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Executive Committee of  
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Implementation of the Montreal Protocol

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**PROJECT PROPOSAL: URUGUAY**

This document includes the Comments from the Fund Secretariat on the following project:

Refrigeration

- Manufacture of parallel-flow condensers for air conditioning systems in vehicles that use HFC-134a at Panasco World Bank

# **PROJECT EVALUATION SHEET** **URUGUAY**

**SECTOR: REFRIGERATION**  
**MAC**

ODS use in sector (1995): 16 ODP tonnes

***Project Title:***

Manufacture of parallel-flow condensers for air conditioning systems in vehicle that use HFC-134a at Panasco, S.A

| <b>Project Data</b>                  | <b>PANASCO, S.A.</b>                    |
|--------------------------------------|-----------------------------------------|
| ODS phase-out (ODP tonnes)           | N/A                                     |
| Proposed project duration (Yrs)      | 1 year                                  |
| Incremental capital cost (US \$)     |                                         |
| Incremental operational cost (US \$) | -                                       |
| Total project cost (US \$)           |                                         |
| Amount requested (US \$) {Original}  | 544,945                                 |
| Cost effectiveness (US \$/kg)        | N/A                                     |
| National Coordinating Agency         | Governmental Ozone Technical Commission |
| Implementing Agency                  | World Bank                              |
| Technical review completed?          | Yes                                     |

| <b><i>Secretariat's Recommendations</i></b> |     |
|---------------------------------------------|-----|
| Amount recommended (US \$)                  |     |
| Project impact (ODP tonnes)                 | N/A |
| Cost effectiveness (US \$/kg)               | N/A |
| Implementing Agency support cost (US\$)     |     |
| Total cost to Multilateral Fund             |     |

## PROJECT DESCRIPTION

1. The project will convert the production of CFC-12 condensers to parallel flow-design condensers for HFC-134a refrigerant.
2. The company's major business is the manufacturing of components (168,000 units/year) and radiators and panels (7,200 units/year). Annual production of condensers is only 900 units (300 CFC-12-based units and 600 HFC-134a-based units). The company is the only enterprise in the country engaged in the production of MAC condensers. The company sells the condensers to two national assemblers which then sell the assembled MAC units to the automotive industry. The compressors are supplied by Nippondenso from Brazil.
3. In 1995, as an interim solution, the company started manufacturing with its own resources condensers with flat fins for MAC units using HFC-134a refrigerant. The company is requesting financial support to obtain the correct manufacturing equipment to meet the industry standards.

## SECRETARIAT'S COMMENTS

1. The Secretariat considered the eligibility of the project in accordance to Decision 17/6, by which "project proposals in the MAC sub-sector should emanate from the manufacturers of MAC units themselves, not the manufacturers of component parts" (UNEP/OzL.Pro/ExCom/17/60). By an official communication from the Government of Uruguay, it was confirmed to the Secretariat that no further assistance will be requested from the Multilateral Fund for the production of MACs and related components. Therefore, this project represents the phase-out of the MAC sector in Uruguay. While not complying precisely with Decision 17/6, it meets the intent of the decision and should be considered as eligible.
2. The major piece of equipment required for conversion of condensers to HFC-134a refrigerant is a brazing furnace. Two quotations were considered during project preparation: one by Seco/Warwick for a vacuum furnace, with an output production of 1,440 cores per month, and the other by Camlaw Limited for a vacuum-purge furnace (the production output was not provided in the project proposal). Each furnace is the smallest unit built by each company.
3. The issue of a very large capacity increase, (e.g., an annual production requirement for 900 units compared to an equipment capacity of 17,280 units annually for the Seco/Warwick furnace) is still under discussion with the World Bank. This issue is significant because although the equipment may be the smallest available, a brazing furnace is very likely to be of use to an enterprise such as this either now, or in the future, in relation to the enterprise's normal range of production. In this case, the cost would not be fully attributed to ODS phase-out activities.
4. Outcomes of the discussions will be reported to the Sub-Committee on Project Review.