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EXECUTIVE COMMITTEE OF
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PROJECT PROPOSALS: DOMINICAN REPUBLIC

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

Refrigeration

- Elimination of CFC-11 & CFC-12 consumption in the manufacture of unitary commercial refrigeration equipment at Industria Continental, C.A. by replacement with HCFC-141b and HFC 134a respectively UNDP

Refrigerant Management Plan

- Customs training UNEP
- Train the trainers programme in the refrigeration sector UNEP
- Implementation of a national programme for recovery and recycling of refrigerant UNDP
- Monitoring the activities induced in the RMP UNDP

PROJECT EVALUATION SHEET **DOMINICAN REPUBLIC**

SECTOR: REFRIGERATION ODS use in sector (05/97-04/98): 97.49 ODP tonnes

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

Project Titles:

Conversion to non CFC technology in manufacture of unitary commercial refrigeration equipment at Industria Continental, C. por A

Project Data	Domestic
	Industria Continental, C. por A
ODS phase-out (ODP tonnes)	19.94
Proposed project duration (months)	24
Incremental capital cost (US \$)	212,800
- including contingency (%)	0
Incremental operational cost (US \$)	190,572
Total project cost (US \$)	403,372
Local ownership (%)	100
Export component (%)	
Amount requested (US \$) {Original}	303,200
{Revised}	
Cost effectiveness (US \$/kg)	15.21
National Coordinating Agency	Secretaria de Estado de Agricultura
Implementing Agency	UNDP
Technical review completed?	Yes

Secretariat's Recommendations:	
Amount recommended (US \$)	303,200
Project impact (ODP tonnes)	19.94
Cost effectiveness (US \$/kg)	15.21
Implementing Agency support cost (US \$)	39,416
Total cost to Multilateral Fund (US \$)	342,616

PROJECT DESCRIPTION

Conversion to non CFC technology in manufacture of unitary commercial refrigeration equipment at Industria Continental, C. por A.

1. ODS consumption in the commercial refrigeration sub-sector for manufacturing of new equipment is estimated at 97.49 MT. Three enterprises are now engaged in the manufacture of unitary commercial refrigeration equipment. The project proposal for Industria Continental will eliminate 19.94 ODP tonnes. Implementation of this project together with completion of approved projects for FARCO and METALGAS, would lead to the phase out of CFC consumption by all identified enterprises which manufacture unitary commercial refrigeration equipment in Dominican Republic.
2. The project for Industria Continental will be completed in 1999. The proposal contains a following statement:
“ On completion of the FARCO, METALGAS and INDUSTRIA CONTINENTAL projects, the Dominican Republic government envisages introducing legislation to prohibit the manufacture, import, and sale of commercial refrigeration equipment containing, or designed for, CFCs.”
3. INDUSTRIA CONTINENTAL is a 100% Dominican-owned company that manufactures unitary commercial refrigeration equipment. Currently CFC 11 is used as the blowing agent in the production of the rigid PU insulation foam for the equipment cabinets and doors, while CFC 12 is used as a refrigerant. According to the information contained in project approved for FARCO and METALGAS the company increased its annual production level from 2,000 in 1996 and 1997 to about 14,000 units for the 12 month period May 1997- April 1998. Based on the May 1997 - April 1998 consumption figures, this project will eliminate the use of 19.94 ODP tonnes/year of CFC-11 and CFC-12 by conversion to the use of HCFC-141b and HFC 134a respectively. Funds requested will be used to retrofit where possible and to replace the existing production equipment, and for technology transfer, technical assistance, re-design, testing, pre-production trials and training. Incremental Operating Costs resulting from the conversion to the new technology are calculated for a period of two years.
4. The enterprise has been acquainted with all ODS phase out technology options available. INDUSTRIA CONTINENTAL understands that HCFC-141b is an interim solution that will require a change to an appropriate zero-ODP technology (either cyclo-pentane, or another commercially developed and acceptable alternative). Based on the present status of the development of non-flammable zero-ODP replacement technologies for CFC-11 for polyurethane insulation foam, the enterprise expects to utilize the interim HCFC-141b technology only until 2005.
5. Whilst recognizing the environmental benefits of cyclopentane versus HCFC-141b, the enterprise selected HCFC-141b as an interim replacement for CFC-11 as it provides the best energy efficiency, and the lowest investment and operating costs. HCFC-141b is the technology adopted by the majority of INDUSTRIA CONTINENTAL's competitors in the Caribbean and Central American countries, including two local competitors in the

Dominican Republic. With no local supplies, no other local demand, and its own very small requirements, the enterprise is concerned about both product availability, and the price of cyclopentane in the Dominican Republic. HCFC-141b technology is also most suited to the factory layout and the present skill level of the work force at the factory. The enterprise also understands and accepts that the costs associated with the subsequent technology change will be borne by it.

6. The list of equipment to be destroyed after implementation of the project is attached to the proposal. A letter of commitment was also provided to dispose of any equipment that will be replaced under this project and to provide all the necessary additional funding required for a successful implementation of the project. The enterprise requested not to destroy but use some of the equipment (leak detectors and vacuum pumps) in CFC servicing operations.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project is essential for the Dominican Republic to meet the Montreal Protocol obligations.
2. The justifications are provided for use of interim HCFC-141b technology in foam operation.
3. The Secretariat has discussed with UNDP the significant increase in production level and ODP consumption by the enterprise. According to UNDP explanations production and ODP consumption data regarding INDUSTRIAL CONTINENTAL in previously approved projects were not correct. The information which was recently collected by UNDP, shows that the production of INDUSTRIAL CONTINENTAL increased from 6,450 units/year in 1995 to 14,949 units/year in 1997 due to a surge in demand for the enterprise' products. The Secretariat has also discussed the eligibility and incrementality of capital and incremental costs requested in the proposal. The eligible incremental cost of the foaming machine was reduced accordingly. The total cost to be approved by the Executive Committee reflects the maximum allowed by the threshold for the commercial refrigeration sub-sector.

RECOMMENDATION

1. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below:

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Conversion to non CFC technology in manufacture of unitary commercial refrigeration equipment at Industria Continental, C. por A.	303,200	39,416	UNDP

PROJECT DESCRIPTION

Refrigerant Management Plan:

1. In 1996, total ODS consumption in the refrigeration sector in the country was estimated at 545 ODP tonnes and was used in the refrigeration, air-conditioning and MAC subsectors. There are over 7,200 service technicians in Dominican Republic working in 2,400 service shops which repair and maintain refrigeration equipment in the country.

2. The Government's Action Plan proposes to develop and implement specific control measures including, inter alia, implementation of regulations through legislative action, decrees and resolutions to establish import regulations, regulation on consumption, distribution of import quotas and licenses for trade of ODS; implementation of a scheme of fiscal incentives and taxes to encourage the reduction in the use of ODS; training of refrigeration and air-conditioning service technicians and customs officers as well as the implementation of a national programme for recovery and recycling of refrigerants. The Government is proposing to implement policy and legislative measures before January 1999.

3. The RMP identified two basic training programmes, namely, training for customs officers (inspectors, controllers and customs policemen), to identify and develop techniques for collecting and reporting consumption of ODS imported and ODS-based refrigeration equipment; and a "train the trainers" programme for refrigeration technicians in good management practices. This programme aims at improving service and maintenance practices in order to prevent intentional and/or unintentional release of ODS into the atmosphere.

4. The RMP also includes a subproject for the establishment of a recovery and recycling network comprising 167 recovery units (including units in the training programme on good servicing practices) and 7 recycling centres for servicing commercial and industrial refrigeration equipment, at a cost of US \$419,000. This activity also provides for one-day workshops for service technicians on practical demonstration on recovery and recycling equipment. This project is part of an overall strategy by the Government of Dominican Republic for the refrigeration and air conditioning sector. The first priorities are to stop the discharge of CFCs into the atmosphere, due to leaks and servicing emissions, and to recover the CFC from existing installations during maintenance and prior to retrofits or dismantlement.

5. Implementation of these projects will lead to a recovery and recycling of 37.4 tonnes of CFC each year. This amount does not take into account the amount of refrigerant that might be saved owing to the teaching of good service and maintenance practices at the training seminars.

6. The Governmental Ozone Committee will be responsible for the monitoring, co-ordination and implementation of proposed phase-out activities in the RMP. It will allocate and distribute the equipment and monitor the quantity of refrigerants being recovered and recycled; and maintain a

database to monitor the information received from service and recycling centres. US \$15,000 has been requested for monitoring the activities included in the RMP.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The RMP for Dominican Republic follows the RMP guidelines as revised by UNEP.
2. Bearing in mind the importance of the RMP as an activity that could assist the Government of Dominican Republic to meet its obligations under the Montreal Protocol, the Secretariat and UNDP discussed the timing of implementation of regulatory and legislative requirements and the fiscal steps to make recovery and recycling economically feasible.
3. The Executive Committee has approved two demonstration projects in the refrigeration sector, one in MACs and another in commercial refrigeration (food storage, distribution and retailing), as bilateral co-operation by the Government of the United States. The MAC demonstration project has been completed and provided training and recovery/recycling equipment to 27 service shops. The project on the commercial refrigeration sector focused on recovering refrigerant from supermarkets and small convenience stores, and provided for recovery equipment to 35 refrigeration service shops and training of 50 technicians in the use of the recovery/recycling and related equipment. The Government of the Dominican Republic with assistance from the Government of the United States also established two refrigerant reclaiming centers, a refrigerant purity inspection team at a local technical school, and a local technical support provider to provide warranty, repairs, and training services for the equipment.
4. The Fund Secretariat sought clarification from UNDP whether the experience gained during implementation of the two projects was taken into account during the development of the RMP. In this regard, UNDP informed the Secretariat that preparation of the RMP took into account the two demonstration projects mentioned in the paragraph above. The recovery and recycling component of the RMP excluded the commercial refrigeration subsector in the capital city of Santo Domingo (since it was covered by the demonstration project jointly implemented by the Government of the United States and UNDP) and the service shops dedicated exclusively to the maintenance of MAC units (already covered under bilateral cooperation by the United States).
5. Regarding the proposed training programmes in the RMP, the Secretariat suggested UNEP enhance the importance of the programmes and reduce their implementation time (e.g., start the "train the trainers" programme in the third quarter of 1998, and the training of technicians in the fourth quarter of 1998). The Secretariat also requested clarifications on the level of funding requested for the training activities which were higher compared to similar ones included in approved RMPs. The level of funding for these activities was adjusted accordingly.

6. Upon a request by the Secretariat, UNDP provided more information on the methodology used to determine the size of the recovery and recycling programme (number of recovery machines, recycling centres and ancillary equipment).

7. The Secretariat and UNDP discussed the modalities of coordination and implementation of the various activities in the RMP, including their cost, the monitoring and evaluation roles of the Ozone Protection Unit, the responsibilities of government agencies and industrial associations during implementation of the RMP as well as the Government's commitment to its implementation.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below:

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Implementation of a refrigerant management plan:			
(a) Customs training	51,000	6,630	UNEP
(b) Train the trainers programme in the refrigeration sector	45,000	5,850	UNEP
(c) Implementation of a national programme for recovery and recycling of refrigerant	441,482	57,393	UNDP
(d) Monitoring the activities induced in the RMP	15,000	1,950	UNDP

2. To request UNDP not to proceed with the disbursement of funds approved for the recovery and recycling programme until the regulatory and legislative requirements and fiscal steps proposed by the Government of Dominican Republic are put into place.