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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-seventh Meeting
Montreal, 17-19 July 2002

PROJECT PROPOSALS: ALGERIA

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

Refrigeration

- Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the first group of commercial refrigerator manufacturers UNIDO
- Refrigerant management plan to phase out the use of ODS in the refrigeration and air-conditioning sector (includes: training in good refrigerant management practices, training of customs officers, and national recovery and recycling) UNIDO

**PROJECT EVALUATION SHEET
ALGERIA**

SECTOR: Refrigeration ODS use in sector (2001): 712.00 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US \$15.21/kg
Domestic US \$13.76/kg

Project Titles:

- (a) Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the first group of commercial refrigerator manufacturers

Project Data	Commercial
	First group
Enterprise consumption (ODP tonnes)	19.25
Project impact (ODP tonnes)	18.58
Project duration (months)	28
Initial amount requested (US \$)	224,320
Final project cost (US \$):	
Incremental capital cost (a)	119,100
Contingency cost (b)	8,310
Incremental operating cost (c)	96,910
Total project cost (a+b+c)	224,320
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	224,320
Cost effectiveness (US \$/kg.)	12.10
Counterpart funding confirmed?	Yes
National coordinating agency	Ministere de l'Amenagement du Territoire et Environnement
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US \$)	224,320
Project impact (ODP tonnes)	18.58
Cost effectiveness (US \$/kg)	12.10
Implementing agency support cost (US \$)	29,162
Total cost to Multilateral Fund (US \$)	253,482

PROJECT DESCRIPTION

Sector background

- Latest available total ODS consumption (2001)	1,241.30 ODP tonnes
- Baseline consumption of Annex A Group I substances (CFCs)	2,119.50 ODP tonnes
- Consumption of Annex A Group I substances for the year 2001	1,037.80 ODP tonnes
- Baseline consumption of CFCs in refrigeration sector	Not available ODP tonnes
- Consumption of CFCs in refrigeration sector in 2001	712.00 ODP tonnes
- Funds approved for investment projects in refrigeration sector as of March 2002	US \$7,231,450.00
- Quantity of CFC to be phased out in investment projects in refrigeration sector as of March 2002	474.30 ODP tonnes
- Quantity of CFC phased out from approved projects in the refrigeration sector	447.00 ODP tonnes
- Quantity of CFC to be phased out in approved but not implemented refrigeration projects	27.30 ODP tonnes
- Quantity of CFC remaining to be phased out in the refrigeration sector	684.70 ODP tonnes
Quantity of CFC to be phased out in projects submitted to the 37 th Meeting	18.58 ODP tonnes

1. The Executive Committee has approved 4 investment projects to phase out 474.3 ODP tonnes used in the manufacture of domestic refrigerators and commercial refrigerators. About US \$7.2 million has been allocated for the implementation of these projects. The latest ODS consumption data in the refrigeration sector for 2001 was included in Algeria's RMP which has been submitted to the 37th Meeting. ODS consumption in the sector is 712 ODP tonnes. ODS consumption in the approved but not implemented projects amounts to 27.3 MT resulting in remaining consumption in the sector to be 684.7 MT. About 80 MT is reported to be used in the refrigeration manufacturing sub-sector and 289 metric tonnes in the servicing sub-sector. The RMP will address the consumption of 289 MT. UNIDO confirmed that the remaining consumption of 315 MT will be dealt with through the respective measures to be undertaken by the Government of Algeria and no request for funding from the Multilateral Fund will be submitted in regard to phasing-out this consumption.

2. There are several remaining small- and medium-sized companies manufacturing commercial refrigeration equipment with a total unfunded consumption of about 80 MT comprising 18 MT of CFC-11 and 62 MT of CFC-12. UNIDO is submitting this umbrella project for the conversion of 7 enterprises of similar background manufacturing commercial refrigeration equipment to the 37th Meeting of the Executive Committee to phase out 18.58 ODP tonnes.

3. The seven enterprises (Algerienne Frigorifique, Froid Climat, Betiche, Inderfrigo, INC Royal, Saar) consumed 12.2 ODP tonnes of CFC-11 and 6.9 ODP tonnes of CFC-12 in 2000 in

manufacturing different commercial refrigeration equipment (display cabinets, commercial freezers, water coolers). Prefabricated polystyrene sheets have been used for insulation of part of their production. The enterprises do not have pre-mixing equipment and are using pre-blended polyol for foaming operations. All of the enterprises, with the exception of Betiche, employ manual handling of polyurethane foam components. Betiche has two low pressure foaming machines: one stand-by and one operational. The enterprises carry out refrigerant related operations using vacuum pumps, portable charging machines and leak detectors in the baseline.

4. The total phase out of 19.2 ODP tonnes of CFC-11 and CFC-12 will be achieved by converting CFC-11 based technology to HCFC-141b as the foam blowing agent, and CFC-12 to HFC-134a as the refrigerant. Under the current project, the existing low-pressure foaming machines will be utilised for new technology with minor modifications. All the enterprises will require provision of industrial or portable charging units, new vacuum pumps and leak detectors suitable for HFC-134a duty. Other costs include re-design of main models, testing, trials and training. Incremental costs are requested by the enterprises reflecting higher cost of chemicals and components.

Justification for the use of HCFC-141b

5. Justification for the use of HCFC-141b based on technological and economic analysis of each enterprise's operations is provided in the project document. UNIDO indicated that the choice of HCFC-141b as interim technology was made by the enterprises following a discussion with them on available alternatives and relevant decisions of the Executive Committee regarding the use of HCFC-141b as interim substitute foam blowing agent.

6. In accordance with relevant decisions of the Executive Committee on the use of HCFCs, a letter of transmittal from the Government of Algeria endorsing the use of HCFC-141b by the companies has been submitted and is attached.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

7. The Fund Secretariat and UNIDO have discussed the proposal in details. The Secretariat has raised several issues pertaining to discrepancy in ODS consumption data reported to the Secretariat by NOU and relevant data contained in the project document. The project document contains also inconsistent information on the use of polyurethane insulation foam by the enterprises covered by the proposal. The Secretariat has requested additional information from UNIDO to justify CFC-11 consumption by enterprises concerned. The necessary clarifications have been obtained and UNIDO revised the relevant parts of the project document. The Fund Secretariat and UNIDO have discussed and agreed on the costs of the projects.

RECOMMENDATIONS

8. The Fund Secretariat recommends blanket approval of the project for the Three Enterprises with the levels of funding and associated support costs as indicated in the table below.

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the first group of commercial refrigerator manufacturers	224,320	29,162	UNIDO

9. The 18.58 ODP tonnes to be phased out by the project should be deducted from Algeria's national aggregate consumption.

**PROJECT EVALUATION SHEET
ALGERIA**

SECTOR: Refrigeration ODS use in sector (2001): 712 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Titles:

- (a) Refrigerant management plan to phase out the use of ODS in the refrigeration and air-conditioning sector (includes: training in good refrigerant management practices, training of customs officers, and national recovery and recycling)

Project Data	Refrigerant management plan
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	245.00
Project duration (months)	54
Initial amount requested (US \$)	1,702,754
Final project cost (US \$):	
Incremental capital cost (a)	
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	1,424,647
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	200,000
Cost effectiveness (US \$/kg.)	5.81
Counterpart funding confirmed?	
National coordinating agency	National Ozone Unit
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US \$)	200,000
Project impact (ODP tonnes)	
Cost effectiveness (US \$/kg)	
Implementing agency support cost (US \$)	26,000
Total cost to Multilateral Fund (US \$)	226,000

PROJECT DESCRIPTION

The refrigeration sector

10. In 2001, a survey was conducted in Algeria to calculate the consumption of CFCs in the refrigeration-servicing sector. Based on the results of the survey, the total 2001 CFC consumption for servicing refrigeration equipment has been estimated at 241 ODP tonnes with the following distribution: 54 ODP tonnes for servicing domestic refrigerators, 156 ODP tonnes for industrial and commercial refrigeration equipment (representing 70 per cent of the total consumption), and 31 ODP tonnes for MAC units.

11. There are 120 registered companies servicing refrigeration equipment, employing 2,500 technicians. In addition, about 7,600 undeclared workers primarily working in the refrigeration-servicing sub-sector have been identified. These workers have been trained on-the-job, normally using rudimentary equipment. The RMP will address the undeclared workers to improve implementation of the control measures already enacted by the Government to control illegal import of ODS and ODS-based equipment.

12. The current price of CFC-12 in Algeria is US \$ 2.20/kg, while the prices of HCFC-22 and HFC-134a are US \$3.5/kg and US \$7.5/kg, respectively.

Policy measures

13. Since October 1995, a new system has been put in place whereby the customs officers control the entry of all ODS based goods, including payment of import duties and taxes. Any goods that are imported or exported must be declared in full. The goods can be subjected to checks by customs inspectors (physical checking of inventory, quantities, prices, weights). A receipt of payable duties and taxes is issued prior to the issuance of a transport authorisation. The system is fully integrated with the fiscal system.

14. An official decree regulating the import of ODS was enacted on 1 April 2000. According to this decree, the production and export of Annex A substances are prohibited, and any import is subject to a licence issued by the Ministry of Environment.

Sub-projects identified in the RMP

15. The RMP includes requests for a training programme for customs officers (US \$117,150), a training programme on good refrigerant management practices (US \$177,382) and a national recovery and recycling project (US \$1,408,222) which includes 468 recovery bags, 468 refrigeration kits, 268 recovery machines, 212 recovery pumps and ancillary equipment for service workshops, and the establishment of 48 recycling centres.

Government commitment

16. Through the implementation of the RMP, the Government of Algeria proposes to phase out 85 per cent of the CFC consumption used in the refrigeration servicing sector (245 ODP tonnes) by 2007, without further assistance from the Multilateral Fund.

Implementation modalities

17. The Ozone Office will be the liaison between ODS users, Government agencies, technical institutions and relevant NGOs. The Ozone Office will also develop and implement future measures including: monitoring the effectiveness of current regulations and processes; addressing the informal sector and illegal imports of ODSs; certifying refrigeration technicians; developing incentives to promote refrigerant recovery and recycling activities; and encouraging major stakeholders to promote ozone-friendly technologies and substances.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

18. So far, the Executive Committee has approved 4 investment projects to phase out 474.3 ODP tonnes used in the manufacture of domestic refrigerators (about 470,000 units/year) and commercial refrigerators (about 10,000 units/year). About US \$7.2 million has been allocated for the implementation of these projects. As reported in the RMP, there are still several small- and medium-sized companies manufacturing commercial refrigeration units with a total consumption of 80 ODP tonnes (18 tonnes of CFC-11 and 62 tonnes of CFC-12). The Government of Algeria has submitted an umbrella project for the conversion of 7 enterprises manufacturing commercial refrigeration equipment to the 37th Meeting of the Executive Committee. The Government will submit projects for the remaining enterprises in 2003.

19. The Fund Secretariat sought clarification from UNIDO regarding the reliability of the CFC consumption data reported in the project proposal. In the Executive Summary, it is stated that the remaining CFC consumption in the country is 535 tonnes, which is mainly used in the refrigeration-servicing sub-sector. However, only 330 tonnes of CFCs were related to the servicing of refrigeration equipment. In this regard, UNIDO indicated that the ODS consumption in the refrigeration sector is 712 tonnes; of this amount, 27.3 tonnes are related to projects that have been approved but not yet implemented, 80 tonnes are currently used for the production of commercial refrigerators and 289 tonnes is the total calculated consumption in the servicing sector. The remaining consumption, 315 tonnes, is used in the informal sector and by a number of large users who import CFC directly and have on-site technicians. The Government of Algeria agreed not to request additional funding from the Multilateral Fund for phasing out this remaining consumption of 315 tonnes (UNIDO sent to the Secretariat a copy of the communication from the Government of Algeria indicating that "the Government will not seek additional funding for the remaining consumption").

20. The Secretariat and UNIDO also discussed issues related to the size of the recovery and recycling network, cost issues related to international experts, recovery and recycling equipment

(the unitary price of several of the equipment requested in the proposal was higher than the price of the same equipment in similar projects so far approved), and logistical arrangement for the training workshops. Subsequently, UNIDO revised the sub-project costs as follows: US \$162,208 for the training programme for refrigeration service technicians; US \$106,150 for the training for customs officers; and US \$1,156,289 for the recovery and recycling scheme.

RECOMMENDATIONS

21. The Fund Secretariat recommends approval in principle of US \$1,424,647 as the total funds that will be available for Algeria to achieve the phase out of 245 ODP tonnes of CFCs by 2007, representing 85 per cent of the CFC consumption used in the refrigeration servicing sector, and that the Government of Algeria will not seek additional funding from the Multilateral Fund to phase out an additional amount of 315 tonnes used in the informal sector and by a number of large users who import CFC directly.

22. The Fund Secretariat also recommends blanket approval for the first tranche of the RMP project at the funding level indicated in the table below, with the understanding that a subsequent year's funding will not be disbursed until the Executive Committee has favourably reviewed the prior year's progress report.

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Refrigerant management plan to phase out the use of ODS in the refrigeration and air-conditioning sector (includes: training in good refrigerant management practices, training of customs officers, and national recovery and recycling)	200,000	26,000	UNIDO

**GOVERNMENT NOTE OF TRANSMITTAL OF INVESTMENT PROJECTS TO THE
EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL**

**PROJECT(S) OF THE GOVERNMENT OF THE DEMOCRATIC REPUBLIC OF
ALGERIA**

The Government of the Algeria requests UNIDO to submit the project(s) listed in Table 1 below to the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol for consideration at its 37th Meeting.

Section I: ODS Consumption Data

1. The ODS consumption figures of the projects has/have been validated by the National Ozone Unit (NOU).
2. The consumption data have been retained in the records of the NOU for reference and/or future verification.
3. The Government has been advised by the NOU that the agreement to the projects indicates a commitment to ensure that the validated phase out figures were realized and yielded a sustained reduction from the 2001 consumption of 18.73 ODP tonnes for the refrigeration sector.

Table 1: Projects Submitted to the 37th Meeting of the Executive Committee by UNIDO

Project Title/Sector	Type of ODS	Consumption (ODP Tonnes), (2001)	Amount to be Phased Out (ODP Tonnes), (2003)
Refrigeration Sector			
Conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration at the	CFC-11 & CFC-12	19.40	18.73
Total		19.40	18.73

Section II: Other Relevant Actions Arising from Decision 33/2

4. It is understood that, in accordance with the relevant guidelines, the funding received for a project would be partly or fully returned to the Multilateral Fund in cases where technology was changed during implementation of the project without informing the Fund Secretariat and without approval by the Executive Committee;

5. The National Ozone Unit undertakes to monitor closely, in cooperation with customs authorities and the environmental protection authorities, the importation and use of CFCs and to combine this monitoring with occasional unscheduled visits to importers and recipient manufacturing companies to check invoices and storage areas for unauthorized use of CFCs.
6. The National Ozone Unit will cooperate with the relevant implementing agencies to conduct safety inspections where applicable and keep reports on incidences of fires resulting from conversion projects.

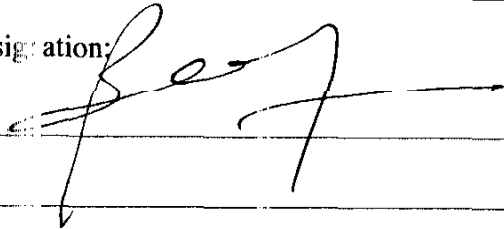
Section III: Projects Requiring the Use of HCFCs for Conversion

7. In line with Decision 27/13 of the Executive Committee and in recognition of Article 2F of the Montreal Protocol, the Government
 - (a) has reviewed the specific situations involved with the projects;
as well as its HCFC commitments under Article 2F; and
 - (b) has nonetheless determined that, at the present time, the projects needed to use HCFCs for an interim period with the understanding that no funding would be available for the future conversion from HCFCs for the companies involved.

Name and signature of responsible Officer:

BENNADJI MOHAMED EL HADI

Designation:



Date: 10 april 2002

Telephone: 213-21-43-28-05

Fax: 213-21-43-28-05

E-mail: Ozone1@wvissal.dz