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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: IRAN

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

Foam

- Phasing out ODS in manufacturing of flexible PU slabstock foam through the use of liquid CO2 blowing technology at Bahman Plastic Co. — UNIDO

Refrigeration

- Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co. — UNDP
- Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co. — UNDP
- Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)
- Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co. — UNDP
- Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co). — UNIDO

• Conversion frm CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)	UNIDO
• Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers	UNIDO
• Replacement of CFC-12 refrigerant by HFC-134a at Iran Compressor Manufacturing Company (ICMC)	UNIDO

PROJECT EVALUATION SHEET
IRAN

SECTOR: Foam ODS use in sector (Baseline): 2,400 ODP tonnes

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

Project Titles:

(a) Phasing out ODS in manufacturing of flexible PU slabstock foam through the use of liquid CO2 blowing technology at Bahman Plastic Co.

Project Data	**Flexible slabstock**
	Bahman
Enterprise consumption (ODP tonnes)	83.00
Project impact (ODP tonnes)	83.00
Project duration (months)	18
Initial amount requested (US $)	485,929
Final project cost (US $):	
Incremental capital cost (a)	570,000
Contingency cost (b)	52,000
Incremental operating cost (c)	-136,071
Total project cost (a+b+c)	485,929
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US $)	485,929
Cost effectiveness (US $/kg.)	5.80
Counterpart funding confirmed?	
National coordinating agency	Department of the Environment
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US $)	485,929
Project impact (ODP tonnes)	83.00
Cost effectiveness (US $/kg)	5.85
Implementing agency support cost (US $)	63,171
Total cost to Multilateral Fund (US $)	549,100

PROJECT DESCRIPTION

(a) Phasing out ODS in manufacturing of flexible PU slabstock foam through the use of liquid CO2 blowing technology at Bahman Plastic Co.

Sector Background

- Latest available total ODS consumption (1998)		8,938.4	ODP tonnes
- Baseline consumption* of Annex A Group I substances (CFCs)		4,635	ODP tonnes
- 1998 consumption of Annex A Group I substances		5,571	ODP tonnes
- Baseline consumption of CFCs in foam sector		2,400	ODP tonnes
- 1998 consumption of CFCs in foam sector		2,500	ODP tonnes
- Funds approved for investment projects in foam sector as of March 1999 (27th Meeting)	US $	4,535,955	
- Quantity of CFC to be phased out in foam sector as of March 1999 (27th Meeting)		1,640	ODP tonnes
- Quantity of CFC phased out in foam sector as of March 1999 (27th Meeting)		960	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. Iran has not reported any sector data for 1995 to 1998 to enable the Fund Secretariat to determine the baseline consumption for the foam sector. A letter from the Government of Iran to the Fund Secretariat however reported that the average ODS consumption in the foam sector for 1995-1997 was 2,400 ODP tonnes and its current foam sector consumption (1998) is 2,500 ODP tonnes.

2. One project is being submitted to the 28th Executive Committee Meeting in the foam sector. When approved and implemented 83 ODP tonnes of CFC-11 will be phased out.

Impact of the Project

3. The elimination of 83 ODP tonnes constitutes 1.8% of Iran's baseline consumption of Annex A Group I substances and 3.5% of its reported form sector baseline consumption.

(a) Phasing out ODS in manufacturing of flexible PU slabstock foam through the use of liquid CO2 blowing technology at Bahman Plastic Co.

4. The project will phase out 83 tonnes of CFC-11 from the production of flexible PU slabstock foam used for the production of foam for mattresses, furniture cushions, etc. The chosen replacement alternative is liquefied carbon dioxide (LCD) a method of blowing of low density foams. The project will be implemented through modification of existing production

facilities including installation of LCD system for US $325,000 and installation of supplementary equipment and instruments (total cost US $485,929). Other costs include license fee (US $50,000), training and engineering/consultancy services (US $50,000), contingency (US $52,000) and incremental operating saving US $136,071 deducted from the estimated project budget.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project costs have been agreed between UNIDO and the Fund Secretariat.

RECOMMENDATIONS

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

	Project Title	Project Cost (US$)	Support Cost (US$)	Implementing Agency
(a)	Phasing out ODS in manufacturing of flexible PU slabstock foam through the use of liquid CO2 blowing technology at Bahman Plastic Co.	485,929	63,171	UNIDO

PROJECT EVALUATION SHEET
IRAN

SECTOR: Refrigeration ODS use in sector (1993): 3,390 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US $15.21/kg

Project Titles:

(a) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co.
(b) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co.
(c) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)
(d) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co.

Project Data	**Commercial**	**Commercial**	**Commercial**	**Commercial**
	Behsarma	**Foroughmanesh**	**Movaledsarma**	**Tahvieh**
Enterprise consumption (ODP tonnes)	36.52	38.13	82.60	22.00
Project impact (ODP tonnes)	34.54	35.78	77.60	20.51
Project duration (months)	30	30	30	30
Initial amount requested (US $)	525,308	498,830	846,720	311,927
Final project cost (US $):				
Incremental capital cost (a)	296,800	266,300	351,200	275,500
Contingency cost (b)	29,680	26,630	35,120	27,550
Incremental operating cost (c)	227,252	205,900	439,671	150,873
Total project cost (a+b+c)	553,732	498,830	825,991	453,923
Local ownership (%)	100%	100%	100%	100%
Export component (%)	0%	0%	0%	0%
Amount requested (US $)	455,593	399,803	816,698	278,659
Cost effectiveness (US $/kg.)	13.19	11.17	10.53	13.59
Counterpart funding confirmed?	Yes			Yes
National coordinating agency	Department of Environment			
Implementing agency	UNDP	UNDP	UNDP	UNDP

Secretariat's Recommendations				
Amount recommended (US $)	455,593	399,803	816,698	278,659
Project impact (ODP tonnes)	34.54	35.78	77.60	20.51
Cost effectiveness (US $/kg)	13.19	11.17	10.53	13.59
Implementing agency support cost (US $)	59,227	51,974	99,837	36,226
Total cost to Multilateral Fund (US $)	514,820	451,777	916,535	314,885

PROJECT EVALUATION SHEET
IRAN

SECTOR: Refrigeration ODS use in sector (1998): 2,400 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US $15.21/kg
Domestic US $13.76/kg
Rigid foam US $7.38/kg

Project Titles:

(e) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co).
(f) Conversion frm CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)
(g) Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers
(h) Replacement of CFC-12 refrigerant by HFC-134a at Iran Compressor Manufacturing Company (ICMC)

Project Data	**Commercial**	**Commercial**	**Commercial**	**Compressor**
	Emerson	**Ghandil**	**Second Group**	**ICMC**
Enterprise consumption (ODP tonnes)	50.04	31.80	45.00	128.00
Project impact (ODP tonnes)	45.76	27.45	42.48	250.00
Project duration (months)	24	24	24	24
Initial amount requested (US $)	473,416	385,550	360,389	1,706,000
Final project cost (US $):				
Incremental capital cost (a)	278,000	285,000	166,300	1,551,100
Contingency cost (b)	27,800	28,500	14,230	155,100
Incremental operating cost (c)	38,073	21,923	129,436	
Total project cost (a+b+c)	343,873	335,423	309,966	1,706,200
Local ownership (%)	100%	100%	100%	100%
Export component (%)	0%	0%	0%	
Amount requested (US $)	343,873	335,423	309,966	1,076,148
Cost effectiveness (US $/kg.)	7.20	12.21	7.29	
Counterpart funding confirmed?				
National coordinating agency		Department of the Environment		
Implementing agency	UNIDO	UNIDO	UNIDO	UNIDO

Secretariat's Recommendations				
Amount recommended (US $)	343,873	335,423	309,966	
Project impact (ODP tonnes)	45.76	27.45	42.48	
Cost effectiveness (US $/kg)	7.20	12.21	7.29	
Implementing agency support cost (US $)	44,703	43,605	40,296	
Total cost to Multilateral Fund (US $)	388,576	379,028	350,262	

PROJECT DESCRIPTION

(a) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co.

(b) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co.

(c) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)

(d) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co.

(e) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co).

(f) Conversion frm CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)

(g) Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers

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

Sector Background

– Latest available total ODS consumption (1997)	5,5883 ODP tonnes
– Baseline consumption* of Annex A Group I substances (CFCs)	4,635 ODP tonnes**
– 1998 consumption of Annex A Group I substances	Not reported
– Baseline consumption of CFCs in refrigeration sector	Not reported
– 1998 consumption of CFCs in refrigeration sector	Not reported
– Funds approved for investment projects in refrigeration sector **as of March 1999**	US $15,405,345
– Quantity of CFC to be phased out in refrigeration sector **as of March 1999**	1,451.3 ODP tonnes
– Quantity of CFC phased out in refrigeration sector **as of March 1999**	757.0 ODP tonnes

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

**As calculated by the Fund Secretariat.

Sector Information

1. The refrigeration sector is estimated to have about 300 enterprises; in the domestic refrigeration sub-sector, there are about 10 large manufacturers, and about 15 medium-sized manufacturers; in the commercial refrigeration sub-sector, there are about 30 large-sized manufacturers, and about 240 small and medium-sized manufacturers.

2. The Executive Committee approved about US$ 15.4 million for thirteen projects to phase out 1,451.4 ODP tonnes of CFC in the refrigeration sector.

3. The approval of the eight proposed projects will help Iran to phase out a total of 536.12 ODP tonnes, and will assist the country to meet the country's obligations with the Montreal Protocol.

(a) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co.

4. This project will phase out 36.52 OPD tonnes of CFC consumption in the production of commercial refrigeration equipment at Behsarma Co.. It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise operates two low-pressure foam dispensers (60 kg/min). There are also one open top batch premixer, three CFC-12 charging unit, six CFC-12 vacuum pumps, and three CFC-12 leak detectors. All of the above will be replaced and scrapped, except five vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $164,800), a premixer (US $25,000), three charging units (US $45,000), a vacuum pump/retrofit of five vacuum pumps (US $4,500), leak detectors (US $9,500), technical assistance (US $20,000), redesign/testing/trials (US $20,000), and training (US $10,000). The eligible incremental operating costs amount to US $238.622 based on 2 years duration.

(b) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co.

5. This project will phase out 35.78 ODP tonnes of CFC consumption in the production of commercial refrigeration equipment at Foroughmanesh Co.. It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise operates two low-pressure foam dispensers (60 kg/min). There are also two CFC-12 charging unit, four manual charging kits, six CFC-12 vacuum pumps, and three CFC-12 leak detectors. All of the above will be replaced and scrapped, except five vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $164,800), six charging units (US $50,000), a vacuum pump/retrofit of five vacuum pumps (US $4,500), two leak detectors (US $2,000), technical assistance (US $20,000), redesign/testing/trials (US $15,000), and training (US $10,000). The eligible incremental operating costs amount to US $205,900 based on 2 years duration.

(c) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)

6. This project will phase out 77.60 ODP tonnes of CFC consumption in the production of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1). It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise operates two low-pressure foam dispensers (60 kg/min), and one high pressure foam dispenser (200 kg/min). There are also four CFC-12 charging unit, charging kits, ten CFC-12 vacuum pumps, and four CFC-12 leak detectors. All of the above will be replaced and scrapped, except the high pressure dispenser and eight vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $135,200), retrofit of one high pressure dispenser (US $25,000), charging units (US $80,000), vacuum pumps (US $9,000), leak detectors (US $17,000), technical assistance (US $20,000), redesign/testing/trials (US $25,000), and training (US $10,000). The eligible incremental operating costs amount to US $460,400 based on 2 years duration.

(d) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co.

7. This project will phase out 20.51 ODP tonnes of CFC consumption in the production of commercial refrigeration equipment at Tahvieh Garm va Sard Co.. It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise operates two low pressure foam dispensers (50 and 60 kg/min). There are also five charging units, six CFC-12 vacuum pumps, and three CFC-12 leak detectors. All of the above will be replaced and scrapped, except five vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $148,000), charging units (US $75,000), vacuum pumps (US $4,500), leak detectors (US $3,000), technical assistance (US $20,000), redesign/testing/trials (US $15,000), and training (US $10,000). The eligible incremental operating costs amount to US $207,017 based on two years duration.

(e) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co).

8. This project will phase out 47.76 ODP tonnes of CFC consumption in the production of commercial and domestic refrigeration equipment at the Sherkate Sanayee Emerson (Emerson Co.). It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise

operates two foaming machines. There are also four charging units, seven CFC-12 vacuum pumps, and two CFC-12 leak detectors. All of the above will be replaced and scrapped, except six vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $180,000), charging units (US $30,000), vacuum pumps (US $6,000), leak detectors (US $2,000), technical assistance (US $10,000), redesign/testing/trials (US $15,000), and training (US $10,000). The eligible incremental operating costs amount to US $134,616 based on one year duration.

(f) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)

9. This project will phase out 27.45 ODP tonnes of CFC consumption in the production of commercial and domestic refrigeration equipment at the Sherkate Broudati Ghandil Iran (Ghandil Co.). It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The enterprise operates two foaming machines. There are also four charging units, twelve CFC-12 vacuum pumps, and two CFC-12 leak detectors. All of the above will be replaced and scrapped, except ten vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure foam dispensers (US $160,000), charging units (US $30,000), vacuum pumps (US $10,000), leak detectors (US $2,000), technical assistance (US $10,000), redesign/testing/trials (US $18,000), and training (US $10,000). The eligible incremental operating costs amount to US $75,800 based on one year duration.

(g) Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers

10. This umbrella project will phase out 42.48 ODP tonnes of CFC consumption in the production of commercial refrigeration equipment at five companies in Yazd (Aalisard, Pardis, Mohebi, Jalalzadeh, Meibod Tagarg) and one company in Isfahan (Shahab). It will be achieved by converting foam operations (CFC-11) to HCFC-141b as the blowing agent and refrigeration operations (CFC-12) to HFC-134a as the refrigerant. The project will include incremental capital costs covering refrigeration evacuation and charging units (US $61,300), technical assistance and training (US $105,000). The eligible incremental operating costs amount to US $195,510 based on one year duration.

Justification for the Use of HCFC-141b

11. All companies have selected HCFC-141b technology to replace CFC-11 in foam blowing operations. The justifications provided for each individual company. The Government concurrence use of HCFC technology has been also received by the Secretariat in accordance with Executive Decision 27/13 and is attached to this evaluation.

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

1. This project was submitted to the 27th Meeting. The Executive Committee took Decision 27/72 which inter alia stipulated "that the above project should be deferred for consideration at the Twenty-eight Meeting, prior to which reconciled data should be obtained and presented with the project proposal".

Additional Data

2. The Executive Committee at its 11th and 16th Meetings approved the first group of 5 domestic refrigeration companies manufacturing 715,000 units. The second group of 6 domestic refrigeration companies with total production of 321,750 units was approved at the 18th Meeting.

3. UNIDO has identified another 160 commercial refrigeration companies which established their production capacity prior to July 1995. These enterprises produce 1.8 million commercial refrigeration units a year, using over 1 million hermetic compressors equal to or below 250 WT in their production.

4. Subsequent to the 27th Meeting, UNIDO submitted detailed information about production levels and products manufactured by 20 of those companies. A national expert was also recruited by UNIDO to visit a sample of 40 enterprises included in the list of 150 remaining companies. UNIDO has provided updated information about these 40 enterprises.

5. There are two compressor producing companies in Iran. UNIDO has advised that Iran Compressor Manufacturing Co. (ICMC) has two production lines. One production line was established in the seventies (old line) with a production capacity of 350,000 units per year. The second line (new line) was commissioned in 1994 with an 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.

6. The Government of has Iran informed the Secretariat that it will not seek compensation for IOC for compressors below 250 WT in future projects in the refrigeration sector. Instead, it wishes to seek compensation for capital costs for conversion of the two compressor manufacturing enterprises.

7. The Government of Iran has also advised that it will not seek assistance from the Multilateral Fund for conversion of the old line at ICMC and that assistance for the conversion of the PARS Compressor Company will be requested at a later stage.

Project Description

8. This project, submitted by UNIDO, requests funding for conversion of the production of CFC-12 compressors to HFC-134a technology in the new line of ICMC, based on Decision 26/36.

9. The capital cost being requested is US $1,706,100 (including 10% contingency) which will cover the replacement of the cleaning equipment, oil dehydration and filtration system, modification of calorimeters for testing, procurement of new gauges and fixtures, stamping dies,

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

10. The level of grant of US $1,076,148 has been calculated on basis of Decision 26/36, through several steps:

(a) The total number of refrigerators using compressors equal to, or below 250 WT is 2,077,250 units.

(b) The total number of compressors for which incremental cost has been paid to the domestic refrigeration manufacturing companies by the Multilateral Fund is 646,153 units.

(c) The discounting factor has been calculated to be 0.76.

(d) The amount of US $84,000 was subtracted to reflect funs already disbursed for IOC for hermetic compressors below 250 WT in previously approved projects for commercial refrigeration companies.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

(a) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co.

(b) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co.

(c) Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)

(d) Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co.

(e) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co).

(f) Conversion frm CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)

(g) Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers

1. The Secretariat has discussed with UNDP and UNIDO the implications and Decision 26/36 regarding the boundary between domestic and commercial refrigeration sector, the treatment of production of polyurethane insulation panels for cold rooms. As a result, the respective cost-effectiveness thresholds have been applied for the relevant portion of production to determine the eligible level of grant.

2. Three projects submitted by UNDP (Behsarma, Movaledsarma and Tahvieh) included incremental cost (IOC) for compressors below 250 WT, which is not in line with the statement of the Government of Iran that IOC for compressors will not be requested since the project for conversion of compressor manufacturing facility is submitted for the 28th Meeting. The relevant portion of IOC has been excluded from the proposals.

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

3. The Secretariat has examined the data submitted by UNIDO in light of Decision 27/72. The Secretariat compared data initially submitted by UNIDO for 150 enterprises with the additional more detailed information provided by UNIDO for 20 of these enterprises. The variation in the total figures for the level of production and the number of compressors equal to or below 250WT used by these 20 enterprises is, on average, within +/- 15%.

4. The Secretariat has also analyzed updated information provided by UNIDO for 40 commercial enterprises. From 40 enterprises in the survey, only 23 appear on the list of 150 enterprises as originally submitted by UNIDO. It is therefore only possible to compare data from the remaining 23 enterprises with the data originally provided for the group of 150. The total production level of the 23 enterprises as presented in the original set of data is some 53% higher than the production level in the subsequent more detailed survey. In the more detailed survey the number of compressors below 250WT used by these enterprises is some 5% higher than originally reported.

5. The Secretariat has also examined data on the production level of refrigerators and the number of compressors below 250WT reported in five commercial refrigeration projects also submitted to this meeting, covering 11 enterprises in Iran. This data was compared with the data for the same enterprises included in the list of 150 enterprises. In the original data on 150 enterprises, the total number of units produced is 88% higher and the number of compressors equal to or below 250WT indicated is 8% higher on average than the actual number reported in the project data for the same enterprises.

6. The Secretariat has also conducted its usual review to establish the incremental cost and the eligible amount of grant.

7. The request for incremental capital cost reflects the comments and recommendations of the Secretariat made during the first submission of the project at the 27th Meeting. All the requested costs are recognized as eligible.

8. The calculation of eligible grant is in compliance with Decision 26/36.

9. The project is submitted for individual consideration of the Sub-Committee on Project Review since this is the first compressor conversion project for which Decision 26/36 is applied.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the commercial refrigeration projects from UNIDO and UNDP with the funding levels and associated support costs as indicated below.

	Project Title	Project Cost (US$)	Support Cost (US$)	Implementing Agency
(a)	Conversion from CFC-11 to HCFC-141b and from CFC-12 to HCFC-134a technology in the manufacture of commercial refrigeration equipment at Behsarma Co.	455,593	59,227	UNDP
(b)	Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Foroughmanesh Co.	399,803	51,974	UNDP
(c)	Conversion from CFC-11 to HCFC-141b and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Movaledsarma Co. (Zagross 1)	816,698	99,837	UNDP
(d)	Conversion from CFC-11 to HCFC-141b technology and from CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Tahvieh Garm va Sard Co.	278,659	36,226	UNDP
(e)	Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Sanayee Emerson (Emerson Co).	343,873	44,703	UNIDO
(f)	Conversion frm CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of domestic and commercial refrigeration at the Sherkate Broudati Ghandil Iran (Ghandil Co.)	335,423	43,605	UNIDO
(g)	Phasing out of CFC-11 by conversion to HCFC-141b and CFC-12 to HFC-134a in manufacture of commercial refrigeration at the second group of Iranian Commercial Refrigerator Manufacturers	309,966	40,296	UNIDO