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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-sixth Meeting
Montreal, 20-22 March 2002

**PROJECT PROPOSALS: INDONESIA**

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

Foam

| | |
|---|---|
| • Phase-out of CFC-11 by conversion to 141-b at PT Solindah Kita in the manufacture of integral skin shoe soles | UNIDO |
| • Phase-out of CFC-11 by conversion to 141-b at PT Wulansari Raharja in the manufacture of integral skin automotive parts | UNIDO |
| • Phase-out of CFC-11 by conversion to 141-B umbrella project for two companies PT Morodadi Prima and PT Tentrem Industri Karosseri in the manufacture of rigid insulation foam parts | UNIDO |

# PROJECT EVALUATION SHEET
# INDONESIA

SECTOR: Foam | ODS use in sector (2000): 2,281 ODP tonnes

Sub-sector cost-effectiveness thresholds: Integral Skin US $16.86/kg; Rigid US $7.83/kg

***Project Titles***:

(a) Phase-out of CFC-11 by conversion to 141-b at PT Solindah Kita in the manufacture of integral skin shoe soles
(b) Phase-out of CFC-11 by conversion to 141-b at PT Wulansari Raharja in the manufacture of integral skin automotive parts
(c) Phase-out of CFC-11 by conversion to 141-B umbrella project for two companies PT Morodadi Prima and PT Tentrem Industri Karosseri in the manufacture of rigid insulation foam parts

| **Project Data** | **Integral skin** | **Integral skin** | **Rigid** |
|---|---|---|---|
| | **Solindah Kita** | **Wulansari Raharja** | **Two Enterprises** |
| Enterprise consumption (ODP tonnes) | 48.00 | 12.00 | 28.00 |
| Project impact (ODP tonnes) | 48.00 | 10.80 | 25.45 |
| Project duration (months) | 30 | 30 | 30 |
| Initial amount requested (US $) | 520,236 | 141,451 | 198,057 |
| Final project cost (US $): | | | |
| Incremental capital cost (a) | 214,000 | 71,500 | 96,900 |
| Contingency cost (b) | 21,400 | 7,150 | 9,690 |
| Incremental operating cost (c) | 203,598 | 22,651 | 58,357 |
| Total project cost (a+b+c) | 438,998 | 101,301 | 164,947 |
| Local ownership (%) | 100% | 100% | 100% |
| Export component (%) | 0% | 0% | 0% |
| **Amount requested (US $)** | 438,998 | 101,301 | 164,947 |
| Cost effectiveness (US $/kg.) | 9.15 | 8.44 | 6.48 |
| Counterpart funding confirmed? | Yes | Yes | Yes |
| National coordinating agency | State Ministry for Environment | | |
| Implementing agency | UNIDO | | |

| ***Secretariat's Recommendations*** | | | |
|---|---|---|---|
| Amount recommended (US $) | | 101,301 | 164,947 |
| Project impact (ODP tonnes) | | 10.80 | 25.45 |
| Cost effectiveness (US $/kg) | | 8.44 | 6.48 |
| Implementing agency support cost (US $) | | 13,169 | 21,443 |
| Total cost to Multilateral Fund (US $) | | 114,470 | 186,390 |

## PROJECT DESCRIPTION

Sector background

| | |
|---|---|
| - Latest available total ODS consumption (2000) | 5,426.34 ODP tonnes |
| - Baseline consumption of Annex A Group I substances (CFCs) | 8,332.70 ODP tonnes |
| - Consumption of Annex A Group I substances for the year 2000 | 5,865.80 ODP tonnes |
| - Baseline consumption of CFCs in foam sector | 4,057.00 ODP tonnes |
| - Consumption of CFCs in foam sector in 2000 | 2,281.34 ODP tonnes |
| - Funds approved for investment projects in foam sector as of end of 2001 | US $19,254,497 |
| - Quantity of CFC to be phased out in approved investment projects in foam sector as of end of July 2001 | 3,733.00 ODP tonnes |

1. Analysis of the CFC consumption in the foam sector based on data submitted by the Government of Indonesia in November 2001 to the 35th Meeting showed CFC consumption remaining to be phased out in the sector to be 284.43 ODP tonnes. The foam projects submitted to the 35th Meeting account for consumption of 88 ODP tonnes. Thus, the approval of the three projects would result in a remaining sector consumption of 196.43 ODP tonnes.

### Integral Skin

PT Solindah Kita, PT Wulansari Raharja

2. Solindah Kita consumed 48 ODP tonnes of CFC-11 in 2000. The enterprise manufactures polyurethane integral skin shoe soles. It currently operates five low output (2-7 kg/min) low pressure machines of 7, 10, 16, 17 and 20 years of age which are reported to have operational problems. The company premixes its own systems in 250 litre premixers dedicated to the dispensers and which are also reported to be inefficient for CFC-alternative systems. The molds used (epoxy and aluminium) have a central heating system controlled by one thermostat.

3. The enterprise will phase out the use of CFC-11 by converting to water-blown technology. The total incremental capital cost of the project is US $225,000, covering the cost of retrofit of five low pressure dispensers, two new temperature controlled central preblending units (US $40,000) tanks, temperature control unit (US $40,000), trials, technical assistance and training. Incremental operating cost amounts to US $203,598. The project is expected to be completed in 2 years and 6 months.

4. Wulansari consumed 12.00 ODP tonnes of CFC-11 in 2000. The enterprise produces flexible polyurethane integral skin foam parts for the automotive industry. It currently produces the foam parts through hand mixing and pouring into 22 molds without heating or cooling. It will phase out the use of CFC-11 by converting to water-blown technology. The total incremental capital cost of the project is US $78,650, covering the cost of one low pressure dispenser with two mixing heads (US $50,000with 33% counterpart funding), temperature

control unit, trials, technical assistance and training. Incremental operating cost of US $22,651 is requested. The project is expected to be completed in 2 years and 6 months.

## Rigid Foam

Umbrella Project (2 Enterprises)

5. The two enterprises in the umbrella project – PT Morodadi Prima and PT Tentrem Industri Karosseri consumed 15.6 tonnes and 12.4 tonnes CFC-11 respectively in 2000. Both enterprises produce tourist class polyurethane insulated buses by spray foam. Morodadi uses a 1985 Meg Maruch Kakaoki low pressure sprayfoam machine while Tentrem uses 1989 Gusmer FF-1600 sprayfoam machine. The bus insulation will be converted to the interim use of HCFC-141b.

6. The incremental capital cost of conversion includes the cost of retrofit/replacement (for Tentrem) of the sprayfoam machine (US $7,500/US $18,000), procurement of portable ventilation and monitoring system (US $25,800), technology transfer, training, start-up, trials. The project costs of the two enterprises are as follows:

| | **CFC-11 Consumption (ODP Tonnes)** | **ICC (US $)** | **IOC (US $)** | **Total (US $)** |
|---|---|---|---|---|
| Morodadi | 15.6 | 56,760 | 32,550 | 89,310 |
| Tentrem | 12.4 | 49,830 | 25,807 | 75,637 |

Justification for the use of HCFC-141b

7. Justification for the use of HCFC-141b based on technological and economic analysis of each enterprise is provided in each project document. UNIDO indicated that the choice of HCFC-141b as interim technology was made by the enterprises as a result of discussion of available alternatives with them. In accordance with decisions of the Executive Committee on the use of HCFCs, a letter of transmittal from the Government of Indonesia endorsing the use of HCF-141b by the companies is attached.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

8. All the projects meet the relevant requirements of the Executive Committee Decision 33/2.

Integral Skin Foam

PT Solindah Kita

9. The Fund Secretariat identified a number of technical issues relating to the conversion technology as well as the eligible incremental capital and operational costs. The project was originally designed by UNIDO for the conversion of the shoe sole production to the use of HCFC-141b. Following discussions between the Secretariat and UNIDO and subsequent consultations between UNIDO and the enterprise, UNIDO and the enterprise agreed to change the conversion technology to water-blown with the use of polyester polyol instead of polyether polyol currently being used by the company. Following further discussions, the incremental capital cost was agreed as US $182,000 and 10% contingency of US $18,200. The incremental operational cost is still under discussion between the Secretariat and UNIDO. The total eligible level of funding of the project will be communicated to the Sub-Committee on Project Review after the issues relating to incremental operational cost have been resolved.

Wulansari Raharja

10. Following discussion of various technical issues raised by the Secretariat, the project was agreed with the level of funding of US $101,301 and cost-effectiveness of US $8.44/kg. The total grant is made up of incremental capital cost of US $78,650 and incremental operational cost of US $22,651.

Rigid Foam

11. The Secretariat and UNIDO agreed on the cost of the projects as indicated below

| | **Project Impact** | **ICC** | **IOC** | **Total** | **Cost-effectiveness** |
|---|---|---|---|---|---|
| Morodadi | 14.18 | 56,760 | 32,550 | 89,310 | 6.30 |
| Tentrem | 11.27 | 49,830 | 25,807 | 75,637 | 6.71 |
| **Total** | **25.45** | **106,590** | **58,537** | **164,947** | **6.48** |

National Aggregate Consumption

12. The three projects submitted by UNIDO will phase out a total of 88 ODP tonnes CFC-11. As of time of dispatch of documentation, Indonesia had not indicated its preferred option for starting point for implementation of its national aggregate consumption (Decision 35/57). The 88 ODP tonnes to be phased out by the three projects when approved should be deducted from Indonesia's national aggregate consumption when this is determined.

## RECOMMENDATIONS

13. The Fund Secretariat recommends blanket approval of the Wulansari Raharja project and the Umbrella project for two enterprises with the levels of funding and associated support costs as indicated in the table below.

| | Project Title | Project Funding (US$) | Support Cost (US$) | Implementing Agency |
|---|---|---|---|---|
| (b) | Phase-out of CFC-11 by conversion to 141-b at PT Wulansari Raharja in the manufacture of integral skin automotive parts | 101,301 | 13,169 | UNIDO |
| (c) | Phase-out of CFC-11 by conversion to 141-B umbrella project for two companies PT Morodadi Prima and PT Tentrem Industri Karosseri in the manufacture of rigid insulation foam parts | 164,947 | 21,443 | UNIDO |

# GOVERNMENT NOTE OF TRANSMITTAL OF INVESTMENT PROJECTS TO THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

## PROJECTS OF THE GOVERNMENT OF INDONESIA

The Government of **INDONESIA** requests UNIDO to submit the project(s) listed in Table 1 below/attached Table 1 to the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol for consideration at its 35th Meeting.

Section I: **ODS Consumption Data**

1. The ODS consumption figure(s) of the project(s) has/have been validated by the National Ozone Unit (NOU).

2. The consumption data have been retained in the records of the NOU for reference and/or future verification.

3. The Government has been advised by the NOU that the agreement to the project(s) indicates a commitment to ensure that the validated phase-out figure(s) was/were realized and yielded a sustained reduction from the current **sector consumption** of 2,281.34 ODP tonnes.

Table 1: Projects Submitted to the 35th Meeting of the Executive Committee

| Project Title/Sector | Type of ODS | Consumption (ODP Tonnes), (Year) | Amount to be Phased Out (ODP Tonnes), (Year) | Implementing Agency |
|---|---|---|---|---|
| **Foam Sector** | | | | |
| THE PHASE-OUT OF CFC-11 BY CONVERSION TO 141-B AT TWO COMPANIES PT. MORODADI PRIMA AND TENTREM INDUSTRI KAROSSERI IN THE MANUFACTURE OF RIGID INSULATION FOAM PARTS | CFC 11 | 28 | 25.45 | UNIDO |
| THE PHASE-OUT OF CFC-11 BY CONVERSION TO 141-B AT PT. WULANSARI RAHARJA IN THE MANUFACTURE OF INTEGRAL SKIN AUTOMOTIVE PARTS | CFC 11 | 12 | 10.8 | UNIDO |
| THE PHASE-OUT OF CFC-11 BY CONVERSION TO 141-B AT PT. SOLINDAH KITA IN THE MANUFACTURE OF INTEGRAL SKIN SHOE SOLES | CFC 11 | 48 | 43.2 | UNIDO |
| Total | | 88 | 79.45 | |

*Position of the Government of Indonesia* *Date: 25 September 2001*

**Section II: Other Relevant Actions Arising from Decision 33/2**

4 It is understood that, in accordance with the relevant guidelines, the funding received for a project would be partly or fully returned to the Multilateral Fund in cases where technology was changed during implementation of the project without informing the Fund Secretariat and without approval by the Executive Committee;

5 The National Ozone Unit undertakes to monitor closely, in cooperation with customs authorities and the environmental protection authorities, the importation and use of CFCs and to combine this monitoring with occasional unscheduled visits to importers and recipient manufacturing companies to check invoices and storage areas for unauthorized use of CFCs, in view of the instances of equipment purchased by the Multilateral Fund not being used or being reverted to the use of CFCs..

6. The National Ozone Unit will cooperate with the relevant implementing agencies to conduct safety inspections where applicable and keep reports on incidences of fires resulting from conversion projects.

**Section III: Projects Requiring the Use of HCFCs for Conversion**

7 In line with Decision 27/13 of the Executive Committee and in recognition of Article 2F of the Montreal Protocol, the Government

(a) has reviewed the specific situations involved with the projects MORODADI PRIMA, TENTREM INDUSTRI KAROSSERI, WULANSARI RAHARJA AND SOLINDAH KITA as well as its HCFC commitments under Article 2F; and

(b) has nonetheless determined that, at the present time, the projects needed to use HCFCs for an interim period with the understanding that no funding would be available for the future conversion from HCFCs for the company/companies involved.

Name and signature of responsible Officer:

**Mr. Pramono Mardio**

Designation: Ozone Officer Date:25 September 2001

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