIDO updated the relevant data, including ODS consumption data in line with Executive Committee Decision 17/10 (c), current plant capacities and sector consumption data and other parameters necessary for calculating incremental operational costs/savings. The updated information on ODS consumption is provided in the project description.
3. The updated information necessitated recalculation by UNIDO of the incremental operational costs/savings. Following the recalculation, the incremental operational costs/savings were revised as follows:

Abdul Karim Sbei	from US \$10,854 (costs)	to US \$7,294 (savings)
Walid and Nabil Rankousi	from US \$18,938 (costs)	to US 12,768 (savings)
4. The cost of extra ventilation in new cure area for Walid and Nabil Rankousi (US \$35,000) was considered ineligible for funding since the cure area was not yet constructed (it was only estimated based on current production volume with 50% contingency).
5. Following the discussion between the Secretariat and UNIDO, the following incremental costs were agreed.

	<u>Incremental Capital Cost</u> US \$	<u>Incremental Operational Savings</u> US \$	<u>Total Project Cost</u> US \$
(a) Phasing out CFC-11 at Abdul Karim Sbei	99,550	(7,294)	92,256
(b) Phasing out CFC-11 at Walid & Nabil Rankousi	99,550	(12,768)	86,782

6. In view of the added occupational and environmental hazards caused by the uncontrolled use of methylene chloride as cleaning solvent at Walid and Nabil Rankousi, it would be necessary for UNIDO and the company to discuss and find possible means of mitigating the problem at no extra cost to the Multilateral Fund during the project implementation.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the two projects with the funding levels and associated supports as shown below.

<u>Project Title</u>		<u>Project Cost</u> <u>US \$</u>	<u>Support</u> <u>Cost US \$</u>	<u>Implementing</u> <u>Agency</u>
(a)	Phasing out CFC-11 at Abdul Karim Sbei	92,256	11,993	UNIDO
(b)	Phasing out CFC-11 at Walid & Nabil Rankousi	86,782	11,282	UNIDO

2. With regard to the use of methylene chloride as cleaning solvent at Walid and Nabil Rankousi, UNIDO should ensure that adequate mitigating measures are taken by the company in order to ensure that the phase out of the use of CFC-11 in the factory is compatible with acceptable standards of safety.