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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Fortieth Meeting  
Montreal, 16 -18 July 2003

**PROJECT PROPOSALS: INDONESIA**

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

Fumigant

- Phase-out of the use of methyl bromide in grain storage Canada

Refrigeration

- Phase-out in the refrigeration sector in Indonesia - Sector phase-out plan for elimination of CFCs in the refrigeration (manufacturing) sector in Indonesia (Advance of second tranche) UNDP

**PROJECT EVALUATION SHEET  
INDONESIA**

SECTOR: Fumigant ODS use in sector (2001): 75.6 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Title:**

(a) Phase-out of the use of methyl bromide in grain storage

<b>Project Data</b>	<b>Fumigant</b>
Enterprise consumption (ODP tonnes)	27
Project impact (ODP tonnes)	27
Project duration (months)	48
Initial amount requested (US \$)	599,621
Final project cost (US \$):	
Incremental capital cost (a)	510,110
Contingency cost (b)	51,011
Incremental operating cost (c)	38,500
Total project cost (a+b+c)	599,621
Local ownership (%)	100%
Export component (%)	0%
<b>Amount requested (US \$)</b>	599,621
Cost effectiveness (US \$/kg.)	22.21
Counterpart funding confirmed?	
National coordinating agency	Ozone Office, Ministry of Environment
Implementing agency	Canada

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

## PROJECT DESCRIPTION

1. The Government of Canada submitted (bilateral contribution) for consideration of the Executive Committee at its 40<sup>th</sup> meeting, a project proposal for the phase out of 27 ODP tonnes of MB used for fumigation of stored rice in Indonesia, representing the total consumption of MB in this application.
2. The alternative technology selected is phosphine gas in cylinders (Ecofume) together with integrated storage management practices. The technology has the capability of achieving high concentrations of phosphine in a short period of time and readjusting the concentration throughout the exposure time. This technology has been selected on the basis of the results from the demonstration project on alternatives to the use of MB in grain storage, approved by the Executive Committee at its 26<sup>th</sup> Meeting (UNIDO, US \$332,200).
3. The capital cost of the project has been estimated at US \$380,610 which includes, polyurethane sheets in different thickness, injection systems, phosphine meters for low- and high-concentration, gas sampling lines, and miscellaneous equipment (filters, gas masks, fans). The project also includes requests for training programmes (US \$94,500), awareness activities, project co-ordination and implementation (US \$35,000) and contingency (US \$51,011). Total operating costs have been estimated at US \$38,500.
4. The cost effectiveness of the project, as submitted, is US \$22.21/kg. The estimated time for implementation of the project is 4 years.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

5. The MB baseline for compliance for Indonesia is 135.6 ODP tonnes. Taking into consideration that the 2001 MB consumption reported to the Ozone Secretariat (75.6 ODP tonnes) is below 80 per cent of the MB baseline (108.5 ODP tonnes), Indonesia is already in compliance with the 2005 MB phase out target. According to decisions taken by the Executive Committee on the strategic planning of the Multilateral Fund and the 2003-2005 replenishment of the Multilateral Fund as adopted by the Parties, the project proposal for Indonesia could only be considered at a later meeting of the Executive Committee.
6. The Government of Canada responded that on the basis of the data reported to the Ozone Secretariat, the MB baseline in Indonesia is technically correct. However, it appears that prior to 1999, the Ozone Office was not reporting the amount of MB consumption used in quarantine and pre-shipment (QPS) applications, which has now been established at 27 ODP tonnes, i.e., approximately 80 per cent of total imports. The Government of Canada had advised the Government of Indonesia to revise its consumption data with the Ozone Secretariat, and had requested for an official letter confirming that corrected data has been submitted to the Ozone Secretariat. On the basis of this letter, it is hoped that the project could be considered. It is to be noted, however, that changes to the reported baselines data by a Party should be presented by the

Party concerned before the Implementation Committee for presentation to the Meeting of the Parties for approval (Decision XIII/15).

7. The Secretariat questioned the long-term sustainability and cost-effectiveness of the selected Ecofume technology when compared to the use of phosphine in tablets. The use of phosphine in tablets is a proven replacement technology for MB fumigation, is easy to apply and does not require major pieces of equipment (like in the case of the Ecofume technology). Furthermore, these tablets have already been successfully used in Indonesia. However, their costs in Indonesia are very high (US \$58.8/kg compared to the global price of US \$20.0/kg).

8. On the basis of current prices of MB and phosphine provided by the Government of Canada, the Secretariat calculated the annual costs of these fumigants in Indonesia. As shown in the following table, the cost of Ecofume is almost similar to the cost of MB and either one of them is more than twice as expensive as phosphine in tablets when global prices are considered.

<b>Fumigant(*)</b>	<b>Dosage (g/tonne)</b>	<b>Amount (kg)</b>	<b>Price (US\$/kg)</b>	<b>Annual cost (US\$)</b>
MB	42.00	46,200	0.2730	300,300
Tablets (global price)	6.00	6,600	0.1200	132,000
Tablets (Indonesia's price)	6.00	6,600	0.3528	388,080
Ecofume (Egypt/Tunisia)	1.00	1,100	0.1660	182,600
Ecofume (Indonesia)	1.00	1,100	0.3000	330,000

(\*) Amount needed to fumigate 1.1 million tonnes of rice.

9. The Government of Canada and the Secretariat are still discussing the following outstanding issues:

- (a) Final selection of the replacement technology (either phosphine tablets or the Ecofume technology) taking into account the local conditions in Indonesia;
- (b) Specific issues related to the Ecofume technology, including the number of phosphine meters, gas sampling lines and plastic sheets and their costs; and
- (c) The costs for training, coordination and consultants taking into consideration the approved demonstration project on application of MB alternatives in grain storage, additional funding that has been approved for preparation of MB-related projects in Indonesia (US \$70,000); and that MB is only applied by ten private companies in Indonesia.

## **RECOMMENDATION**

10. The project is submitted for individual consideration. Information regarding the MB consumption data (to be provided by the Government of Indonesia) and the outcome of the discussion between the Government of Canada and the Secretariat will be communicated to the Executive Committee prior to the 40<sup>th</sup> Meeting.

## PROJECT EVALUATION SHEET INDONESIA

SECTOR: Refrigeration ODS use in sector (2000): 3,288 ODP tonnes

Sub-sector cost-effectiveness thresholds: N/A

**Project Titles:**

- (a) Phase-out in the refrigeration sector in Indonesia - Sector phase-out plan for elimination of CFCs in the refrigeration (manufacturing) sector in Indonesia (Advance of second tranche)

Project Data	Manufacturing
	Sector Plan
Enterprise consumption (ODP tonnes)	3,288
Project impact (ODP tonnes)	300*
Project duration (months)	17
Initial amount requested (US \$)	600,000
Final project cost (US \$):	
Incremental capital cost (a)	
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	
Local ownership (%)	
Export component (%)	
<b>Amount requested (US \$)</b>	<b>600,000</b>
Cost effectiveness (US \$/kg.)	N/A
Counterpart funding confirmed?	
National coordinating agency	Ministry of Environment
Implementing agency	UNDP

<b>Secretariat's Recommendations</b>	
Amount recommended (US \$)	600,000
Project impact (ODP tonnes)	300*
Cost effectiveness (US \$/kg)	
Implementing agency support cost (US \$)	52,900**
Total cost to Multilateral Fund (US \$)	652,900

\* CFC phase-out target in 2004.

\*\* Prorated portion of US \$194,000 representing 2003 support cost as per Table 1 of the Agreement.

## **PROJECT DESCRIPTION**

11. At its 38<sup>th</sup> Meeting, the Executive Committee approved an agreement with the Government of Indonesia for the total phase-out of CFCs in the refrigeration sector in Indonesia, including the refrigeration manufacturing and servicing sub-sectors as well as MAC servicing sub-sector (Decision 38/47).

12. According to the Agreement, the Government of Indonesia is requesting the release of an advance in the amount of US \$600,000 plus agency support cost which will enable the continued implementation of the 2002-2003 annual implementation programme. This funding is required to supplement the first installment received by UNDP in 2002 that has already been fully committed. The advance will be used to procure the necessary equipment to enable Indonesia to meet the 300 ODP tonnes phase-out target stipulated in the Agreement by the end of 2004. The advance will be offset against the 2003 installment.

## **SECRETARIAT'S COMMENTS AND RECOMMENDATIONS**

### **COMMENTS**

13. Paragraph 5 of the Agreement approved at the 38<sup>th</sup> Meeting permits UNDP to seek US \$600,000 advance against the second tranche prior to the 41<sup>st</sup> Meeting. Paragraph 5 reads as follows: "Noting that funding for the refrigeration manufacturing sub-sector was approved at the 37<sup>th</sup> Meeting of the Executive Committee in July 2002 and that the next installment under this Agreement will not be considered until the final meeting in 2003, a period of some 16 months, it is agreed that the payment in 2003 will be increased to US \$2,200,000, and the payment in 2004 will be decreased to US \$1,762,000. The increase of US \$600,000 in the 2003 payment may be sought as an advance at the second meeting of 2003, if expenditure of the first tranche has been fully committed prior to the meeting."

14. UNDP reported on the progress achieved in the implementation of the sector plan on CFC phase out in refrigeration (manufacturing) sub-sector in Indonesia and on the status of commitments of funding allocated to UNDP from the first tranche. This report justifies the release of the advance of US \$600,000 against the second tranche.

15. The Secretariat notes that it is unable to assess the sectoral distribution of ODS consumption in Indonesia, as the country has not submitted the relevant report for 2001 and 2002 in accordance with Decision 17/34.

**RECOMMENDATIONS**

16. The Fund Secretariat recommends blanket approval of the advance of the second tranche with the funding level and associated support cost as indicated in the table below.

	<b>Project Title</b>	<b>Project Funding (US\$)</b>	<b>Support Cost (US\$)</b>	<b>Implementing Agency</b>
(a)	Phase-out in the refrigeration sector in Indonesia - Sector phase-out plan for elimination of CFCs in the refrigeration (manufacturing) sector in Indonesia (Advance of second tranche)	600,000	52,900	UNDP

17. The Executive Committee may wish to urge the Government of Indonesia to report data on its country programme implementation in accordance with Decision 17/34 to enable the Secretariat to analyze the progress of CFC phase-out in the refrigeration sector in Indonesia and inform the Executive Committee at its 41<sup>st</sup> Meeting.

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