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Executive Committee of
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BILATERAL COOPERATION

This document includes the Comments and Recommendations from the Fund Secretariat on the following projects:

- China: Methyl bromide replacement demonstration program Canada
- Venezuela: Implementation of a centralized reclamation plant for recovered refrigerants in the commercial refrigeration and air-conditioning sectors Canada
- Malaysia: No clean process improvement training for electronic assemblers who have phased out the use of CFC-113 France

PROJECT EVALUATION SHEET **CHINA**

SECTOR: Methyl Bromide

ODS use in sector (1994): n/a

Project Title:

Methyl Bromide Replacement Demonstration Program

Project Data	
ODS phase-out (ODP tonnes)	n/a
Proposed project duration (Yrs)	2 yrs.
Incremental capital cost (US \$)	n/a
Incremental operational cost (US \$)	n/a
Total project cost (US \$)	145,000
Amount requested (US \$) {Original}	145,000
{Revised}	145,000
Cost effectiveness (US \$/kg)	n/a
National Coordinating Agency	NEPA, Ministry of Agriculture, Ministry of Internal Trade
Implementing Agency	Canada
Technical review completed?	no

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	145,000
Project impact (ODP tonnes)	n/a
Cost effectiveness (US \$/kg)	n/a
Implementing Agency support cost (US\$)	n/a
Total cost to Multilateral Fund	145,000

PROJECT DESCRIPTION

1. In 1995, the total consumption of MeBr for commodity fumigation applications in China was approximately 895 tonnes. Some of the MeBr used in stored grain fumigation can be replaced by using integrated pest management (IPM) techniques that favour non-chemical methods. This project will demonstrate alternative IPM techniques in China such as grain drying, monitoring systems, temperature manipulation and closed loop fumigation, in conjunction with the use of diatomaceous earth (DE), and the use of a synthetic chemical insecticide, K-Obiol.
2. DE formulations have been proven effective and are registered for use in Canada and the United States. They are chemically inert and pose no environmental risks as they work physically, not chemically, by absorbing the waxy epicuticle from the insect, resulting in water loss and death. DE formulations are viable in several commodities against a broad range of stored product insects. K-Obiol is a formulation of deltamethrin, a synthetic pyrethroid. This is a well proven technology that is used in Europe.
3. Extensive field work is necessary to understand individual cultural and pest management practices across the grain storage and handling system and to adapt the new technology/practice to these conditions for optimum performance. Because grain is stored by the Ministry of Internal Trade, provincial authorities, municipal warehouses and individual farmers, there is a need to reassure all stakeholders that this method can effectively replace MeBr. The trials will also require that project officials work closely with elevator managers and farmers to develop a good understanding for using DE and K-Obiol as part of their Integrated Pest Management Program.
4. A workshop on IPM techniques will be organized and delivered to key stakeholders such as officials from the Ministry of internal Trade, other government agencies responsible for grain storage and handling in the PRC, participants to the trials and Canadian project officials. The purpose of the workshop is to evaluate the potential of DE formulations, substances such as K-Obiol, and practices such as monitoring systems as alternatives to methyl bromide for grain storage by reviewing technical issues that arose during the collaborative trials; discussing the economic impacts of the replacement technology; and examining how the integration of DE into current pest management techniques can be best achieved.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project's aim is to demonstrate how an integrated pest management plan approach can be an alternative to methyl bromide in grain storage through the demonstration of two technologies, diatomaceous soil and a synthetic chemical insecticide, K-Obiol. A workshop will be held to discuss the results of these trials and non-chemical practices such as monitoring systems as part of the integrated pest management approach.

2. The request complies with the bilateral and regional co-operation guidelines (UNEP/OzL.Pro/ExCom/5/16, para. 55 and Annex IV), the guidelines for assessing costs of bilateral and regional co-operation (UNEP/OzL.Pro/ExCom/7/30, Annex IV), and the interim guidelines on methyl bromide projects (decision 20/49, para. 2). The request does not exceed 20 per cent of Canada's 1997 contributions and should be applied against Canada's 1996 contributions to the Fund.

RECOMMENDATION

1. It is, therefore, recommended that Canada's request should be approved in the amount of US \$145,000 and the Treasurer should credit this amount against Canada's 1997 contributions.

PROJECT EVALUATION SHEET **VENEZUELA**

SECTOR: Refrigeration and
air-conditioning sectors

ODS use in sector (1994): 2885 ODP tonnes

Project Title:

Implementation of a centralized reclamation plant for recovered refrigerants in the commercial refrigeration and air-conditioning sectors

Project Data	
ODS phase-out (ODP tonnes)	
Proposed project duration (Yrs)	1.5 yrs.
Incremental capital cost (US \$)	
Incremental operational cost (US \$)	
Total project cost (US \$)	495,285
Amount requested (US \$) {Original}	
{Revised}	
Cost effectiveness (US \$/kg)	
National Coordinating Agency	FONDOIN
Implementing Agency	Canada/Venezuela
Technical review completed?	Yes

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	
Government of Canada	
Project impact (ODP tonnes)	
Cost effectiveness (US \$/kg)	
Implementing Agency support cost (US\$)	
Total cost to Multilateral Fund	

PROJECT DESCRIPTION

1. This project forms part of a national recovery and reclamation programme for Venezuela being coordinated by the national coordinating body, FONDOIN. The programme is in two parts; this bilateral proposal from the Government of Canada for provision of a central reclamation facility, and a proposal submitted to the 22nd Meeting by UNDP for the provision of recovery and transfer facilities.
2. The main objective of the national recovery and reclamation programme is to implement a comprehensive programme for the recycling and reclamation of refrigerants in the refrigeration sector. Envisaged in the national programme are technician training programmes, a network of refrigerant recovery machines, the establishment of 8 small regional refrigerant consolidation centres and one centralized reclamation plant.
3. The project submitted by the Government of Canada is for implementation of a centralized reclamation plant for processing the recovered refrigerants. It will be equipped to fully restore all the recovered refrigerant to the original purity specifications. Two recovery units for the recovery of larger industrial and commercial systems, which would be impractical with the smaller units, are also included. The plant will also contain analytical equipment to identify the specific refrigerant, impurities and contaminants that it may contain, and to enable the testing of the finished batches to an internationally accepted purity standard.
4. The programme suggests that since Venezuela is a producer of ozone depleting substances (ODS), it will be necessary to return all recovered ODS to the purity and specifications of 'virgin' refrigerants to enable the recovered ODS to compete in this market and satisfy equipment warranty obligations. The programme argues that any plan for recycling and reclamation of ODS will therefore need to include a fully operational 'reclaim' centre with adequate analytical laboratory equipment and processing facilities.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

1. A thorough review of the proposal for a centralized reclamation facility cannot be undertaken separately from consideration of the overall recovery and reclamation programme. This review has been undertaken in the context of the proposal submitted by UNDP for the provision of recovery and transfer facilities and is presented in document UNEP/OzL.Pro/ExCom/22/56.

PROJECT EVALUATION SHEET MALAYSIA

SECTOR: Solvents

ODS use in sector (1994): 150 ODP tonnes

Project Title:

No clean process improvement training for electronic assemblers who have phased out the use of CFC-113

Project Data	
ODS phase-out (ODP tonnes)	n/a
Proposed project duration (Yrs)	2 yrs.
Incremental capital cost (US \$)	
Incremental operational cost (US \$)	
Total project cost (US \$)	192,423
Amount requested (US \$) {Original}	203500
{Revised}	192,423
Cost effectiveness (US \$/kg)	n/a
National Coordinating Agency	Malaysian Department of Environment
Implementing Agency	Caisse Française de Développement
Technical review completed?	No

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	192,423
Project impact (ODP tonnes)	n/a
Cost effectiveness (US \$/kg)	n/a
Implementing Agency support cost (US\$)	n/a
Total cost to Multilateral Fund	192,423

PROJECT DESCRIPTION

1. The electronics industry in Malaysia was using 150 tonnes of CFC-113 per year in 1994 for the cleaning of printed circuit boards after soldering. In response to market pressures and the policies of multinational companies, the use of CFC-113 for cleaning printed circuit boards has now almost ceased in Malaysia. It has been replaced by 'no clean' technology involving the use of specialised solder pastes which do not require cleaning after the soldering process.
2. Many companies are facing difficulties in producing stable results with no clean technology. The project proposes the establishment of a laboratory and testing centre to provide process improvement training and improve the skill levels of technicians from about 40 small and medium-sized companies which use no-clean technology. Consideration will be given at a later stage to extending the programme.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. At the 18th Meeting, the Executive Committee approved a project in Malaysia to phase-out the use of CFC-113 in the electronics industry through the technical promotion of 'no-clean' processes, at a cost of US \$ 226,000. After approval, the Governments of France and Malaysia discovered that the majority of the enterprises proposed to be involved in the project had already phased out the use of CFC-113, but were considering re-converting to CFC use, because of difficulties meeting quality standards with the new process. The current project is now proposed as a replacement to the original project, at the same cost, to facilitate the permanent adoption of no-clean technology and to maintain the virtually complete phase-out in this sub-sector.
2. The Government of France thus proposes to return the credit against its contributions approved at the 18th Meeting and to request approval of the funds required for this project against France's 1997 contributions.

RECOMMENDATION

1. The Fund Secretariat recommends approval of the bilateral proposal from the Government of France in the amount of US \$ 192,423 and the Treasurer should credit this amount against France's 1997 contributions.