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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL

Twenty-fourth Meeting
Montreal, 25-27 March 1998

PROJECT PROPOSAL: DOMINICAN REPUBLIC

Refrigeration

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

PROJECT EVALUATION SHEET **DOMINICAN REPUBLIC**

SECTOR: Refrigeration ODS use in sector (1993): 177.2 ODP tonnes

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

Project Titles:

Elimination of CFC 11 & CFC 12 consumption in the Manufacture of Unitary Commercial Refrigeration Equipment at METALGAS, S.A. by replacement with HCFC 141b & HFC 134a respectively

Project Data	Commercial
	METALGAS
ODS phase-out (ODP tonnes)	20.80
Proposed project duration (months)	18
Incremental capital cost (US \$)	234,000
- including contingency (%)	10
Incremental operational cost (US \$)	168,319
Total project cost (US \$)	402,319
Local ownership (%)	100
Export component (%)	0
Amount requested (US \$) {Original}	316,368
{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 \$)	316,368
Project impact (ODP tonnes)	20.80
Cost effectiveness (US \$/kg)	15.21
Implementing Agency support cost (US \$)	41,128
Total cost to Multilateral Fund (US \$)	357,496

PROJECT DESCRIPTION

Elimination of CFC 11 & CFC 12 consumption in the Manufacture of Unitary Commercial Refrigeration Equipment at METALGAS, S.A. by replacement with HCFC 141b and HFC 134a respectively.

1. The Country Programme estimates that the total ODS consumption in the Dominican Republic in 1993 was 288.5 ODP tonnes. The Dominican Republic could qualify as a "Low-volume consuming country" (LCV) and be exempt from the cost-effectiveness thresholds applied by the Multilateral Fund in determining project funding eligibility. However, 1996 ODS consumption data reported by the Dominican Republic to UNEP Ozone Secretariat in 1997 indicates that annual ODS consumption is 677.3 ODP tonnes which is substantially above the 360 tonnes qualifying threshold for classification as a LVC. This project proposal is therefore prepared on the basis that the Dominican Republic does not qualify as a LVC.
2. ODS consumption in the commercial refrigeration sub-sector for manufacturing of new equipment is estimated at 53.77 MT. Three enterprises are now engaged in the manufacture of unitary commercial refrigeration equipment. The project proposal for Metalgas will eliminate 20.8 ODP tonnes. This, together with the 35.7 ODP tonnes that will be phased out from implementation of another already approved project for FARCO enterprise, would lead to the phase out of some 57 ODP tonnes. The project proposal contains a statement that "early approval of the METALGAS project and completion by early 1999 appears essential in assisting the Dominican Republic to meet its Montreal Protocol obligations".
3. METALGAS, S.A. is a 100% Dominican-owned company that manufactures both unitary, and non-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. Based on the November 1996 - October 1997 consumption figures, this project will eliminate the use of 20.80 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 and 48.9% of these costs are requested.
4. The enterprise have been acquainted with all ODS phase out technology options available. METALGAS, S.A. 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) at some future date. 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. It is also most suited to the factory layout and the present skill level of the work force at the factory. METALGAS, S.A. also understands and accepts that the costs associated with the subsequent technology change will be borne by it.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. According to the project document, the approval of the Metalgas project appears essential in assisting the Dominican Republic to meet the 1999 freeze.
2. HCFC-141b foam technology is proposed . The project contains detailed justification for the use of a transitional chemical. The written statement of the management of the company regarding the choice of technology is attached to the project document. The Secretariat requested UNDP to provide additional information regarding the duration of the use of HCFC-141b technology. UNDP responded that Metalgas estimates that the use of HCFC-141b technology in forming operations will continue until 2008.
3. The Secretariat discussed with UNDP the capacity and the cost of charging equipment. The capital costs was adjusted to reflect established cost for lower but adequate capacity of the two charging boards.

RECOMMENDATION

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

	Project Cost US \$	Support Cost US \$	Implementing Agency
Elimination of CFC-11 & CFC-12 consumption in the Manufacture of Unitary Commerical Refrigeration Equipment at METALGAS. S.A. by replacement with HCFC-141b & HFC-134a respectively	316,368	41,128	UNDP