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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-fourth Meeting
Montreal, 18-20 July 2001

PROJECT PROPOSAL: MEXICO

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

Refrigeration:

- Conversion of CFC-12 to R-134a technology in the production of mobile air conditioning (MAC) systems at Airtemp — World Bank

PROJECT EVALUATION SHEET
MEXICO

SECTOR: Refrigeration ODS use in sector (2000): 3,424.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Title:

(a) Conversion of CFC-12 to R-134a technology in the production of mobile air conditioning (MAC) systems at Airtemp

Project Data	**MAC**
	Airtemp
Enterprise consumption (ODP tonnes)*	60.00
Project impact (ODP tonnes)*	60.00
Project duration (months)	18
Initial amount requested (US $)	1,956,214
Final project cost (US $):	
Incremental capital cost (a)	1,651,430
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	1,651,430
Local ownership (%)	100%
Export component (%)	5%
Amount requested (US $)	1,651,430
Cost effectiveness (US $/kg.)	
Counterpart funding confirmed?	Yes
National coordinating agency	NAFIN
Implementing agency	IBRD

Secretariat's Recommendations	
Amount recommended (US $)	1,651,430
Project impact (ODP tonnes)	
Cost effectiveness (US $/kg)	
Implementing agency support cost (US $)	191,657
Total cost to Multilateral Fund (US $)	1,843,087

* Indirect phaseout.

PROJECT DESCRIPTION

Conversion of CFC-12 to R-134a technology in the production of mobile air conditioning (MAC) systems at Airtemp

1. There are six manufacturers of MAC systems in Mexico. Three of these companies are locally owned (Climas de Mexico, Armas, and Airtemp), while the other three are owned by Article 2 companies (Valeo, Calsonic and Visteon). In 1998, Climas de Mexico converted production of MAC systems from CFC-12 to HFC-134a refrigerant, with the assistance from the Multilateral Fund. Armas is a relatively small company that is already manufacturing HFC-134a based MAC units.

2. The project proposal is to convert the tube and fin condenser and evaporator designs to parallel flow designs for MAC units using HFC-134a refrigerants at Airtemp. The current annual production capacity of the plant is about 54,650 units, for both the original equipment market and the replacement equipment market. About 15 per cent of the production is exported to Article 5 countries and an additional 5 per cent to non-Article 5 countries.

3. The total capital cost for the conversion has been estimated at US $2.24 million, including a Nocolok furnace brazing process (US $886,350), a fin machine (US $276,149), a tube straighten machine (US $176,410), a core builder (US $272,500), a condenser header (US $350,000) and a painting station (US $36,050). The project proposal also includes US $158,509 for technology transfer, training, installation and start up costs.

4. The enterprise has agreed to fund 50 per cent of the cost of the Nocolok furnace since this equipment is also used for the production of evaporators which is not eligible for funding, since the new design for evaporators is not related to change in refrigerant.

5. Airtemp has started conversion to HFC-134a refrigerant using its own resources; it has acquired the parallel-flow technology and has started procurement of the equipment required for conversion to the new technology. The World Bank has encouraged the company to start the conversion process, with the understanding that some of the costs might be retroactive.

6. The project proposal includes a list with description of the baseline equipment that would be replaced when switching to HFC-134a refrigerant. This equipment will be removed from the plant and destroyed.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

7. The Secretariat pointed out that some pieces of equipment being requested for the production of condensers could also be used for the production of evaporators and ventilation/air

conditioning modules (produced at the plant), which are not eligible for funding since they are not related to the change in refrigerant. Except for the brazing system (where 50 per cent of its cost will be borne by the enterprise to take into account production of evaporators), cost sharing of other pieces of equipment has not been taken into consideration. Similarly, costs associated with training (US $23,000), transportation/installation (US $50,509) and technical assistance (US $60,000) should also be co-shared by the enterprise.

8. The Secretariat and the World Bank also discussed the eligibility of the painting station and agreed that this equipment will funded by the enterprise.

9. Based on the above observations, the World Bank agreed to adjust the cost of the project to US $ 1,651,430

10. This project is included in the World Bank's Business Plan, approved at the 33rd Meeting, but at a total value of US $450,000.

RECOMMENDATION

11. The Fund Secretariat recommends blanket approval of the project at the funding levels indicated below:

	Project Title	Project Funding (US$)	Support Cost (US$)	Implementing Agency
(a)	Conversion of CFC-12 to R-134a technology in the production of mobile air conditioning (MAC) systems at Airtemp	1,651,430	191,657	IBRD
