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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-first Meeting
Geneva, 5-7 July 2000

PROJECT PROPOSAL: MEXICO

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

Foam

•	Phaseout of CFC-11 by conversion to HCFC-141b or water-blown technology in rigid polyurethane foam (spray) and to water based formulations in integral skin foam at Comsisa	UNDP

PROJECT EVALUATION SHEET
MEXICO

SECTOR:	Foam	ODS use in sector (1999):	435 ODP tonnes
Sub-sector cost-effectiveness thresholds:		Integral skin	US $16.86/kg
		Rigid	US $7.83/kg

Project Title:

(a) Phaseout of CFC-11 by conversion to HCFC-141b or water-blown technology in rigid polyurethane foam (spray) and to water based formulations in integral skin foam at Comsisa

Project Data	**Multiple-subsectors**
	Comsisa
Enterprise consumption (ODP tonnes)	72.60
Project impact (ODP tonnes)	68.70
Project duration (months)	36
Initial amount requested (US $)	743,787
Final project cost (US $):	
Incremental capital cost (a)	585,500
Contingency cost (b)	58,550
Incremental operating cost (c)	242,491
Total project cost (a+b+c)	886,541
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US $)	424,050
Cost effectiveness (US $/kg.)	6.17
Counterpart funding confirmed?	Yes
National coordinating agency	
Implementing agency	UNDP

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

Sector Background

- Latest available total ODS consumption (1999)	4,195.10 ODP tonnes
- Baseline consumption of Annex A Group I substances (CFCs)	4,591.50 ODP tonnes
- Consumption of Annex A Group I substances for the year 1999	2,839.90 ODP tonnes
- Baseline consumption of CFCs in foam sector	1,016.7 ODP tonnes
- Consumption of CFCs in foam sector in 1999	435 ODP tonnes
- Funds approved for investment projects in foam sector as of end of 1999	US $8,261,482.00
- Quantity of CFC to be phased out in investment projects in foam sector as of end of 1999	1,395.60 ODP tonnes
- Quantity of CFC phased out in investment projects in foam sector as of end of 1999	2,466.00 ODP tonnes
- Quantity of CFC to be phased out in investment projects in foam sector approved in 1999	0 ODP tonnes
- Funds approved for investment projects in the foam sector in 1999	US $20,000

1. Twenty (20) small scale Mexican foam manufacturers and one medium scale manufacturer, under the guidance of their major systems supplier Comsisa, will eliminate the use of CFC-11 in sprayfoam and integral skin foam applications. The enterprises consumed a total of 72.6 tonnes of CFC-11. The individual consumption ranges from 0.3 tonnes to 6.8 tonnes. The medium scale enterprise, a rigid foam producer, consumed 13.5 tonnes. The production is to be converted to HCFC-141b as an interim technology in the sprayfoam applications, with later conversion to an ODS-free technology. For the integral skin applications, conversion is to water-based formulations. It is proposed that the enterprises will retrofit or replace their existing dispensers (US $273,000), and provide low pressure dispensers to the enterprises currently handmixing (US $112,500), with 25% company contributions already factored in. Funds are sought to provide Comsisa with evaluation dispensers for both sprayfoam (US $40,000) and integral skin foam (US $45,000) and a field K-factor tester (US $5,000). The current blending system for sprayfoam formulations is proposed to be modified (US $20,000), and a new blending system for integral skin formulations is to be purchased (US $50,000). Other costs include trials (US $42,000) and technology transfer (US $31,000). Incremental operational costs of US $242,491 are requested, based on border prices stated to be US $1.257/kg for CFC-11 and US $2.646/kg for HCFC-141b.

Justification for the Use of HCFC-141b

2. UNDP indicated that the relevant enterprises were briefed during appraisal prior to project preparation about available conversion technologies and their “techno-economic”, health and environmental impacts, and that the enterprises will be responsible for conversion to zero ODP technology. They have selected the HCFC-141b option against the background of these discussions.

3. UNDP has also provided a letter from the Government of Mexico supporting the enterprises' choice of the HCFC-141b technology. A sample justification from UNDP and the Government's letter are attached to this document

Impact of the Project

4. The group of small scale enterprises will phase out 57.2 tonnes of CFC-11. This will eliminate 2% of Mexico's 1999 consumption of Annex A Group I substances.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Background

1. This Comsisa project was first submitted together with two refrigeration projects for consideration of the Executive Committee at its 29th Meeting.

2. The Committee was informed that as a consequence of measures taken in Mexico to promote the phase-out of ODS, prices of CFCs were significantly higher than prices of the substitute chemicals. Accordingly, projects submitted to the 29th Meeting in the foam and refrigeration sectors in Mexico showed incremental operating savings rather than costs as in similar projects elsewhere or before Mexico took this action, with consequent reductions in the incremental cost.

3. The projects were deferred to enable UNDP to seek clarification from the Government of Mexico on the CFC price structure in the country (Decision 29/51). At the 30th Meeting following a discussion of the briefing provided to it by the Secretariat, the Executive Committee decided inter alia (Decision 30/52) to approve the two refrigeration projects and,

(b) To defer consideration of the Comsisa project which would, however, continue to be considered as part of UNDP's 1999 business plan; …

(d) To try and find a way forward with Mexico which respected both the rules of the Multilateral Fund and the unique situation of Mexico.

Calculation of the Eligible Incremental Cost of Comsisa Group Project

4. Comsisa produces foam systems by mixing CFC-11 with polyol and supplies the premixed formulation to the 21 downstream users. Therefore, Comsisa is considered in this project as the consumer of CFC-11.

5. The Secretariat and UNDP agreed on the capital cost of conversion for Comsisa and the 21 downstream users.

6. Calculation of the incremental operational cost of the project using national prices would result in substantial incremental operating savings and consequently a very low eligible grant that would have rendered the conversion of the downstream systems users not feasible. In order to enable this group of small scale enterprises to receive adequate financial assistance to convert to the new technology, the Secretariat proposed to UNDP and the Government of Mexico that the incremental operational savings might be offset against Comsisa's incremental costs. This would result in zero grant to Comsisa but a grant of US $385,500, plus 10% contingency of US $38,550, to the 21 downstream enterprises for their capital costs. Given the link between Comsisa and the downstream users of its systems, UNDP might be given flexibility in allocation of the projects cost budget in order to maintain the technical co-operation between Comsisa and the 21 downstream users.

7. The UNDP and the Government of Mexico have agreed with the Secretariat's proposal. On this basis, the eligible grant for the project would be the incremental capital cost of the downstream users, amounting to US $424,050.

8. The amount of US $424,050 with agency support cost of US $55,127 is being recommended for approval as the eligible grant for the Comsisa group project. The Executive Committee may wish to grant UNDP and the Government of Mexico flexibility in the application of the approved funds during the project's implementation.

9. The project is submitted for individual consideration on account of Decision 30/52 (b) and (d).

ANNEX I

Additional Justification for Using HCFC Technology

The following discussion refers to the rigid sprayfoam enterprises included in the project, as the integral skin enterprises have chosen to convert to water-based technology, not HCFC–141b.

The UNDP technical expert appraised the participating enterprises in this project prior to the preparation of this project document in March 1999, and had discussions with their representatives about the choice of technology for replacing the existing CFC-based technology. The chemical supplier associated with the identification of these enterprises, Comsisa, also participated. The enterprises were briefed in detail about the following:

(a) An overview of the available interim (low ODP) and permanent (zero ODP) replacement technologies.
(b) The "techno-economic impact" of each technology on the products manufactured, and the processes and practices employed.
(c) Possible implications of each technology, in terms of its known impact on environment, health and safety, such as ozone depleting potential, global warming potential, occupational health, etc.
(d) It was emphasized to these enterprises that HCFC technologies are interim technologies due to their residual ODP and therefore may continue to adversely affect the environment, although at a lower rate than CFCs.
(e) It was further explained that HCFCs may become controlled substances under present or future international conventions and will therefore also need to be phased out at a future date, and any investments required for their phase-out and for conversion to a permanent technology will have to be borne by the enterprises themselves.

The representatives of the enterprises indicated that they would accept the expertise of the chemical supplier, Comsisa, and of the implementing agency experts. The summary of their observations was:

1. The enterprises would prefer to implement drop-in solutions that can be easily and cost-effectively implemented without major changes to their existing practices.

2. They are not large enough or sophisticated enough to handle hydrocarbons or other hazardous substances either technically or financially in the short term or even in the foreseeable future. For sprayfoam operations, hydrocarbons are not a technically feasible solution, due to the inherent "uncontrolled" nature of the process.

3. They have seen the HCFC technology being implemented successfully by other similar enterprises without major changes or investments.

4. The insulation value and cost of the product is of extreme importance to them, due to the low profit margins imposed by the competitive market. They would prefer a technical solution that preserves their market position and does not impose additional burdens.

In view of the above, the technology selected is HCFC-141b based systems in the interim, until permanent technology (either water-based of HFC-based systems) are available locally.

SEMARNAP
INSTITUTO NACIONAL DE ECOLOGÍA

INSTITUTO NACIONAL DE ECOLOGIA
UNIDAD DE PROTECCION AL OZONO
Av. Revolución No. 1425, Torre Nivel 30
Col. Tlacopac, San Angel, C.P. 01040
México D.F.

Mexico City, April 23, 1999

JACQUES VAN ENGEL
REGIONAL PROGRAMME COORDINATOR
UNDP
1 United Nations Plaza
New York, N.Y. 10017

I would like to refer to the Executive Committee decision 27/13 regarding the use of HCFCs in foam projects, specifically to the COMSISA's Spray Foam Project.

The company has received full information about the technology and the existing options for this specific sub-sector.

The use of HCFC-141b is justified because this substance will maintain insulation critical values for the construction industry and the adaptation of the existing process will be minimum.

Other options considered to replace CFC-11 in this industry includes:

a. Water blown technologies, in this case appropriate formulations are not available yet.
b. Hydrocarbons, safety issues related to the indoor's applications due to the flammability levels of substances like pentane.
c. HFCs, up to now there is no alternative commercially available.

The company is aware that HCFCs are a transitional substances, but we are sure that this step will be very helpful in order to switch at short term to other more environmentally sound solution.

We expect that this justification complies with the EXCOM's decision 27/13.

Accept, Sir, the assurance of my highest consideration.

Francesco Castronovo S.
Coordinator

CC. Mr. Bruno Guandalini.- UNDP Resident Representative - Mexico.
CC. Mr. Matthew R. Bohde.- UNDP's Foam Sector Expert.