



**United Nations
Environment
Programme**



Distr.
LIMITED

UNEP/OzL.Pro/ExCom/17/45/Add.1
4 July 1995

ORIGINAL: ENGLISH

Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Seventeenth Meeting
Montreal, 26-28 July 1995

PROJECT PROPOSAL: PHILIPPINES

This document includes the Comments and Recommendations from the Fund Secretariat.

PROJECT EVALUATION SHEET

COUNTRY OR REGION: Philippines

PROJECT TITLE: Elimination of CFCs 11 and 12 in the
Manufacture of Domestic Refrigerators at
Matsushita Electric Philippines
Corporation (MEPCO)

BUDGET: Capital Costs: US \$202,000 ¹
Operational Costs: US \$372,000

INCREMENTAL COSTS: US \$114,884²

ODS PHASE-OUT: 47.05 MT

COST EFFECTIVENESS³: US \$8.97 per kg. ODP saved
(Based on 20% local ownership)

PROJECT DURATION: 1.5 years

IMPLEMENTING AGENCY: UNDP

NATIONAL COORDINATING AGENCY: NEPA

TECHNICAL REVIEW COMPLETED: YES X NO

SECRETARIAT'S COMMENTS

1. The project covers the conversion of a domestic refrigerator manufacturing company to non-CFC technology. The annual output of the company is about 88,000 household refrigerators and freezers. This project proposes to replace the CFC-11 used as a blowing agent in the production of insulation foam with HCFC-141b, and the CFC-12 used as a refrigerant with HFC-134a. The company plans to replace the HCFC-141b technology in 1997 when they move their refrigerator manufacturing operations to their other factory in different location. The new blowing agent will be dependent on the recommendations and technical support of Matsushita, Japan.

¹ Including a 10 per cent contingency fee.

² Taking into account 20 percent national ownership.

³ Determined as the ratio of incremental costs to the estimated annual savings of ODP (\$/ODP kg.). For CFC-11 and CFC-12, ODS=ODP.

2. The proposal includes: modification of existing equipment where applicable; procurement and installation of new equipment or machinery; modification of assembly lines; refrigerator redesign; testing; and a training programme.
3. The incremental operating costs include the additional costs of raw materials and HFC-134a compressors for a six-month duration.
4. A technical review was provided by UNDP.
5. Implementation of this project will result in the phase-out of 47.05 ODP tonnes of CFCs.
6. The Secretariat reviewed the project proposal to assess the eligibility and costs of the requested equipment for the conversion to HCFC-141b foaming and HFC-134a refrigerant technologies, in the light of similar projects approved by the Executive Committee. The Secretariat discussed with UNDP the incrementality of all cost components and their amounts.
7. It was agreed that replacement of capital equipment will be eliminated where retrofitting was possible. Cost of several items have been reduced. Cost of several items have been reduced due to lower prices of equipment available on the market. Operating costs are requested for a six-month duration.
8. Consequently, it was agreed that the new project budget should be recommended for approval.
9. Cost-effectiveness has been calculated without regard to the percentage of local ownership. The cost-effectiveness for this project is US \$11.92/kg. ODP phased out, which is below the threshold value established by the 16th Meeting of the Executive Committee.

SECRETARIAT'S RECOMMENDATIONS

10. The Fund Secretariat recommends approval of US \$112,244 for the implementation of the project at Matsushita Electric Philippines Corporation, and recommends US \$14,592 in support costs for UNDP.
11. It is further recommended that the funding approved should be considered as part of future allocations for the implementation of China's Strategy in the domestic refrigeration sector.