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

PROJECT PROPOSAL: IRAN

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

Refrigeration

- Replacement of CFC-12 as refrigerant by HFC-134a at Iran Compressor Manufacturing Company (ICMC) UNIDO

**PROJECT EVALUATION SHEET
IRAN**

SECTOR: REFRIGERATION ODS use in sector (1991): 1,250 ODP tonnes

Sub-sector cost-effectiveness thresholds: Domestic US \$13.76/kg

Project Titles:

Replacement of CFC-12 refrigerant by HFC-134a at Iran Compressor Manufacturing Company (ICMC).

Project Data	Domestic
	Iran Compressor (ICMC)
ODS phase-out (ODP tonnes)	
Proposed project duration (months)	24
Incremental capital cost (US \$)	2,649,900
- including contingency (%)	10
Incremental operational cost (US \$)	
Total project cost (US \$)	2,649,900
Local ownership (%)	100
Export component (%)	0
Amount requested (US \$) {Original}	2,347,897
{Revised}	
Cost effectiveness (US \$/kg)	
National Coordinating Agency	Department of Environment
Implementing Agency	UNIDO
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

Replacement of CFC-12 refrigerant by HFC-134a at Iran Compressor Manufacturing Company (ICMC).

1. According to the Iran's revised country programme the total ODS consumption was reported to be 5,250 MT in 1993 with ODS consumption of 1,650 MT in the refrigeration sector. The number of appliances produced in Iran was estimated to be about 1 million units in the domestic sub-sector and about 60,000 in the commercial sub-sector.

2. The Executive Committee approved the following domestic and commercial refrigeration projects for Iran:

- The first project for a group of 5 domestic refrigeration companies was approved at the 11th and 16th Meetings to phase out 757 ODP tonnes;
- The second project for a group of 6 domestic refrigeration companies was approved at the 18th Meeting to phase out 372 ODP tonnes;
- The total number of appliances produced by these companies was 1,013,000 units;
- The Executive Committee approved also six projects for eight commercial refrigeration companies at 23rd and 26th Meetings to phase out 322 ODP tonnes. The total production level of these enterprises is 216,638 units.

3. The incremental operating costs paid to companies in domestic and commercial refrigeration sector included partial compensation for compressors.

4. There are two compressor producing companies in Iran. Iran Compressor Manufacturing Co. (ICMC) has two production lines. One production line was established in the seventies (old line) with production capacity of 350,000 units per year. The second line (new line) was commissioned in 1994 with annual production capacity of one million units. The production of this line was 201,037 units in 1997. Another compressor manufacturing plant, PARS Compressor has an installed capacity of one million units per year. The actual production was 30,000 units in 1996. The Government of Iran indicated that assistance for conversion of PARS Compressor company will be sought at a later stage.

5. UNIDO is submitting a project proposal on conversion of production of CFC-12 compressors to HFC-134a technology in the new line of ICMC seeking compensation based on Decision 26/36.

6. The Government of Iran stated that it will not seek assistance from the Multilateral Fund for conversion of the old line in ICMC. The choice of technology is based on the technology being adopted by all domestic refrigeration manufacturers in Iran

7. The capital cost in the amount of US \$ 2,649,900, including 10% contingency is requested for replacement of the cleaning equipment, oil dehydration and filtration system, modification of calorimeters for testing, stator machine, and for procurement of new fixtures,

stamping dies, tools and gauges, testing and analytical laboratory equipment. The cost of technology transfer fee is included in the budget. The proposal includes also cost of production equipment associated with changes in the design of oil feeding system.

8. The requested amount by UNIDO, US \$ 2,347,897, was calculated on the basis of the ratio of an estimated number of compressors compensated by the Multilateral Fund (476,000 units) and the total number of compressors expected to be used by downstream users (2,320,000 units).

SECRETARIAT S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The Secretariat reviewed the project with the view of defining its incremental cost and the eligible amount of grant.
2. The cost of cleaning machines and oil dehydration system was reduced on the basis of prices prevailing on the market. Cost of equipment for oil feeding system, stamping dies and analytical and laboratory equipment was recognised as only partially eligible on the basis of technological upgrade. The cost of modification of stator machine was recognised as ineligible for funding. The level of incremental capital cost to be used in the calculation of the eligible amount of grant was agreed with UNIDO to be US \$ 1,706,100, including 10% contingency.
3. The requirements of Decision 26/36 were only partially satisfied by the data submitted with the project and subsequent additional data. However, a problem still exists concerning the number of units produced by downstream manufacturers using hermetic compressors. UNIDO has informed the Secretariat that more accurate data will be provided to the Secretariat to enable calculation of the eligible grant which will be reported to the Sub-committee on Project Review within the prescribed time.
4. The project is submitted for individual consideration by the Sub-Committee on Project Review.

RECOMMENDATIONS

1. Pending.