Government of the People's Republic of Bangladesh
and
United Nations Development Programme

# Project Document

**Project Title :** **National ODS Phase-out Plan**

**Project Number:** BGD/04/G15 **Award Id :** 00011498 **Project Id**

**Implementing partner:** Ministry of Environment and Forest
*(designated institution ie formerly executing agency)*
**Other Partners:** Department of Environment
*(formerly implementing agencies )*

**Estimated start date:** July 2005 **Estimated end date:** June 2012

**Management arrangement:** National Execution (NEX)

**GoB contribution through TPP:**

In Cash (Taka) _____
In Kind (Taka) 14.64 million

**Summary of UNDP and cost-sharing inputs** [as per attached budget]

| | US $ |
|---|---|
| A. UNDP: | |
| - TRAC (1 & 2) | |
| - TRAC (3) | |
| - Other: Montréal Protocol | 1,025,000 |
| B. Cost- sharing: | |
| - Government | |
| - Financial Institution | |
| - Other | |
| Total: | 1,025,000 |

**Brief Project Description**

The national ODS Phase-out Plan will enable the Government of Bangladesh to phase-out CFC, CTC and MCF consumption by January 01, 2010 in compliance with the Montreal Protocol phase-out requirements. The Plan includes strategies for the refrigeration servicing sector and the solvent sector. A series of investment, non-investment, technical assistance, and capacity building activities are proposed to achieve this target. Considering the multi-faceted approach proposed it is crucial that flexibility be given to the Government of Bangladesh to adapt or modify its strategies during implementation of this plan as the need arises. The Government of Bangladesh has requested US$1,330,000 as the total funding from the Multilateral Fund for the total elimination of all Annex A Group I ozone depleting substances (CFCs) and $25,000 for total elimination foods in Annex B Groups II and III (CTC and MCF) in all industry sectors using these substances. The NOPP is a multiyear programme and the funding will be distributed as per the Agreement reached between the Government of Bangladesh and the ExCom if the country satisfies the performance based targets and conditions, set out in the Agreement. UNDP and UNEP will be jointly implementing the NOPP. The first trance of funds for 2004 was approved at the level of $155,000 for UNDP and $90,500 for UNEP activities. The approval of this project will result in the elimination of ODS consumption in Bangladesh and will allow the country to meet its Montreal Protocol obligations.

The Government of Bangladesh wishes to note that the signature of this document is to satisfy the condition of approval set out in decisions 50/19 and 50/20 of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol and to note that without additional funding, being provided by the MLF for the phase out of CFC use in the MDI sector it will not be possible to fulfill the agreed conditions of this project. In this regard the Government of Bangladesh wishes to note that it will submit a separate investment project to the Executive Committee to address the conversion of the CFC MDI manufacturing sector to alternatives and a Transition Strategy for MDIs.

NARGIS ISLAM
Joint Chief
Economic Relations Division
Ministry of Finance
Govt. of the People's Republic of Bangladesh

**Agreed by (Government):** Nargis Islam Date 11 March 2007

**Agreed by (Implementing Agency):** Date 11.03.2007

**Agreed by (UNDP):** Date 11-03-2007

Larry Maramis
Deputy Country Director
UNDP-Bangladesh

**MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER**

**PROJECT COVER SHEET**

| | | | |
|---|---|---|---|
| **COUNTRY** | BANGLADESH | **IMPLEMENTING AGENCY** | UNDP |
| **PROJECT TITLE** | National ODS Phase-Out Plan **(First Year)** | | |
| **SECTORS** | | Refrigeration Servicing & Solvent | |
| **ODS USE IN SECTORS** | Max. Allowable Consumption (2004) | 580.4 | ODP Tonnes (Refrigeration) |
| | | 6.6 | ODP Tonnes (Solvent) |
| | Current (2003) | 333.75 | ODP Tonnes (Refrigeration) |
| | | 7.05 | ODP Tonnes (Solvent) |
| **PROJECT IMPACT (All tranches, Refrig. Servicing under plan only)** | | 194.01 | ODP Tonnes (Refrigeration) |
| | | 7.05 | ODP Tonnes (Solvent) |
| **PROJECT IMPACT (1st Tranche to be implemented in 2004 only)** | | 36.00 | ODP Tonnes (Refrigeration) |
| | | 7.05 | ODP Tonnes (Solvent) |
| **PROJECT DURATION (All Tranches)** | | 84 months | |
| **PROJECT DURATION (1st Tranche)** | | **24 months** | |

| **PROJECT COSTS** | | Refrig.Serv | Solvent | TOTAL |
|---|---|---|---|---|
| **All Tranches (Excl. Agency Support Costs)** | US$ | 1,000,000 | 25,000 | 1,025,000 |
| **1st Tranche: Investment Costs** | US$ | 96,000 | 25,000 | 121,000 |
| **1st Tranche: Management Costs** | US$ | 34,000 | 0 | 34,000 |
| **1st Tranche: SUBTOTAL** | US$ | 130,000 | 25,000 | 155,000 |
| **1st Tranche: Agency Support Cost** | US$ | 11,625 | | 11,625 |
| **1st Tranche: TOTAL (incl Supp.Cost)** | US$ | 141,625 | 25,000 | 166,625 |

| | |
|---|---|
| **GOVERNMENT CONTRIBUTION IN KIND** | In kind |
| **STATUS OF COUNTERPART FUNDING** | N/A |
| **PROJECT MONITORING MILESTONES** | Included |
| **NATIONAL COORDINATING BODY** | Department of Environment, Ministry of Environment and Forests |

**PROJECT SUMMARY**

At their 42nd meeting, the Executive Committee approved a National ODS Phaseout Plan, a copy of which is attached to the document as an annex. This present document corresponds to the first funding tranche under this programme, and only for the portion corresponding to the new ODS reductions in the refrigeration servicing and solvent sectors.

**IMPACT OF THE PROJECT ON THE COUNTRY'S MONTREAL PROTOCOL OBLIGATIONS**

The National ODS Phase-out Plan will phase-out the remaining consumption of 194.010 ODP tons of Annex A, Group I CFCs, and 7.05 ODP Tonnes of Annex B Group II and III (CTC and MCF) over the period of 2003–2010.

**EXECUTIVE COMMITTEE's CONDITION**

Project approved in accordance with the Agreement between the Government and the Executive Committee". The Agreement is at Annex I of the National ODS Phase Out Plan document.

**PREPARED BY** Ranojoy Basu Ray **DATE** August 2004

# PROJECT OF THE GOVERNMENT OF BANGLADESH NATIONAL ODS PHASE-OUT PLAN
**(First Tranche)**

## 1. PROJECT OBJECTIVES

1A. The objectives of the overall programme (all phases) are:

**REFRIGERATION SERVICING:**

a) To achieve complete phase-out of CFCs in the Refrigeration Service Sector in Bangladesh by December 2009.
b) To enable Bangladesh to meet its obligations of phased ODS reductions in accordance with the control schedule of the Montreal Protocol.
c) To ensure timely, sustainable and cost-effective CFC phase-out in the Refrigeration Service Sector, through development and implementation of a combination of legislation, training, recovery/recycling, retrofit and management components.

**SOLVENT:**

To achieve early phase-out of Carbon Tetrachloride and Methyl Chloroform in the Solvent sector in Bangladesh through a technical assistance workshop.

1B. The objectives related to the first phase of the programme are:

**REFRIGERATION SERVICING:**

a) Establishment and operation of the Bangladesh Ozone Project Implementation and Monitoring Unit (BOPIMU) for facilitating the management of the Phase-out Plan:
b) Formulation of detailed terms of reference and work plans for various activities under the Policy & Management Support component.
c) Supplement the ongoing Refrigeration Management Plan (RMP) Recovery and Recycling project with additional equipment.
d) Undertake a retrofit project for domestic refrigerators to operate on hydrocarbon or other drop in blends.
e) Undertake a retrofit project for Car Air-conditioning (MAC) to convert to HFC-134a..
f) Organisation of a workshop for end users of commercial and industrial users of air-conditioning and refrigeration to discuss alternatives to CFC-11, 12 and R-502.

Another six funding tranches will be approved in subsequent years and will result in achieving the overall objective described in 1A above.

## 2. INSTITUTIONAL FRAMEWORK

(See Full-Fledged project document approved at the 42nd ExCom meeting including all phases)

## 3. SECTOR BACKGROUND

(See Full-Fledged project document approved at the 42nd ExCom meeting including all phases)

## 4. PROJECT DESCRIPTION

### 4.1 REFRIGERATION SERVICING

The Phase-out Plan for elimination of CFCs in the Refrigeration Service Sector in Bangladesh will be implemented through training and implementation of retrofit projects for domestic refrigerators and Mobile air-conditioning applications, recovery/recycling, technical assistance workshops for commercial end users and management components (See Full-Fledged project document approved at the 42nd ExCom meeting including all phases). The activities to be undertaken in CY 2004 are summarized as below:

#### 4.2.1 Proposed Activity: Domestic Refrigerator Retrofit

| | |
|---|---|
| Objective: | Train technicians in retrofitting of domestic refrigerators to hydrocarbon or other drop in blends and initiate a pilot project for approximately 8,500 refrigerator conversion. |
| Target Group: | Refrigeration technicians. |
| Impact: | Allow domestic refrigerators to continue working until total failure. 0.45 ODP Tonnes CFC phase out. |

#### 4.2.2 Proposed Activity: Technical Assistance Workshop for Commercial End Users

| | |
|---|---|
| Objective: | Provide commercial end users of refrigeration and air conditioning equipment with technical information of alternatives available (retrofit or replacement). |
| Target Group: | Commercial end users of refrigeration and air conditioning equipment |
| Impact: | No ODP impact. |

#### 4.2.3 Proposed Activity: Technical Assistance Workshop for Solvent Sector

| | |
|---|---|
| Objective: | Provide technical information to solvent users of alternative solvents and techniques. |
| Target Group: | Solvent sector end users. |
| Impact: | 7.05 ODP Tonnes Solvent phase out. |

#### 4.2.4 Proposed Activity: Setting up of Implementation and Monitoring Unit

The implementation of the ODS Phase-out Plan will need to be closely aligned and coordinated with the various policy, regulatory, fiscal, awareness and capacity-building actions the Government of Bangladesh and UNEP is taking and will need to take in future, in order to ensure that the implementation of the Phase-out Plan is consistent with the objectives of the Montreal Protocol. Further, in view of the annual performance-based targets needed to be achieved under the terms of the Phase-out Plan, the implementation of the Plan will need to be closely and efficiently managed and will introduce additional coordinating, reporting and monitoring activities.

The following activities are envisaged, for CY 2004:

a) Establishment and operation of the Bangladesh Ozone Project Implementation and Monitoring Unit (BOPIMU) for facilitating the management of the Phase-out Plan:
   - Determination of personnel and logistics requirements
   - Finalizing terms of reference for personnel
   - Initiation of recruitment of personnel

b) Formulation of detailed terms of reference and work plans for various activities under the Management component.

## 5. TECHNOLOGY

(See Full-Fledged project document approved at the 42nd ExCom meeting for total project)

## 6. FUNDING
### 6.1 UNDP CONTRIBUTION

**ACTIVITY 1: Retrofit of Domestic Refrigerators to Hydrocarbon Blends**

| Activity | All Tranches | 1st Tranche |
|---|---|---|
| International Consultant (Travel, 5 days DSA and fees) (UNDP/DCS) | $10,000 | $10,000 |
| Hands on training workshop | $5,000 | $5,000 |
| Approx 8,450 retrofit kits @ $15 per kit (UNDP/DCS) | $144,000 | $27,000 |
| HC blend @$3,000 per MT (UNDP/DCS) | $9,000 | $2,000 |
| Other materials @$10 per fridge (UNDP/DCS) | $96,000 | $18,000 |
| Labour and ancillary expenses @$5 per fridge | $48,000 | $9,000 |
| **Total** | **$312,000** | **$71,000** |

**ACTIVITY 2: Technical Assistance for Commercial Sector End Users to Assist in Decisions Related to Retrofitting or Replacement**

| Activity | All Tranches | 1st Tranche |
|---|---|---|
| International Consultant – 5 days fees, DSA and fare (UNDP/DCS) | $15,000 | $15,000 |
| Workshop expenses for 3 days (75 persons) | $10,000 | $10,000 |
| **TOTAL** | **$25,000** | **$25,000** |

**ACTIVITY 3: Technical Assistance for Solvent Sector End Users to Assist in Decisions Related to Alternatives**

| Activity | All Tranches | 1st Tranche |
|---|---|---|
| International Consultant – 5 days fees, DSA and fare (UNDP/DCS) | $15,000 | $15,000 |
| Workshop expenses for 3 days (75 persons) | $10,000 | $10,000 |
| **TOTAL** | **$25,000** | **$25,000** |

**ACTIVITY 4: Monitoring and Management of National ODS Phase Out Plan**

| Activity | All Tranches | 1st Tranche |
|---|---|---|
| One full time Project Coordinator of BOPIMU for 7 years @$10,000 per year | $70,000 | $10,000 |
| Full time project personnel and support staff of BOPIMU for 7 years @$7,000 per year (2 Programme assistant, 1 Accountant, 1 MLSS) | $49,000 | $7,000 |
| Two National Consultant as part time basis when required ($6,000 p.a. x 7 years) | $42,000 | $6,000 |
| Travel and DSA costs (@$6,000 per year) and Communications Costs (@$1,000 per year) for 7 years for BOPIMU | $49,000 | $7,000 |
| Computers, Photocopier for BOPIMU for database management (2 x $2,000) | $4,000 | $4,000 |
| **Total** | **$214,000** | **$34,000** |

## 7. RESULTS

### 7.1. REFRIGERATION SERVICING

For the refrigeration servicing, there will be 0.45 ODP Tonnes impact from the Domestic Refrigerator Retrofit project. Technical assistance workshop for commercial end users of R&AC equipment will be completed. Implementation and Management Unit will be constituted.

### 7.2 SOLVENT SECTOR

Technical assistance workshop for solvent end users will be completed. There will be 7.05 ODP tonnes impact, although the impact will be seen gradually.

## 8. IMPLEMENTATION MODALITY

The projects will be implemented through the NEX modality with international procurement of goods and services being done by UNDP Bangladesh under "Direct Country Support".

## 9. REPORTING AND OBTAINING FUNDING FOR FOLLOWING TRANCHES.

A yearly progress report must be prepared, showing the progress made in the project activities and reporting on the milestones and ODS-phaseout amounts that have been achieved. The information regarding the targets to be achieved on a yearly basis are stipulated in the official agreement between the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol and Bangladesh - Document UNEP/OzL.Pro/ExCom/42/54/Annex VIII.

## PROJECT COVER SHEET

| | | |
|---|---|---|
| **Country** | : | THE PEOPLES REPUBLIC OF BANGLADESH |
| **Name of Project** | : | National ODS Phase-Out Plan |
| **Project in Current Business Plan** | : | Yes |
| **Sectors Covered** | : | Refrigeration, Solvent |
| **Sub Sector** | : | Manufacturing and Servicing |
| **ODS Use in Ref. Sector (1999 Reported data)** | : | 218.692 ODP Tonnes |
| **Eligible Project Impact (ODS to be eliminated)** | : | 194.01 ODP Tonnes *(Difference will be phased out through ongoing projects and legislation)* |
| **ODS Use in Solvent Sector (1999 Reported data)** | : | 7.05 ODP Tonnes |
| **Eligible Project Impact (ODS to be eliminated)** | : | 7.05 ODP Tonnes |
| **Project Duration** | : | Till 2010 |
| **Project Costs** | | |
| **Incremental Capital Cost** | : | $1,355,000 |
| **Contingency** | : | Included in Incremental Capital Cost |
| **Incremental Operating Cost** | : | $0 |
| **Total Project Cost** | : | **$1,355,000** |
| **Requested Grant** | : | **$1,355,000** |
| **Implementing Agency Support Cost** | : | $119,775 |
| **Total Cost of Project to Multilateral Fund** | : | **$1,474,775** |
| **Local Ownership** | : | 100% |
| **Export Component** | : | 0% |
| **Cost Effectiveness** | : | $6.74/kg |
| **Status of Counterpart Funding** | : | In kind |
| **Project Monitoring Milestones Included** | : | Yes |
| **National Coordinating Agency** | : | National Ozone Office, Department of Environment, Ministry of Environment and Forests |
| **Lead Implementing Agency** | : | UNDP |
| **Co-Implementing Agency** | : | UNEP |

**Brief Description**

The National ODS Phase-out Plan will phase-out the remaining consumption of 194.010 ODP tons of Annex A, Group I CFCs, and 7.05 ODP Tonnes of Annex B Group II and III (CTC and MCF) over the period of 2003–2010. A series of investment, non-investment, technical assistance, and capacity building activities are proposed to achieve this target. The National ODS Phase-out Plan will enable the Government of Bangladesh to phase-out CFC, CTC and MCF consumption by January 01, 2010. Considering this multi-faceted approach it is crucial that flexibility be given to the Government of Bangladesh to adapt or modify its strategies during implementation of this plan as the need arises.

The Government of Bangladesh requests US$1,330,000 as the total funding from the Multilateral Fund for the total elimination of all Annex A Group I substances (CFCs) and $25,000 for total elimination of Annex B Groups II and III (CTC and MCF) in all industry sectors using these substances. The funding will be paid out in instalments as specified in the Agreement attached. Being a performance based Agreement; future payments will be conditioned to meeting the targets and conditions specified in the Agreement.

The approval of this project will result in the elimination of ODS consumption in Bangladesh and will allow the country to meet its Montreal Protocol obligations.

# NATIONAL ODS PHASE-OUT PLAN

## 1. INTRODUCTION

This National ODS Phase-Out Plan presents a proposal to phase out all ODS in Bangladesh. The Plan includes strategies for the refrigeration servicing sector and the solvent sector. The strategy calls for complete phase-out of all ODS by January 1, 2010 while complying with the Montreal Protocol phase-out requirements.

The consumption of CFCs reported by Bangladesh in 1999 was 801.33 MT or 800.61 ODP Tonnes. The consumption of Carbon Tetrachloride in 1999 was reported as 5.50 MT or 6.05 ODP Tonnes and the consumption of Methyl Chloroform was reported as 10.00 MT or 1.0 ODP Tonnes in 1999. According to Decision 35/57 of the Executive Committee of the Multilateral Fund, Bangladesh has opted for Option 2 as the starting point based on its 1999 reported data. After accounting for all the projects funded by the Executive Committee till then and subsequently (123.6 ODP Tonnes for Aerosol and 11.6 ODP Tonnes for Recovery & Recycling component of RMP – Total 135.2 ODP Tonnes), there is an unfunded CFC consumption of 665.41 ODP Tonnes, unfunded CTC consumption of 6.05 ODP tonnes and unfunded MCF consumption of 1.00 ODP Tonnes.

Of the 665.41 ODP Tonnes of CFC that was unfunded in 1999, 595 ODP Tonnes was reported in the aerosol sector where the one company for which project had been approved, had increased its consumption from 123.6 ODP Tonnes to 595 ODP Tonnes. Thus, in 2002, an additional 471.4 ODP Tonnes (595-123.6) has been phased out leaving 194.01 ODP Tonnes of CFC consumption unfunded.

A detailed survey undertaken in 2003 in preparation of the Country Programme Update shows use of 13.115 ODP of CFC-11, 298.216 ODP Tonnes of CFC-12, and 3.563 ODP Tonnes (10.480 MT) of R-502 – total 314.894 ODP Tonnes of CFCs. This includes 8.840 ODP Tonnes of CFC-11 and 12.904 ODP Tonnes CFC-12 used for MDI applications. This consumption was not known earlier and had never been reported to the Multilateral Fund. As a result, no CFC consumption is allocated to MDI application.

Under the circumstances, while eligible tonnage of CFC in refrigeration sector for funding is 194.01 ODP Tonnes, it leaves 120.884 ODP Tonnes of CFC in the refrigeration sector unfunded yet requiring phase out.

Similarly, for the solvent sector, the survey shows use of 32.150 ODP Tonnes (29.226 MT) of CTC and 2.48 ODP Tonnes (24.80 MT) of MCF. 1999 reporting was 6.05 ODP Tonnes (5.5 MT) CTC and 1.0 ODP Tonnes (10.0 MT) MCF.

Thus eligible tonnage of solvent for funding is 7.05 ODP Tonnes leaving 27.58 ODP Tonnes unfunded yet requiring phase out.

The Government of Bangladesh wishes to distribute the eligible unfunded consumption as follows:

# THE PEOPLES REPUBLIC OF BANGLADESH

# NATIONAL ODS PHASE-OUT PLAN

DEPARTMENT OF ENVIRONMENT
MINISTRY OF ENVIRONMENT AND FORESTS

Dhaka, February 2004

| Sector | ODP Tonnes | Project Funds Requested | CE (US$/kg) |
|---|---|---|---|
| Refrigeration Servicing Sector and Technical Assistance | 194.01 | $1,330,000 | $6.85/kg |
| Solvent Sector | 7.05 | $25,000 | $3.55/kg |
| **Total** | **201.06** | **$1,355,000** | **$6.74/kg** |

Project Outlines for the Refrigeration Servicing and Solvent sectors are attached. These proposals will together phase-out 194.01 ODP Tonnes of CFCs, 6.05 ODP Tonnes of CTC and 1.0 ODP Tonnes of MCF.

The requested MLF funding installments by activity are shown in Table 1 below and the annual reductions in CFC consumption to be achieved are shown in Table 2 below.

**Table 1: Funding Requirements per Year National ODS Phase-out Plan (Requested in March each year)**

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| **Public Awareness** | $30,000 | $30,000 | | | | | | $60,000 |
| **Code of Practice, Certification, and Training of Technicians(unorganised sector) in parthership with BRAMA** | | | | | | | | |
| Development of Code of Practice Manual | $1,000 | | | | | | | $1,000 |
| Printing and distribution of manual | $2,000 | $24,500 | | | | | | $26,500 |
| Printing of License Certificate | $1,500 | | | | | | | $1,500 |
| Travel/DSA expenses and Honorarium to Trainers | $10,000 | $20,000 | $8,000 | $8,000 | $8,000 | $7,000 | | $61,000 |
| Logistics for 2/3 day training (20 techs x 1,000 workshops) | $20,000 | $40,000 | $16,500 | $16,500 | $16,500 | $15,500 | | $125,000 |
| Basic Training tools (Refrigeration board, compressor cut out, manometer, vacuum pump, gauges, manual recovery machine, cylinder etc) | $5,000 | $5,000 | | | | | | $10,000 |
| **Total** | **$39,500** | **$89,500** | **$24,500** | **$24,500** | **$24,500** | **$22,500** | | **$225,000** |
| **Customs Training and Ref I.D. Kit** | | | | | | | | |
| Logistics for training 500 staff | $3,000 | $3,000 | $3,000 | $3,000 | $3,000 | | | $15,000 |
| Travel and DSA for Trainers | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | | | $5,000 |
| Honorarium for Trainers | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | | | $5,000 |
| 10 Refrigerant Identification kits @$1,000 each | $12,000 | | | | | | | $12,000 |
| Reproduction of Training Material | $2,000 | | | | | | | $2,000 |
| Update Customs Refresher Training and New Officer Training Curriculum | $1,000 | | | | | | | $1,000 |
| Enforcement cost during the project period | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | | | $5,000 |
| **Total** | **$21,000** | **$6,000** | **$6,000** | **$6,000** | **$6,000** | | | **$45,000** |
| **TOTAL FOR UNEP** | **$90,500** | **$125,500** | **$30,500** | **$30,500** | **$30,500** | **$22,500** | | **$330,000** |
| **R&R equipment** | | | | | | | | |
| National Consultant for Training in use of equipment | | $5,000 | | | | | | $5,000 |
| 10 nos MAC recovery/recycle/recharge machines @ $3,500 each | | $35,000 | | | | | | $35,000 |
| 20 nos 100 lb recovery cylinders @ $200 each | | $4,000 | | | | | | $4,000 |
| 175 nos Hand Held Recovery m/c @$500 each | | $87,500 | | | | | | $87,500 |
| 175 nos 30 lb recovery cylinders @$100 each | | $17,500 | | | | | | $17,500 |
| 175 nos vacuum pumps @$350 each | | $61,250 | | | | | | $61,250 |
| 350 nos 100 lb recovery cylinders @ $200 each | | $70,000 | | | | | | $70,000 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Total for Equipment* | | *$280,250* | | | | | | $280,250 |
| Consumables and spares for above @10% | | $28,025 | | | | | | $28,025 |
| Freight Cost @10% | | $30,825 | | | | | | $30,825 |
| Contingency @10% | | $33,900 | | | | | | $33,900 |
| **Total** | | **$373,000** | | | | | | $373,000 |
| **Domestic Ref retrofit - Approx 8,450 units** | | | | | | | | |
| International Consultant (Travel, 5 days DSA and fees) | $10,000 | | | | | | | $10,000 |
| Hands on training workshop | $5,000 | | | | | | | $5,000 |
| Retrofit kits @ $17 per kit | $27,000 | $34,500 | $34,500 | $12,000 | $12,000 | $12,000 | $12,000 | $144,000 |
| HC blend @$3,000 per MT | $2,000 | $1,000 | $2,000 | $1,000 | $1,000 | $1,000 | $1,000 | $9,000 |
| Other materials @$10 per fridge | $18,000 | $23,000 | $23,000 | $8,000 | $8,000 | $8,000 | $8,000 | $96,000 |
| Labour and ancillary expenses @$5 per fridge | $9,000 | $11,500 | $11,500 | $4,000 | $4,000 | $4,000 | $4,000 | $48,000 |
| **Total** | **$71,000** | **$70,000** | **$71,000** | **$25,000** | **$25,000** | **$25,000** | **$25,000** | $312,000 |
| **MAC retrofit - 250 vehicles** | | | | | | | | |
| Local Consultant (Travel and fees) | | $5,000 | | | | | | $5,000 |
| Hands on training workshop | | $5,000 | | | | | | $5,000 |
| Retrofit kits @ $200 per kit | | $25,000 | $25,000 | | | | | $50,000 |
| Required quantity of HFC-134a | | $1,500 | $1,500 | | | | | $3,000 |
| Required quantity of Polyester oil | | $1,500 | $1,500 | | | | | $3,000 |
| Other materials @$20 per vehicle | | $2,500 | $2,500 | | | | | $5,000 |
| Labour and ancillary expenses @$20 per job | | $2,500 | $2,500 | | | | | $5,000 |
| **Total** | | **$43,000** | **$33,000** | | | | | $76,000 |
| **TA seminar for large Comm end users** | | | | | | | | |
| International Consultant – 5 days fees, DSA and fare | $15,000 | | | | | | | $15,000 |
| Workshop expenses for 3 days (75 persons) | $10,000 | | | | | | | $10,000 |
| **Total** | **$25,000** | | | | | | | $25,000 |
| **MONITORING** | | | | | | | | |
| One full time Project Coordinator of BOPIMU for 7 years @$10,000 per year | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $70,000 |
| Full time project personnel and support staff of BOPIMU for 7 years @$7,000 per year (2 Programme Assistant, 1 Accountant, 1 MLSS) | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $49,000 |
| Two National Consultant as part time basis when required ($6,000 p.a. x 7 years) | $6,000 | $6,000 | $6,000 | $6,000 | $6,000 | $6,000 | $6,000 | $42,000 |
| Travel and DSA costs (@$6,000 per year) and Communications Costs (@$1,000 per year) for 7 years for BOPIMU | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 | $49,000 |
| Computers, Photocopier for BOPIMU for database management (2 x $2,000) | $4,000 | | | | | | | $4,000 |
| **Total** | **$34,000** | **$30,000** | **$30,000** | **$30,000** | **$30,000** | **$30,000** | **$30,000** | $214,000 |
| **TOTAL FOR UNDP Refrigeration Sector** | **$130,000** | **$516,000** | **$134,000** | **$55,000** | **$55,000** | **$55,000** | **$55,000** | $1,000,000 |
| | | | | | | | | |
| **FUNDING FOR REF SECTOR** | $220,500 | $641,500 | $164,500 | $85,500 | $85,500 | $77,500 | $55,000 | $1,330,000 |
| | | | | | | | | |
| **Solvent Workshop (UNDP)** | **$25,000** | | | | | | | $25,000 |
| | | | | | | | | |
| **TOTAL FUNDING** | $245,500 | $641,500 | $164,500 | $85,500 | $85,500 | $77,500 | $55,000 | $1,355,000 |

## Table 2: Annual Reductions in Consumption

| REFRIGERATION SECTOR PHASE-OUT OF CFC-11, CFC-12 AND R-502 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Balance Unfunded for CFC-12 & 115 | 194.01 | | | | | | | |
| Forecast Phase out from Servicing Sector | | 36.00 | 77.50 | 108.50 | 3.25 | 6.40 | 28.84 | |
| **TOTAL** | | **36.00** | **77.50** | **108.5** | **3.25** | **6.40** | **28.844** | |
| **SUBCOMPONENTS OF PHASE OUT FROM SERVICE SECTOR** | | | | | | | | |
| Through Import permits | | 34.50 | 75.625 | 106.125 | | | 22.444 | |
| Recovery & Recycling | | | | | | 1.40 | 1.40 | |
| Through retrofit of domestic refrigerators | | 0.5 | 0.75 | 0.75 | 1.25 | 2.50 | 2.50 | |
| Through retrofit of MAC | | | 0.125 | 0.125 | 0.50 | 0.50 | 0.50 | |
| From Good Practices | | 1.00 | 1.00 | 1.50 | 1.50 | 2.00 | 2.00 | |
| TOTAL | | **36.00** | **77.50** | **108.50** | **3.25** | **6.40** | **28.844** | |
| From R&R project of previously approved RMP | | 3.00 | 5.00 | 11.60 | 11.60 | 11.60 | 11.60 | |
| **SOLVENT SECTOR PHASE-OUT OF CTC AND MCF** | | | | | | | | |
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Balance Unfunded for CTC and MCF | 7.05 | | | | | | | |
| Forecast Phase out from Solvent Sector | | | 7.05 | | | | | |
| TOTAL | | | | | | | | |

In order to assist Bangladesh in establishing its implementation structure within the country, achievement of Bangladesh's 2004 reduction targets, and to initiate measures necessary to meet the other reduction targets included in Table 2, the Executive Committee is requested to approve at its 42nd meeting provision of US$1,355,000 plus agency support costs to Bangladesh.

The requirements to be met to obtain the subsequent annual tranches of funding requested from the MLF for the years 2005 – 2009 will be spelled out in the Agreement, a draft of which is provided in Annex I.

The Agreement will state that "The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to the Substances."

It will further state that "Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees in principle to provide the funding set out in row 12 of Appendix 2-A (the "Funding") to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (the "Funding Disbursement Schedule")."

"The Country will meet the consumption limits for each Substance as indicated in Appendix 2-A. It will also accept independent verification by the relevant Implementing Agency of achievement of these consumption limits as described in paragraph 9 of this Agreement."

To obtain annual funding from 2005 onwards, the "Agreement" between the Government of Bangladesh and the Executive Committee of the Multilateral Fund will state that "The Executive Committee will not provide the Funding in accordance with the Funding Disbursement Schedule unless the Country satisfies the following conditions at least 30 days prior to the applicable Executive Committee meeting set out in the Funding Disbursement Schedule:

a) That the Country has met the Target for the applicable year;

b) That the meeting of these Targets has been independently verified as described in paragraph 9;

c) That the Country has substantially completed all actions set out in the last Annual Implementation Programme; and

d) That the Country has submitted and received endorsement from the Executive Committee for an annual implementation programme in the form of Appendix 4-A (the "Annual Implementation Programmes") in respect of the year for which funding is being requested.

The Agreement will provide the Government of Bangladesh with flexibility to use the funds by the clause "While the Funding was determined on the basis of estimates of the needs of the Country to carry out its obligations under this Agreement, the Executive Committee agrees that the Country may use the Funding for other purposes that can be demonstrated to facilitate the smoothest possible phase-out, consistent with this Agreement, whether or not that use of funds was contemplated in determining the amount of funding under this Agreement. Any changes in the use of the Funding must, however, be documented in advance in the Country's Annual Implementation Programme, endorsed by the Executive Committee as described in sub paragraph 5(d) and be subject to independent verification as described in paragraph 9."

In addition "Specific attention will be paid to the execution of the activities in the servicing sector, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation;

(b) The technical assistance programme for the refrigeration servicing subsectors would be implemented in stages so that resources can be diverted to other activities such as, additional training or procurement of service tools, in cases where the proposed results are not achieved, and will be closely monitored in accordance with Appendix 5-A of this Agreement.

The Agreement will also state "Should the Country, for any reason, not meet the Targets for the elimination of the Substances in Annex A (Group I) and Annex B (Groups II and III) of the Montreal Protocol or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Disbursement Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised

Funding Disbursement Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next instalment of Funding under the Funding Disbursement Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amounts set out in Appendix 7-A in respect of each ODP tonne of reductions in consumption not achieved in any one year.

## 2. REFRIGERATION SERVICING SECTOR PHASE-OUT PLAN

### *2.1 Introduction*

The Executive Committee of the Multilateral Fund approved Bangladesh's Country Programme in 1994. Subsequently a Refrigerant Management Plan was approved in November 1999. Funding for CP update was approved in 2002 and funding for preparation of National Phase Out Plan was approved in 2003.

In preparation of the CP Update, a detailed survey was carried out. The survey was conducted in selected areas and the data extrapolated to arrive at the consumption in the service sector. The survey also identified the use in the different sub-sectors – domestic and commercial assembly and domestic, commercial and mobile servicing. From the survey and extrapolation of the survey data, it is estimated that there is a consumption of 4.275 ODP Tonnes of CFC-11, 285.312 ODP Tonnes of CFC-12 and 4.04 ODP tonnes of R-502 (11.880 MT), Total 293.627 ODP tonnes.

### *2.2 Situation Analysis*

Bangladesh's RMP was approved in November 1999. A survey of the Refrigeration and Air Conditioning sector was carried out to determine the baseline data in this sector.

For various reasons, implementation of the RMP could not effectively start till early 2003. The Training of Trainers in Good Refrigerant Management Practices has been completed and the second phase of Training of Technicians is going on start shortly. The Recycling Centres have been set up and Recovery machines have been distributed to eligible service shops. Monitoring of the Recovery and Recycling project is also ongoing.

The Refrigeration and Air-Conditioning Sector use was reasonably well covered in the Refrigerant Management Plan, with some gap areas remaining. The estimated 1997 consumption of refrigerants by use and application, as well as the results of the 2003 CP Update survey (presenting 2002 data) is reproduced in the table below:

| SUB SECTOR | Sub-Sub Sector | ODS | Application | 1997 Estimated Use (MT) | 2002 Extrapolated Survey Data (MT) |
|---|---|---|---|---|---|
| Dom. & Small Comm. Freezer/ Refrigerator and A/C | R&AC Service Shops (domestic & Small commercial) | CFC-11 | Flushing | 0.660 | 0.00 |
| | | CFC-12 | Recharge | 121.522 | 157.710 |
| | | HCFC-22 | Initial Charge and Recharge | N/a | 46.202 |
| Commercial/ Industrial | • Ice Cream/ Dairy/Food | CFC-12 | Recharge | 120.075 | 19.691 |
| | | HCFC-22 | Recharge | 0.220 | 1.080 |
| | | R-502 | Recharge | 1.054 | 10.480 |
| | • Ice and Cold | CFC-12 | Recharge | 3.262 | 7.500 |

| | | | | | |
|---|---|---|---|---|---|
| | Storage | HCFC-22 | Recharge | N/a | 47.143 |
| | • Fish Freezing/ Processing | CFC-12 | Recharge | 1.969 | 0.00 |
| | | HCFC-22 | Recharge | 1.688 | 17.500 |
| | Soft Drink | CFC-12 | Recharge | N/a | 0.780 |
| | | HCFC-22 | Recharge | N/a | 1.360 |
| | Assembly | CFC-12 | Init. Charge | N/a | 1.305 |
| | | HCFC-22 | Init. Charge | N/a | 35.820 |
| | Commercial Air-Conditioning | CFC-11 | Flushing/ Chiller Recharge | 4.160 | 4.275 |
| | | CFC-12 | Recharge | 0.100 | 4.964 |
| | | HCFC-22 | Init. Charge | 68.331 | 5.089 |
| | | HCFC-123 | Initial Charge & Recharge | 5.055 | 0.00 |
| Mobile Air-Conditioning | Car/Jeep | CFC-12 | Recharge | 16.100 | 76.634 |
| | Air-Con Bus | CFC-12 | Recharge | N/a | 12.960 |
| | BD-Railway | CFC-12 | Recharge | N/a | 3.468 |
| | Ref. Van | CFC-12 | Recharge | N/a | 0.300 |
| | | R-502 | Recharge | N/a | 1.400 |
| | Fishing Trawler | HCFC-22 | Recharge | N/a | 70.416 |

When comparing the RMP data with the 2002 survey data it can be seen that:

- CFC-11 use for flushing by small shops has reduced from 0.66 MT to negligible amounts.
- CFC-12 use for domestic refrigeration and small commercial refrigeration has gone from 121.522 MT to 157.710 MT
- CFC-12 use in the Commercial sub-sector has gone down from estimated 125.306 MT to 29.276 MT. In 1997 most shops did not differentiate between applications, and possibly a lot of mobile applications, which were simply top ups, got clubbed into commercial applications.
- R-502 consumption in Commercial Refrigeration has increased from 1.054 MT to 10.480 MT
- CFC-11 use for commercial air-conditioning servicing has remained constant.
- CFC-12 use in commercial air-conditioning has increased from 0.100 MT to 4.964 MT.
- CFC-12 consumption for mobile applications has increased from 16.1 MT to 93.362 MT. As explained earlier, part of this is because of allocation of this consumption to the commercial sector. Also, since 1997 there has been import of a large number of automobiles and busses with CFC-12 based air-conditioning systems. Bangladesh allows up to 4-year-old cars to be imported. With the majority of imports being from Japan, all cars imported till 1999 operated on CFC-12. Another reason for the high consumption is that service technicians are charging CFC-12 into HFC-134a systems – either unknowingly or because the price is much less.

It is noted that there is increasing use of HCFC-22 in the R&AC sector. While we are noting this consumption for dealing with in future, at present it does not come within the current freeze and phase out requirements of the Montreal Protocol.

While the RMP will contribute to the CFC phase out through the remaining training and monitoring, the National ODS Phase Out Plan stresses the need for strengthening the capabilities of the service companies to meet the demands of the various new technologies being introduced. In addition to the current RMP activities, it is essential for Bangladesh to pursue the retrofit and other additional activities to ensure the reduction in the need for CFCs.

Funding requested in the National ODS Phase Out Plan is essential for Bangladesh to meet its 2005 and, more importantly its 2007 phase out requirements. The proposed activities will start in 2004 and will ensure meeting of all obligations.

### *2.3 Government Initiatives*

Bangladesh has regulations for imports and exports and ODS and ODS using products are also included. In order to strengthen these regulations specifically for ODS and ODS using equipment a Legislation under the Bangladesh Environment Protection Act 1995 has been enacted and implemented in 2004. It includes, amongst others, the following controls:

- Ban on Production of ODS.
- Controls on ODS Import and Export
- Controls on Sales and Purchase of ODS
- Ban on Production of Compressors using ODS
- Mandatory Reporting of Import, Export and Sales of ODS

In addition the following has already been implemented:

- Increase in tariff of ODS
- Reduction in tariff of ozone friendly substances

With the regulations in place, Bangladesh will be able to closely control and reduce the imports of ODS to ensure compliance. However, the consumption in the R&AC service sector is a matter of great concern. While recovery and recycling will reduce the demand for new CFCs to some extent, the demand for new CFC-12 for recharge of systems from which refrigerant has leaked or where the compressor has burnt out will always be there. This is estimated at 289.627 ODP Tonnes, primarily for servicing of domestic and commercial equipment as well as servicing of MAC systems including cars, a/c busses, trawlers and railway carriages.

### *2.4 Project Descriptions*

Of all the sectors covered under the Montreal Protocol the R&AC sector, particularly the service and end-use sector faces the biggest challenge in phasing out the use of ODS, particularly CFC-12. Every domestic, commercial and industrial refrigeration or air-conditioning system is affected. Unlike in developed countries, Bangladesh does not have the economic capability to replace equipment every 5 – 10 years. The tendency is to continue to repair and use until there is catastrophic failure. This leads to, for example, use of domestic refrigerator for 20 to 40 years!!

At the same time, an important finding is that most refrigeration equipment comes in for servicing after leakage has occurred. This means that while a certain quantity of refrigerant is being used to recharge/top up, not all of that quantity is recoverable, since refrigerant has leaked out. This creates a continuing demand for CFC imports.

The option to seek funding from the Multilateral Fund to replace all refrigerators in the country is not practical or feasible. Yet the demand for new CFCs for servicing has to be addressed. In addition the emergence of several technologies requires that a planned effort be made to keep technicians abreast of new developments, while consumers need to be protected and made aware. This is proposed through extension of existing RMP activities, in addition to some retrofitting

activities, and strengthening and empowering of the Association. Brief descriptions and budgetary costs are outlined below.

### 2.4.1 National ODS phase-out plan: public awareness and information dissemination to main stakeholders

With 2005 reductions in imports coming up very quickly, the NOU proposes to mount an intensive campaign with advertisements in National newspapers and TV spots to sensitise it's citizens of the impact of CFC-12 phase out and what alternative options are available.

With the approved budget, the following activities are proposed with the indicative deadlines and the budget, and shall of course be changed as implementation is to be done.

| Sl. No. | Proposed Activity | Description | Time frame | Cost |
|---|---|---|---|---|
| 1. | Baseline survey of level of communication awareness in the country, by sector, and preparation of a national communication strategy | Following the regional awareness strategy, countries in the region are encouraged to develop their own national communication strategies which will outline specific activities that need to be done to support compliance. Bangladesh will benefit from doing this so that each sector can be covered and activities identified. It is also essential that a baseline survey of the level of awareness be done in the country, so that interventions will be more targeted to the needs expressed. Both the activities are to be done engaging a competed national professional agency. | 2004-2005 | US$5000 |
| 2. | Development of communication materials | May interalia include poster, leaflet, pocketbook, calendar, slides, TV ad, radio ad, newspaper ad, video documentary etc. in the light of communication strategy to be developed. | 2004-2005 | US$ 30,000<br>US$15,000 per year |
| 3. | Dissemination | In appropriate mode including public awareness campaign in conjunction with the technician training workshop. | 2004 - 2005 | US$25,000<br>US$10,000 1st year<br>US$15,000 2nd year |

The budget and the disbursement schedule is as follows:

| | 2004 | 2005 | Total |
|---|---|---|---|
| **Public Awareness** | | | |
| Baseline survey of level of communication awareness in the country, by sector, and preparation of a national communication strategy | $5,000 | | **$5,000** |
| Development of communication materials | $15,000 | $15,000 | **$30,000** |
| Dissemination | $10,000 | $15,000 | **$25,000** |
| **Total** | **$30,000** | **$30,000** | **$60,000** |

### 2.4.2 Training and certification programme for refrigeration service technicians, including development of a code of good practices (UNEP)

With the emergence of several new technologies, particularly for domestic refrigeration and MAC applications, in the span of a few years, the Government and the Bangladesh Refrigeration

and Air-Conditioning Merchants Association (BRAMA) are concerned that the technicians in Bangladesh do not have the opportunity to get information disseminated and training provided in these technologies. Technicians in the unorganized sector are the worst affected as they end up being the last to know.

BRAMA is a recognised Association in this sector in Bangladesh. It has a membership of over 400 with representation from the Import, Retail and Servicing sectors of the industry. BRAMA is participating actively in the implementation of the RMP and many of its members have attended the Training of Trainers workshop.

The Training of Technicians component of the RMP has started and is going. The RMP training project is expected to train approximately 1,000 technicians by the end of 2004. It is estimated that there are nearly 25,000 technicians in the country, mostly in the unorganised sector. With additional training funding sought in the National Phase Out Plan, it is proposed to train another 7,500 technicians, who could be then transfer the skill, knowledge through daily on-job learning to other technicians in Bangladesh.

The technician training would be organized by the PMU under the supervision of DOE/NOU in cooperation with local government (head of the administration), local DOE and local branch of BRAMA. The local BRAMA will be responsible for the selection of the technicians and submit the list to PMU/NOU to finalize. The PMU/NOU would coordinate the organization of the workshop with development of the agenda, training material and the other logistic arrangement. The local consultant to be hired under the monitoring project would act as the Lead trainer, and 2 or 3 local trainers from participants of the train-the-trainer workshop would be recruited to assist the lead trainer. The local vocational schools or any suitable venue should be used for the delivery of the training. To facilitate the delivery of the training workshop, the equipment/tools such as refrigeration board, compressor cut out, manometer, vacuum pump, gauges, manual recovery machine, cylinder etc will be procured from the local market.

The training workshop will be lasted for 2/3 days. The number of the technicians to be trained in each year would be:

| 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| 1,000 | 2,500 | 1,000 | 1,000 | 1,000 | 1,000 |

NOU will also to develop and disseminate a Code of Good Practice for R&AC technicians through training workshop and retail chains. In total, 15,000 copies of the manual of Code of Good Practice will be produced with 1,000 copies to be produced in t he year 2004.

A certification system will be established to issue the certificate to the trained technicians though the formally organized training workshops or on-job training, which has been verified by DOE or its authorized organizations. The certificate will be issued by DOE and will be used in the future to assess whether the workshop could do the recovery/recycling and or retrofitting under the NOPP. About 25,000 copies of certificate are scheduled to be printed for both the whole project implementation period and past project period.

The budget for all these activities and the disbursement schedule will be:

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | TOTAL |
|---|---|---|---|---|---|---|---|
| Development of Code of Practice Manual | $1,000 | | | | | | $1,000 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Printing and distribution of manual | $2,000 | $24,500 | | | | | $26,500 |
| Printing of License Certificate | $1,500 | | | | | | $1,500 |
| Logistics for 2/3 day training | $20,000 | $40,000 | $16,500 | $16,500 | $16,500 | $15,500 | $125,000 |
| Travel/DSA expenses and Honorarium to trainers | $10,000 | $20,000 | $8,000 | $8,000 | $8,000 | $7,000 | $61,000 |
| Basic Training tools | $5,000 | $5,000 | | | | | $10,000 |
| **Total** | **$39,500** | **$89,500** | **$24,500** | **$24,500** | **$24,500** | **$22,500** | $225,000 |

### 2.4.3 National ODS phase-out plan: training programme for custom officers (UNEP)

As part of the RMP 35 Customs trainers have been trained. Another 100 will be trained under Phase-II of the Customs Training 13 Refrigerant Identifier Kit have been collected and distributed under a regional project. More customs officer of different check-posts are required to be trained. Additional quantities of 10 Refrigerant Identifiers are required to cover all of the customs entry points. A process of continuous training of another 500 staff from the customs and other enforcement authorities under National ODS Phase-out Plan is proposed to combat illegal trade and smuggling.

The training workshop will be organized by NOU/PMU in close cooperation with the National Board of Revenue (NBR), the customs authority of Bangladesh. A long term strategy concerning how to deliver the customs training, i.e. prioritize the region to be trained, sustain the customs training, select the port offices to receive the identifiers, update the customs training curriculum, etc will be jointly worked out by NOU and the relevant government offices.

The possibility to have the custom training workshop to be organized in conjunction with the normal training workshop organized by the custom office will be explored to sustain the training activities. Also during the customs training, public awareness activities will also be organized.

The training workshops will be organized for 50 participants each. During 2004 and 2008, each year there will be two workshops to train 100 staff.

| | 2004 | 2005 | 2006 | 2007 | 2008 | TOTAL |
|---|---|---|---|---|---|---|
| Logistics for training 500 staff | $3,000 | $3,000 | $3,000 | $3,000 | $3,000 | $15,000 |
| Travel and DSA for Trainers | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $5,000 |
| Honorarium for Trainers | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $5,000 |
| 10 Refrigerant Identification kits | $12,000 | | | | | $12,000 |
| Reproduction of training material | $2,000 | | | | | $2,000 |
| Update the custom refresh training and the new officer training curriculum | $1,000 | | | | | $1,000 |
| Enforcement cost during the project period | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $5,000 |
| **Total** | **$21,000** | **$6,000** | **$6,000** | **$6,000** | **$6,000** | $45,000 |

### 2.4.4 Recovery and Recycling Equipment (UNDP)

The Recovery and Recycling project of the RMP started in March 2003, when the equipment was distributed following training of the beneficiaries. It maybe that eventually the concept of Recycling Centres will have to be rethought and the equipment redistributed to the few service shops that service large commercial equipment for better utilisation. The project, however, is in

its early stages and needs to be evaluated after a year before decisions are taken. However, the need for manual recovery units and small vacuum pumps has already emerged from discussions with the domestic and small commercial service shops.

In addition there continues to be a need for MAC recovery/recycle/recharge equipment. While Japan may have started production of cars with HFC-134a MAC's in 1993, the export of those newer models to countries like Bangladesh will have commenced many years later. Currently Bangladesh may have been importing such vehicles, but it is not possible to provide an estimate of the amount of CFC used for servicing non-CFC based equipment. As a matter of fact, since CFC-12 can be used in HFC134a systems, once it is introduced, the system becomes a CFC based system and is treated as such.

The National Ozone Officer further reports that the age of the car fleet in Bangladesh is rather old. As such most of the CFC-12 in the MAC sector is used for servicing CFC-12 based MAC's and only exceptionally will it be otherwise.

Funding is being requested for these equipments. The budget is as follows:

| Activity | Budget |
|---|---|
| National Consultant for Training in use of equipment | $5,000 |
| 10 nos MAC recovery/recycle/recharge machines @ $3,500 each (UNDP/DCS) | $35,000 |
| 20 nos 100 lb recovery cylinders @ $200 each (UNDP/DCS) | $4,000 |
| 175 nos Hand Held Recovery m/c @$500 each (UNDP/DCS) | $87,500 |
| 175 nos 30 lb recovery cylinders @$100 each (UNDP/DCS) | $17,500 |
| 175 nos vacuum pumps @$350 each (UNDP/DCS) | $61,250 |
| 350 nos 100 lb recovery cylinders @ $200 each (UNDP/DCS) | $70,000 |
| ***Total for Equipment*** | ***$280,250*** |
| Consumables and spares for above @10% (UNDP/DCS) | $28,025 |
| Freight Cost @10% (UNDP/DCS) | $30,825 |
| Contingency @10% (UNDP/DCS) | $33,900 |
| **Total (rounded off)** | **$373,000** |

Note: International procurement of equipment will be done by UNDP Bangladesh under Direct Country Support.

### 2.4.5 Retrofit of Domestic and Small Commercial Refrigerators to Hydrocarbon Blends

As can be seen from the table at 2.2, the use of CFC-12 for servicing of domestic and small commercial equipment was 157.710 MT in 2002. This consumption is due to leakage and compressor burn out and is at the moment new CFCs. While Recovery and Recycling, particularly from commercial systems being decommissioned, will provide some refrigerant to reduce the demand, the impact will not be sufficient to meet the entire demand. The option of replacing the entire refrigerator because CFC-12 is not available is not an acceptable one for the Government and the citizens of the country. A refrigerator ranks amongst the top 5 most expensive items in a household. In addition many small businesses derive their livelihood from selling refrigerated products including soft drinks.

With the successful completion of the project on establishing criteria and techniques of retrofitting domestic and small commercial refrigeration equipment to hydrocarbon blends in India, Bangladesh Government is keen to implement the technology. As and when refrigerators

need refrigerant due to leakage or compressor burn out, they will be retrofitted to hydrocarbon blends thereby ensuring continued use of the refrigerator and reducing the demand for new CFCs. An awareness campaign will also be undertaken under the project detailed in 3.3.1.

Bangladesh Government proposes to have a pilot project to retrofit refrigerators. The project requests initial equipment for retrofit of approximately 9,600 refrigerators for start up. It will be on a cost recovery basis, and the funds generated will be used to make the project self-sufficient. The funding is being requested as seed money. For CFC phase out to be truly successful, end users have to be convinced and facilities have to be available. The import of kits has to be in substantial numbers to have any impact. The service companies do not have the financial strength to be able to do that. Once the "seed" kits are imported and distributed across the country, and the conversion projects pick up, the service companies will be able to import the next sets themselves. It is vital for the project to have the initial kits funded by the Multilateral Fund. The budget is as follows:

| Activity | Budget |
|---|---|
| International Consultant (Travel, 5 days DSA and fees) (UNDP/DCS) | $10,000 |
| Hands on training workshop | $5,000 |
| Approx 8,450 retrofit kits @ $15 per kit (UNDP/DCS) | $144,000 |
| HC blend @$3,000 per MT (UNDP/DCS) | $9,000 |
| Other materials @$10 per fridge (UNDP/DCS) | $96,000 |
| Labour and ancillary expenses @$5 per fridge | $48,000 |
| **Total** | **$312,000** |

Note: International procurement of equipment and services of consultants will be done by UNDP Bangladesh under Direct Country Support.

2.4.6 Retrofit of Car Air-Conditioning Equipment

The Table at 2.2 shows that car and jeep air-conditioning service alone used 76.634 MT CFC-12 in 2002. As for domestic and small commercial refrigeration, this use is also for new CFC-12 since the servicing is done when refrigerant has leaked out. The majority of the vehicles are of Japanese make and retrofit kits are available to convert these systems to HFC-134a.

It is proposed to have a pilot retrofit project in Bangladesh, through some organised MAC repair shops. The project requests funding for the initial start up of retrofitting 250 vehicles. It will be on a cost recovery basis, and the funds generated will be used to make the project self-sufficient. The funding is being requested as seed money. For CFC phase out to be truly successful, end users have to be convinced and facilities have to be available. The import of kits has to be in substantial numbers to have any impact. The service companies do not have the financial strength to be able to do that. Once the "seed" kits are imported and distributed across the country, and the conversion projects pick up, the service companies will be able to import the next sets themselves. It is vital for the project to have the initial kits funded by the Multilateral Fund. The budget is as follows:

| Activity | Budget |
|---|---|
| Local Consultant (Travel and fees) | $5,000 |
| Hands on training workshop | $5,000 |
| 250 retrofit kits @ $200 per kit (UNDP/DCS) | $50,000 |

| | |
|---|---|
| Required quantity of HFC-134a (UNDP/DCS) | $3,000 |
| Required quantity of Polyester oil (UNDP/DCS) | $3,000 |
| Other materials @$20 per vehicle (UNDP/DCS) | $5,000 |
| Labour and ancillary expenses @$20 per job | $5,000 |
| **Total** | **$76,000** |

Note: International procurement of equipment will be done by UNDP Bangladesh under Direct Country Support.

2.4.7 Technical Assistance for Commercial Sector End Users to assist in decisions related to retrofitting or replacement

During the National Consultative workshop on CP Update, several large commercial end users expressed the need for awareness on current technologies, how to make decisions on whether to retrofit or replace equipment, and cost issues.

The Bangladesh Government would like to address this need through a technical workshop, with presentations from a few international equipment manufacturers and a neutral international expert to help this end user sector evaluate their needs. The budget is as follows:

| Activity | Budget |
|---|---|
| International Consultant – 5 days fees, DSA and fare (UNDP/DCS) | $15,000 |
| Workshop expenses for 3 days (75 persons) | $10,000 |
| **TOTAL** | **$25,000** |

Note: International procurement of consultancy services will be done by UNDP Bangladesh under Direct Country Support.

## 3. SOLVENT SECTOR PHASE-OUT PLAN

29.226 M.T of Carbon Tetrachloride and 24.800 MT of Methyl Chloroform is the estimated usage in the Solvent sector as per the 2003 survey.

CTC is used by the Ready Made Garment (RMG) industry for spot cleaning. The RMG industry is a major foreign exchange earner for Bangladesh. The cleaning operations vary from use of a spray gun to spot clean to the use of a mechanized inspection table with spot spraying facility and a suction system to remove the solvent.

The electrical and electronics industry and end users use MCF for degreasing and cleaning. Use of MCF has also been found in the plastics industry as a solvent adhesive.

No full-fledged projects are being proposed for the solvent sector where there is an increasing consumption of CTC and MCA. Through the component being suggested, UNDP plans to provide Technical Assistance (TAS) to address the urgent needs of the sector. International expert(s) will suggest alternative solvents for each of the applications where CTC and MCA are used today. This will be imparted through the relevant industry associations and the relevant chemical distributors.

The funding requested from the Multilateral Fund for this activity is:

| Activity | Budget |
|---|---|
| International Consultant – 5 days fees, DSA and fare (UNDP/DCS) | $15,000 |
| Workshop expenses for 3 days (75 persons) | $10,000 |
| **TOTAL** | **$25,000** |

Note: International procurement of consultancy services will be done by UNDP Bangladesh under Direct Country Support.

## 4. Monitoring and Management of National ODS Phase Out Plan

In order to ensure that all activities are taking place as planned in the National ODS Phase Out Plan, it is necessary to have a Bangladesh Ozone Project Implementation and Monitoring Unit (BOPIMU) in place. The BOPIMU will carry out the day-to-day implementation and monitoring activities and advise the NOU, UNDP and UNEP to take corrective action wherever necessary. Since the strategy is a country driven approach and Bangladesh has the flexibility to reallocate the approved funding if so required, regular monitoring and evaluation will also assist the NOU, UNDP and UNEP to decide whether reallocation is required at any stage of the implementation of the strategy. BOPIMU's activities will be quite intensive throughout the project - from inception in 2004 to 2010 when there will be no more ODS available for use.

The budget for BOPIMU is as follows:

| Activity | Budget |
|---|---|
| One full time Project Coordinator of BOPIMU for 7 years @$10,000 per year | $70,000 |
| Full time project personnel and support staff of BOPIMU for 7 years @$7,000 per year (2 Programme assistant, 1 Accountant, 1 MLSS) | $49,000 |
| Two National Consultant as part time basis when required ($6,000 p.a. x 7 years) | $42,000 |
| Travel and DSA costs (@$6,000 per year) and Communications Costs (@$1,000 per year) for 7 years for BOPIMU | $49,000 |
| Computers, Photocopier for BOPIMU for database management (2 x $2,000) | $4,000 |
| **Total** | **$214,000** |

## 5. SUMMARY

In summary the following activities are proposed for the National ODS Phase-Out Plan for Bangladesh:

| Sector | ODP Tonnes | Project Funds Requested | CE (US$/kg) |
|---|---|---|---|
| Refrigeration Servicing Sector and Technical Assistance | 194.01 | $1,330,000 | $6.85/kg |
| Solvent Sector | 7.05 | $25,000 | $3.55/kg |
| **Total** | **201.06** | **$1,355,000** | **$6.74/kg** |

This funding is distributed over 7 years – 2004 to 2010. The annual funding requirements to be obtained in December of the years indicated and the phase-out to be achieved is:

| Year | Funding | Phase-Out (ODP Tonnes) |
|---|---|---|
| 2004 | $245,500 | |
| 2005 | $641,500 | 36 from NPP+3.0 from ongoing R&R |
| 2006 | $164,500 | 77.5 from NPP + 5.0 from ongoing R&R |
| 2007 | $85,500 | 108.5 from NPP + 11.60 from ongoing R&R (plus 7.05 from Solvent) |
| 2008 | $85,500 | 3.25 from NPP + 11.6 from ongoing R&R |
| 2009 | $77,500 | 6.4 from NPP + 11.6 from ongoing R&R |
| 2010 | $55,000 | 28.844 from NPP +11.6 from ongoing R&R |
| **Total** | **$1,355.000** | |

**Bangladesh would like to retain the flexibility to move funding around between budget lines within the National Phase-Out Strategy to ensure maximum impact.**

The details of activity wise funding over the 7-year period are given in Table 1. The ODS phase-out per year details are provided in Table 2.

The milestones to be achieved by Bangladesh to be eligible to receive the next tranche of funds are outlined below:

| CONDITION TO OBTAIN NEW TRANCHE | | ACTIVITIES PART OF TRANCHE |
|---|---|---|
| March 04 | Approval of the Programme | Approval of Awareness, Code of Practice & Certificate, technicians training Phase I, training equipment, seminars, retrofit, TA for large Comm end users, customs training, solvent workshop and monitoring Phase I projects |
| March 05 | 36.0 ODP Phase Out from NPP + 3.0 ODP Phase Out from ongoing RMP, Code of Practice ready, certification of technicians started, 1,000 technicians trained, 1,450 Fridges retrofitted, TA seminar for large comm users completed, Customs training started, Solvent workshop completed, PMU in place | Approval of training of technicians with BRAMA partnership project Phase II, R&R project, Retrofit Phase II, Customs Training Phase II and Monitoring Phase II |
| March 06 | 77.5 ODP Phase Out from NPP + 5.0 ODP Phase Out from ongoing RMP, 2,500 technicians trained, 2,300 fridges and 125 cars retrofitted + 7.05 ODP Tonnes phase out in the Solvent sector | Approval of training of technicians with BRAMA partnership project Phase III, Retrofit Phase III, Customs Training Phase III and Monitoring Phase III |
| March 07 | 108.5 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 1,000 technicians trained, 2,300 fridges and 125 cars retrofitted | Approval of training of technicians with BRAMA partnership project Phase IV, Customs Training Phase IV and Monitoring Phase IV |
| March 08 | 3.25 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 1,000 technicians trained and 1000 fridges retrofitted | Approval of training of technicians with BRAMA partnership project Phase V, Customs Training Phase V and Monitoring Phase V |
| March 09 | 6.4 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 1,000 | Approval of training of technicians with BRAMA partnership project Phase VI, and Monitoring Phase VI |

| | | |
|---|---|---|
| | technicians trained and 1000 fridges retrofitted. | |
| March 10 | 41.38 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 1,000 technicians trained and 1000 fridges retrofitted. | Approval of Monitoring Phase VII, final reports prepared and monitoring completed |

## 6. Institutional Strengthening Projects

It is understood that funding for Institutional Strengthening will continue at the enhanced rates in addition to funding approved for the National ODS Phase Out Plan.

## 7. Implementing Agency

Government of Bangladesh is happy to endorse UNDP to be the implementing agency for Refrigeration Assembly, R&R equipment, Domestic Ref. Retrofit Pilot, MAC Retrofit Pilot, TA Seminar for large commercial and users projects and Solvent Technical Assistance Project.

UNEP will be the implementing agency for the Public Awareness, code of practice, certification and training of technicians and customs training and enforcement projects.

## 8. Management Arrangements

The project will be implemented using National Execution (NEX) modality whereas UNDP Bangladesh Implementing Agency (IA) and the Ministry of Environment and Forest (MoEF) is the National Coordinating Agency (NCA). The NEX execution modality is subject to the rules and regulations as laid out in the UNDP Programming Manual (National Execution) and the UNDP 'Procedures for National Execution', UNDP, 2004. The Co-Implementing Agency will be UNEP. UNDP-UNEP will take overall responsibility in implementing the project activities under the modality of UNDP (the implementation modality is discussed in Annex II).

## 9. Legal Context

This project document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Bangladesh and the United Nations Development Programme. The host country implementing agency shall, for the purpose of the SBAA refer to the government co-operating agency described in that agreement.

"This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Bangladesh and the United Nations Development Programme, signed by the parties on 26 November 1986. The National Executing Agency and Implementing Agencies shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government cooperating agency described in that Agreement.

The following types of revisions may be made to this programme document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the programme document have no objections to the proposed changes:

a) Revisions in, or addition to, any of the annexes of the programme document ;
b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangements of inputs agreed to or by cost increases due to inflation; and,
c) Mandatory annual revisions, which rephrase the delivery of agreed programme inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

## ANNEX 1

## AGREEMENT BETWEEN THE PEOPLE'S REPUBLIC OF BANGLADESH AND THE EXECUTIVE COMMITTEE FOR THE NATIONAL PHASE-OUT OF ANNEX A (GROUP I) SUBSTANCES AND ANNEX B (GROUPS II AND III) SUBSTANCES

1. This Agreement represents the understanding of the Peoples Republic of Bangladesh (the "Country") and the Executive Committee with respect to the complete phase-out of controlled use of the ozone-depleting substances set out in Appendix 1-A (the "Substances") prior to 1 January 2010 in compliance with Protocol schedules.

2. The Country agrees to phase out the controlled use of the Substances in Annex A (Group I) and Annex B (Groups II and III) of the Montreal Protocol in accordance with the annual phase-out targets set out in rows 2 and 7 of Appendix 2-A (the "Targets") and this Agreement. The annual phase-out targets will, at a minimum, correspond to the reduction schedules mandated by the Montreal Protocol. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to the Substances.

3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees in principle to provide the funding set out in row 12 of Appendix 2-A (the "Funding") to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (the "Funding Disbursement Schedule").

4. The Country will meet the consumption limits for each Substance as indicated in Appendix 2-A. It will also accept independent verification by the relevant Implementing Agency of achievement of these consumption limits as described in paragraph 9 of this Agreement.

5. The Executive Committee will not provide the Funding in accordance with the Funding Disbursement Schedule unless the Country satisfies the following conditions at least 30 days prior to the applicable Executive Committee meeting set out in the Funding Disbursement Schedule:

(a) That the Country has met the Target for the applicable year;

(b) That the meeting of these Targets has been independently verified as described in paragraph 9;

(c) That the Country has substantially completed all actions set out in the last Annual Implementation Programme; and

(d) That the Country has submitted and received endorsement from the Executive Committee for an annual implementation programme in the form of Appendix 4-A (the "Annual Implementation Programmes") in respect of the year for which funding is being requested.

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A (the "Monitoring") will monitor and report on that monitoring in accordance with the roles and responsibilities set out in Appendix 5-A. This monitoring will also be subject to independent verification as described in paragraph 9.

7. While the Funding was determined on the basis of estimates of the needs of the Country to carry out its obligations under this Agreement, the Executive Committee agrees that the Country may use the Funding for other purposes that can be demonstrated to facilitate the smoothest possible phase-out, consistent with this Agreement, whether or not that use of funds was contemplated in determining the amount of funding under this Agreement. Any changes in the use of the Funding must, however, be documented in advance in the Country's Annual Implementation Programme, endorsed by the Executive Committee as described in sub paragraph 5(d) and be subject to independent verification as described in paragraph 9.

8. Specific attention will be paid to the execution of the activities in the servicing sector, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation;

(b) The technical assistance programme for the refrigeration servicing subsectors would be implemented in stages so that resources can be diverted to other activities such as, additional training or procurement of service tools, in cases where the proposed results are not achieved, and will be closely monitored in accordance with Appendix 5-A of this Agreement.

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNDP (the "Lead IA") has agreed to be the lead implementing agency and UNEP (the "Cooperating IA") has agreed to be cooperating implementing agency under the lead of the Lead IA in respect of the Country's activities under this Agreement. The Lead IA will be responsible for carrying out the activities listed in Appendix 6-A, including but not limited to independent verification. The Country also agrees to periodic evaluations, which will be carried out under the monitoring and evaluation work programmes of the Multilateral Fund. The Cooperating IA will be responsible for carrying out the activities listed in Appendix 6-B. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 13 and 14 of Appendix 2-A.

10. Should the Country, for any reason, not meet the Targets for the elimination of the Substances in Annex A (Group I) and Annex B (Groups II and III) of the Montreal Protocol or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Disbursement Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Disbursement Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next installment of Funding under the Funding Disbursement Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amounts set out in Appendix 7-A in respect of each ODP tonne of reductions in consumption not achieved in any one year.

11. The Funding components of this Agreement will not be modified on the basis of any future Executive Committee decision that may affect the Funding of any other consumption sector projects or any other related activities in the Country.

12. The Country will comply with any reasonable request of the Executive Committee and the Lead IA to facilitate implementation of this Agreement. In particular, it will provide access by the Lead IA to information necessary to verify compliance with this Agreement.

13 All of the agreements set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Protocol unless otherwise defined herein.

## Appendices

### Appendix 1-A: The Substances

| | | |
|---|---|---|
| Annex A: | Group I | CFC-11, CFC-12, and CFC-115 |
| Annex B | Group II | CTC |
| | Group III | TCA |

### Appendix 2-A: The Targets, and Funding

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|---|---|---|---|---|---|---|---|---|
| 1. Max allowable total consumption of Annex A Group I substances (ODP tonnes) | 580.4 | 290.2 | 290.2 | 87.1 | 87.1 | 87.1 | 0 | |
| 2. Maximum agreed total consumption of Annex A Group I substances (ODP tonnes)(*) | 328.7 | 289.7 | 207.2 | 87.1 | 71.0 | 53.0 | 0 | |
| 3. Reduction from ongoing projects (RMP) | 3.0 | 5.0 | 11.6 | 11.6 | 11.6 | 11.6 | 0 | |
| 4. New reduction under plan | 36.0 | 77.5 | 108.5 | 3.3 | 6.4 | 28.8 | 0 | |
| 5. Total annual reduction of Annex A Group I substances (ODP tonnes) | 39.0 | 82.5 | 120.1 | 14.9 | 18.0 | 40.4 | 0 | |
| 6. Max allowable total consumption of Annex B Groups II and III substances (ODP tonnes) | 6.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | | |
| 7. Maximum agreed total consumption of Annex B Groups II and III substances (ODP tonnes) | 6.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 0 | |
| 8. New reduction under plan | | 7.1 | | | | | 0 | |
| 9. Total annual reduction of Annex B Groups II and III substances (ODP tonnes) | | 7.1 | | | | | | |
| 10. UNDP agreed funding (US $) | 155,000 | 516,000 | 134,000 | 55,000 | 55,000 | 55,000 | 55,000 | 1,025,000 |
| 11. UNEP agreed funding (US $) | 90,500 | 125,500 | 30,500 | 30,500 | 30,500 | 22,500 | | 330,000 |
| 12. Total agreed funding (US $) | 245,500 | 641,500 | 164,500 | 85,500 | 85,500 | 77,500 | 55,000 | 1,355,000 |
| 13. UNDP support costs (US $) | 11,625 | 38,700 | 10,050 | 4,125 | 4,125 | 4,125 | 4,125 | 76,875 |
| 14. UNEP support cost (US $) | 11,765 | 16,315 | 3,965 | 3,965 | 3,965 | 2,925 | | 42,900 |
| 15. Total agency support costs (US $) | 23,390 | 55,015 | 14,015 | 8,090 | 8,090 | 7,050 | 4,125 | 119,775 |

(*) Of the 328.7 ODP tonnes of CFCs, 194 ODP tonnes are eligible for funding by the Multilateral Fund

## Appendix 3-A: Funding Disbursement Schedule

1. Funding will be submitted for approval at the first meeting of the year for activities to be completed in that year. Seven submissions for funding are being proposed. The schedule of submissions for funding will be:

| Year | Milestone | Disbursement (US $) |
|---|---|---|
| March 2004 | Approval of the Programme | 245,500 |
| March 2005 | 36.0 ODP Phase Out from NPP + 3.0 ODP Phase Out from ongoing RMP, Code of Practice ready, certification of technicians started, 1,000 technicians trained, 1,000 Fridges retrofitted, TA seminar for large commercial R&AC users completed, Customs training started, Solvent workshop completed, PMU in place | 641,500 |
| March 2006 | 77.5 ODP Phase Out from NPP + 5.0 ODP Phase Out from ongoing RMP, 4,000 technicians trained, 1,500 fridges and 125 cars retrofitted + 7.05 ODP Tonnes phase out in the Solvent sector | 164,500 |
| March 2007 | 108.5 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 3,000 technicians trained, 1,500 fridges and 125 cars retrofitted | 85,500 |
| March 2008 | 3.25 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 3,000 technicians trained | 85,500 |
| March 2009 | 6.4 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 3,000 technicians trained | 77,500 |
| March 2010 | 41.38 ODP Phase Out from NPP + 11.60 ODP Phase Out from ongoing RMP, another 4,000 technicians trained | 55,000 |

Note
NPP = national phase-out plan
PMU = project management unit
TA = technical assistance

## Appendix 4-A: Format of Annual Implementation Programme

1. **Data**

| | |
|---|---|
| Country | _____ |
| Year of plan | _____ |
| # of years completed | _____ |
| # of years remaining under the plan | _____ |
| Target ODS consumption of the preceding year | _____ |
| Target ODS consumption of the year of plan | _____ |
| Level of funding requested | _____ |
| Lead implementing agency | _____ |
| Co-operating agency(ies) | _____ |

## 2. Targets

| Indicators | | Preceding year | Year of plan | Reduction |
|---|---|---|---|---|
| Supply of ODS | Import | | | |
| | Total (1) | | | |
| Demand of ODS | Manufacturing | | | |
| | Servicing | | | |
| | Stockpiling | | | |
| | Total (2) | | | |

## 3. Industry Action

| Sector | Consumption preceding year (1) | Consumption year of plan (2) | Reduction within year of plan (1)-(2) | Number of projects completed | Number of servicing related activities | ODS phase-out (in ODP tonnes) |
|---|---|---|---|---|---|---|
| Manufacturing | | | | | | |
| Aerosol | | | | | | |
| Foam | | | | | | |
| Refrigeration | | | | | | |
| Solvents | | | | | | |
| Other | | | | | | |
| Total | | | | | | |
| Servicing | | | | | | |
| Refrigeration | | | | | | |
| Total | | | | | | |
| Grand total | | | | | | |

## 4. Technical Assistance

Proposed Activity: _____
Objective: _____
Target Group: _____
Impact: _____

## 5. Government Action

| Policy/Activity Planned | Schedule of Implementation |
|---|---|
| Type of policy control on ODS import: servicing, etc | |
| Public awareness | |
| Others | |

## 6. Annual Budget

| Activity | Planned Expenditures (US $) |
|---|---|
| | |
| Total | |

## 7. Administrative Fees

## Appendix 5-A: Monitoring Institutions and Roles

1. All the monitoring activities will be coordinated and managed through the project "Monitoring and Management Unit", which is included within this NPP.

2. The Lead IA will have a particularly prominent role in the monitoring arrangements because of its mandate to monitor ODS imports, whose records will be used as a crosschecking reference in all the monitoring programmes for the different projects within the NPP. This organization, along with the cooperating IA will also undertake the challenging task of monitoring and controlling illegal ODS imports into the country.

3. The success of the monitoring programme will be based on three axes: 1) well designed forms for data collection, evaluation and reporting, 2) regular programme of monitoring visits; and, 3) appropriate cross-checking of information from different sources.

4. Each of the different projects within the NPP will need a different monitoring sub-programme suited to the objectives of the project.

Verification and reporting

5. The outcome of the different elements of the NPP and of the monitoring activities will be verified independently by an external organization. The Government and the independent organization will jointly design the verification procedures as part of the design phase of the monitoring programme.

Institution for conducting the verification

6. The Government of Bangladesh wishes to designate UNDP as the independent organization to carry out the verification of the NPP results and the monitoring programme.

Frequency of verification and reporting

7. The monitoring reports will be produced and verified each year, previous to the first meeting of the Executive Committee. These reports will produce the input for the yearly implementation reports required by the Executive Committee.

## Appendix 6-A: Role of the Lead IA

1. The Lead IA will be responsible for a range of activities to be specified in the project document along the lines of the following:

(a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's phase-out plan;

(b) Providing verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the Annual Implementation Programme;

(c) Assisting the Country in preparation of the Annual Implementation Programme;

(d) Ensuring that achievements in previous Annual Implementation Programmes are reflected in future Annual Implementation Programmes;

(e) Reporting on the implementation of the Annual Implementation Programme commencing with the Annual Implementation Programme for the year 2004 to be prepared and submitted in year 2005;

(f) Ensuring that appropriate independent technical experts carry out the technical reviews undertaken by the lead Implementing Agency;

(g) Carrying out required supervision missions;

(h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Annual Implementation Programme and accurate data reporting;

(i) Verification for the Executive Committee that consumption of the Substances has been eliminated in accordance with the Targets;

(j) Coordinating the activities of the Coordinating IAs, if any;

(k) Ensuring that disbursements made to the Country are based on the use of the Indicators; and

(l) Providing assistance with policy, management and technical support when required.

## Appendix 6-B: Role of Cooperating IA

1. The cooperating implementing agency, will:

   (a) Provide policy development assistance when required;

   (b) Assist the Government of Bangladesh in the implementation and verification of the activities funded for UNEP; and

   (c) Provide reports to the lead IA on these activities, for inclusion in the consolidated reports.

## Appendix 7-A: Reductions in Funding for Failure to Comply

1. In accordance with paragraph 10 of the Agreement, the amount of funding provided may be reduced by US $13,480 per ODP tonne of reductions in consumption not achieved in the year.