



**Programa de las  
Naciones Unidas  
para el Medio Ambiente**

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COMITÉ EJECUTIVO DEL FONDO MULTILATERAL  
PARA LA APLICACIÓN DEL  
PROTOCOLO DE MONTREAL  
Quincuagésima cuarta Reunión  
Montreal, 7 al 11 de abril de 2008

**PROGRAMA DE PAÍS: ERITREA**

Este documento consiste de:

- Hoja de Evaluación del Programa de País (elaborado por la Secretaría del Fondo)
- Comentarios y recomendaciones de la Secretaría del Fondo
- Carta de Envío del Gobierno de Eritrea
- Página de Presentación del Programa de País
- Programa de País (Resumen Ejecutivo)

## HOJA DE EVALUACIÓN DEL PROGRAMA DE PAÍS DE ERITREA

*Unidad Nacional del Ozono, Departamento del Medio Ambiente*

### ***Estado de la ratificación de la Convención de Viena y del Protocolo de Montreal***

	<b>Firma</b>	<b>Ratificación</b>	<b>Vigencia</b>
Convención de Viena (1985)		10 Mar 2005	08 Jun 2005
Protocolo de Montreal (1987)		10 Mar 2005	08 Jun 2005
Enmienda de Londres (1990)		05 Jul 2005	03 Oct 2005
Enmienda de Copenhague		05 Jul 2005	03 Oct 2005
Enmienda de Montreal (1997)		05 Jul 2005	03 Oct 2005
Enmienda de Beijing (1999)		05 Jul 2005	03 Oct 2005

***Producción de sustancias controladas:*** No se produjeron sustancias controladas

***Consumo de sustancias controladas (2006)*** 4,6 toneladas métricas  
(distintas a las HCFCs) 4,2 toneladas ponderadas (PAO)

(toneladas)	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	TOTAL Halón 121	Halón 130	TOTAL	CTC	MCF	MB
SAO		4,6				4,6					
PAO		4,2				4,2					

***Distribución de PAO por sustancia:*** CFC 100% CTC

***Distribución de PAO por sector:*** Aerosol Espumas Halones Refrigeración Solventes MB  
Consumo (toneladas PAO): 4,2  
Porcentaje del total: 100,0%

<b>PROTOCOLO DE MONTREAL (toneladas PAO)</b>	<b>CFCs</b>	<b>Halones</b>	<b>CTC</b>	<b>MB</b>
Consumo básico	41,1	2,3		0,5
Nivel de consumo permitido en 2007	6,2	1,2 (en 2005)		0,4

Fuente: Programa de País (2008)

### **Programa de País**

***Duración del Programa de País:*** 2 años (2008-2010)

***Meta de eliminación de SAO:*** eliminación total para finales de 2009

***Prioridad para la eliminación:*** Sector de servicio y mantenimiento de refrigeración

***Costo de las actividades en el país*** 345.000 dólares de los EE.UU.

#### ***Estrategia:***

*El Gobierno se ha comprometido a eliminar el consumo de SAO mediante una combinación de políticas oficiales, inversiones y actividades no relacionadas con la inversión. El Plan de Acción incluye la introducción de iniciativas del Gobierno para regular y supervisar de manera efectiva el uso de SAO y una serie de propuestas de proyectos para los sectores de usuarios finales de SAO, algunos de los cuales se ven como un prerrequisito para la ejecución de la agenda de eliminación.*

## COMENTARIOS Y RECOMENDACIONES DE LA SECRETARÍA DEL FONDO

### DESCRIPCIÓN

1. De acuerdo con una reciente encuesta realizada para la preparación del Programa de País de Eritrea y del Plan de Gestión de Eliminación Definitiva, se estima que el consumo total de CFC fue de 4,2 toneladas PAO, utilizadas para servicio y mantenimiento de sistemas de refrigeración. La línea de base de CFC para Eritrea es de 41,1 toneladas PAO.

2. Eritrea es un país miembro del Mercado Común para África Oriental y África Austral (COMESA), una unión independiente conformada por 20 países orientales y australes de África, establecida en 1994 para promover la prosperidad económica y la integración regional. COMESA es un foro importante para la coordinación de las regulaciones referidas a SAO entre los estados miembro. El Gobierno de Eritrea ha avalado las regulaciones sub-regionales concertadas, adoptadas en 2007 por COMESA y se encuentra, por lo tanto, completamente de acuerdo con el requerimiento para establecer un sistema de licencias. El Gobierno de Eritrea está proponiendo la entrada en vigor efectiva de sus regulaciones con relación a SAO, mediante la ejecución de su Plan de Gestión de Eliminación Definitiva presentada a la 54ª Reunión del Comité Ejecutivo (UNEP/OzL.Pro/ExCom/54/33).

3. El Gobierno de Eritrea ha establecido un Comité Nacional para SAO bajo la autoridad del Departamento de Medio Ambiente. El Comité se desempeña como un organismo asesor para el Departamento en todos los asuntos relacionados a SAO y es responsable de brindar asesoramiento en requerimientos acerca de políticas, legislación, programas de acción, investigación, fortalecimiento institucional y campañas de sensibilización.

4. El Programa de País, preparado con la asistencia del PNUMA, esboza los objetivos y componentes del Plan de Gestión de Eliminación Definitiva, incluyendo capacitación de funcionarios de aduanas y de técnicos en servicio y mantenimiento en refrigeración, estableciendo un programa de asistencia técnica, proporcionando las herramientas y equipo necesarios para llevar a cabo talleres de servicio y mantenimiento en refrigeración, para la recuperación y reciclaje de refrigerantes y acondicionando sistemas de refrigeración a refrigerantes sin CFC.

### COMENTARIOS DE LA SECRETARÍA

5. En el Contexto del Plan de Gestión de Eliminación Definitiva para Eritrea, la Secretaría del Fondo formuló una serie de cuestiones a PNUMA y ONUDI relacionadas con el nivel de cumplimiento actual del país con el Protocolo de Montreal: i) se presumía que Eritrea se encontraba en incumplimiento con las medidas de control al amparo del Protocolo, puesto que su consumo de CFC de 30,2 toneladas PAO reportadas en 2005, excedió el consumo máximo permitido para dicho año (decisión XVIII/24) y ii) Eritrea aun no ha establecido sistemas de licencias para importación/exportación de SAO y, por lo tanto, estaba en incumplimiento con el Artículo 4B del Protocolo (decisión XIX/26), dichas cuestiones han recibido el debido tratamiento, de manera exitosa por parte de los organismos mencionados.

6. Conjuntamente con el Programa de País/Plan de Gestión de Eliminación Definitiva, el Gobierno de Eritrea también presentó a la 54ª Reunión del Comité Ejecutivo una solicitud para la creación de la Unidad del Ozono. Los comentarios y recomendaciones realizadas por la Secretaría del Fondo se presentan en el documento (UNEP/OzL.Pro/ExCom/54/18).

## **RECOMENDACIONES**

7. La Secretaría del Fondo recomienda la aprobación del Programa de País de Eritrea, haciendo notar que la aprobación de dicho Programa no denota la aprobación de proyectos identificados en el Programa ni sus niveles de financiación. La aprobación del Programa de País de Eritrea debería llevarse a cabo sin perjudicar la operación del mecanismo de abordar el incumplimiento del Protocolo de Montreal.

8. La Secretaría del Fondo también recomienda que se solicite al Gobierno de Eritrea que presente información al Comité Ejecutivo anualmente acerca del progreso realizado en la ejecución del Programa de País, en conformidad con la decisión del Comité Ejecutivo en relación con la ejecución del Programa de País (UNEP/OzL.Pro/ExCom/10/40 para. 135). Utilizando el formato aprobado, el informe inicial que cubre el periodo entre el 1 de enero de 2008 al 31 de diciembre de 2008 debería ser presentado a la Secretaría del Fondo no después del 1 de mayo de 2009.

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دولة إرتريا  
وزارة الأراضي والمياه والبيئة  
قسم البيئة

The State Of Eritrea  
Ministry of Land, Water & Environment  
Department of Environment

ዕለት 10-03-2008

Date

التاريخ

ቁ.መ. DOE/02/46/08

Ref. No.

رقم المسجل

Ms. Maria Nolan,  
Chief Officer  
Multilateral Fund Secretariat  
1800 McGill College Ave  
27<sup>th</sup> Floor, Montreal Trust Building  
Montreal, Quebec H3A3L6  
CANADA

Fax: (1514) 2820068

Dear Madam,

**SUBMISSION OF THE ERITREA COUNTRY PROGRAMME/  
NATIONAL PHASE OUT PLAN (CP/NPP) PROJECT FOR  
CONSIDERATION DURING 54<sup>TH</sup> EXECUTIVE COMMITTEE  
MEETING**

I refer to the project that was approved during the 47<sup>th</sup> Executive Committee Meeting for the preparation of country programme for Eritrea. I am pleased to report that Eritrea, with technical assistance from United Nations Environment Programme (UNEP) and United Nations Industrial Development Organisation (UNIDO) successfully finalised the preparation of the country programme/national phase out plan (CP/NPP) for the elimination of CFCs in Eritrea by 2010 in accordance with the requirements of the Montreal Protocol.

I hereby submit the CP/NPP through UNEP, which is our Lead Implementing Agency, to the 54<sup>th</sup> Executive Committee Meeting of the

Multilateral Fund for consideration and approval. Approval of this project will assist Eritrea achieve the 2010 target of total phase-out of CFCs as per the requirement of the Montreal Protocol and that Eritrea will not request for more funds for phasing out CFCs.

Please accept the assurances of my highest consideration

Yours Sincerely

Mogos WoldeYohannis  
Director General



## COUNTRY PROGRAMME COVER SHEET

**COUNTRY:** ERITREA  
**LEAD NATIONAL AGENCY:** DEPARTMENT OF ENVIRONMENT (DoE)  
 (UNDER MINISTRY OF LAND, WATER AND ENVIRONMENT)  
**PERIOD COVERED BY COUNTRY:** 2008 - 2010  
**PROGRAMME**  
**LEAD IMPLEMENTING AGENCY:** UNEP

### 1. PHASE OUT SCHEDULE

SUBSTANCE	CURRENT CONSUMPTION (ODP TONNES) 2006	PLANNED YEAR OF PHASE-OUT
CFC-11	0	2010
CFC-12	3.60	2010
CFC-113	0	2010
CFC-115	0.6	2010
CTC	0	2010
METHYL CHLOROFORM <sup>1)</sup>	0	2015
HALONS	0	2007
METHYL BROMIDE	0	2015
<b>TOTAL</b>	<b>4.2</b>	

### 2. GOVERNMENT ACTION PLAN

YEAR	DESCRIPTION OF ACTION	INTENDED EFFECT	ESTIMATED COST (US\$)
<b>ALL SECTORS</b>			
2005	Establishment of Ozone Office (Unit)	Provide monitoring and co-ordination	<b>40,000</b>
	Establishment of National Committee on ODS		
2008-2009	Public Awareness Campaign	Create Awareness	<b>80,000</b>
	Strengthening Institutional Framework	Provide monitoring and co-ordination	
2008-2009	Establishment of monitoring system for ODS imports, uses /Introduction of import licensing system	Ensure compliance with Protocol	<b>80,000</b>
	Enactment of regulations and provision of incentives and penalties	To ensure compliance with Action Plan	
<b>REFRIGERATION SECTOR</b>			
2008-2010	Establishment of National Committee on Improved Refrigeration Practices (NCIRP)	To supervise activities within the refrigeration sector To ensure improved servicing To guarantee availability of nitrogen to ensure reduction in the use of CFCs To ensure a reduction in the use of CFCs To supervise activities within the refrigeration sector To reduce consumption of CFCs during servicing	<b>245,000</b>
	Certification of refrigeration engineers and technicians		
2007	Improvement in the supply of nitrogen for servicing of refrigeration equipment		
2008-2010	Introduction of Inspection scheme for imported refrigerators	To supervise activities within the refrigeration sector To reduce consumption of CFCs during servicing	<b>60,000</b>
	Establishment of National Refrigeration Demonstration Centre; Implementation of Train the Trainer Programme;		
	Implementation of Improved Servicing and Maintenance Practices/ Retrofit and R&R Programme		
	Customs Training Programme and enforcement of newly approved ODS Regulations		
	Monitoring of all activities within the RMP	Ensure Compliance	<b>40,000</b>

### 3. SUMMARY OF PROPOSED PROJECTS

YEAR	Project Type & Description	Project Cost US\$ (2006)	Implementing Agency	ODP Tonnes to be phased-out
2008-2009	INSTITUTIONAL STRENGTHENING PROJECT: Establishment of monitoring and co-ordination mechanism for implementing programme to phase-out of ODS	80,000	UNEP	Non direct phase-out
2008-2010	Training of trainers & improved servicing and maintenance within refrigeration sector and retrofit and R&R programme	245,000	UNEP & UNIDO	4.2
	Customs training programme and enforcement of newly approved ODS regulations	60,000	UNEP	Non direct phase-out
	Monitoring of activities within TPMP	40,000	UNEP	

### EXECUTIVE SUMMARY

#### 1. Background

The Montreal Protocol on Substances that Deplete the Ozone Layer is an international agreement that aims at reducing and eventually phasing-out the production and use of chlorofluorocarbons and halons which are known to damage the ozone layer. The Protocol came into force on January 1, 1989 and has since been ratified by 189 countries as of February, 2007.

The Protocol, since its inception, has gone through four Amendments that aim at accelerating the phase-out of these Ozone Depleting Substances (ODS). The Amendments include the London Amendment of 1990, Copenhagen Amendment of 1992, Montreal Amendment of 1997 and Beijing Amendment of 2000.

Eritrea became a party to the Vienna Convention and the Montreal Protocol in March, 2005 as well as the London, Copenhagen, Montreal and Beijing Amendments in July 2005. The consumption of ODS for 2006 is 4.2 ODP tons. The baseline consumption communicated to the ozone Secretariat was estimated at 42 ODP. This implies a per capita consumption of ODS of 0.015 kg in 2005. This means that Eritrea falls under the category of Article 5 Paragraph 1 countries, and thus qualifies for a ten year delay in the phase out of ODS. It is also eligible to receive technical and financial assistance from the Multilateral Fund.

#### Use of ODS in Eritrea

There is no production of ODS in Eritrea. These substances are all imported by a limited number of local distributors and directly by the ODS-using companies. The total import of CFCs has been estimated at approximately 32 metric tons (MT) in 2005 of which CFC-12 and CFC-11 account for almost 97%. Approximately 1.0 metric tons of CFC-115 is used in the composite refrigerant CFC-502 consisting of 49% HCFC-22 and 51% CFC-115. There were no records of any importation of carbon tetrachloride (CTC), methyl chloroform (MCF), other CFCs. The consumption of HCFC-22 and hallon1211 was 31 metric tons and 0.1 of a metric ton respectively. A review of the data in 2007 gave an estimate the current most accurate consumption of ODS in 2006 as 4.2 ODP tons.

Almost all consumption of controlled ODS is used for servicing of existing refrigeration equipment and to a minor extent also for installation of new equipment.

No manufacturing of domestic refrigerators and other ODS-dependant equipment takes place in Eritrea. Manufacturing of flexible foam for mattresses uses CO<sub>2</sub>/water as the blowing agent.



## Methodology of the Country Programme Preparation

The methodology for the preparation of the Country Programme involved two missions to Eritrea in May and August, 2006 with the purpose of collecting demand figures and other relevant data, discussing institutional and policy framework with industry leaders and government officials, and identifying project activities which may qualify for support from the Multilateral Fund. These data were revisited for 2006 with accurate data collection procedures. Costs estimates were then made for the different actions and projects based on consultations with specialists both in Eritrea and abroad in the fields of refrigeration.

## Critical Assumptions

In order to estimate the total incremental costs of ODS phase-out in Eritrea, the most plausible substitution techniques were identified and costed based on up to date information contained in the UNEP Technical Options and the Refrigeration, Air Conditioning and Heat Pumps, Technical Options Committee Reports.

The incremental costs estimated for Eritrea comprise three elements:

- user costs, i.e. costs incurred for ODS using products including incremental capital and operational costs, costs of re-training of personnel in connection with adaptation to ODS free technology, and the costs of technical assistance and support;
- consumer costs, i.e. incremental costs arising from forced replacement of domestic refrigerators and extra costs of purchasing CFC free refrigerators;
- government costs for institutional strengthening to ensure effective implementation of the Protocol.

The analysis in this report is based on the assumption that ODS continue to be available in sufficient quantities to meet demand up to the year 2010 at current prices,

## 2. Phase-out Scenario

Since Eritrea has about four years to phase out her ODS, only one phase-out scenario (allowable phase-out scenario) is selected and analysed for Eritrea. This allowable phase-out scenario is characterised by the full utilisation of the 10-year delay provision in the Protocol. It postpones ODS phase-out until the latest possible date while keeping the country within the limits of the Montreal Protocol.

The various measures outlined in the Country Programme like better servicing and maintenance procedures can be achieved without increasing the cost of the phase-out significantly. These issues show that under the current situation, the allowable phase-out scenario is the most likely and desirable for Eritrea.

## Recommended Phase-out Strategy

**This strategy adopted for Eritrea proposes 85% reduction of ODS consumption by 2007 and 100% reduction by 2010 using 1995, 1996 and 1997 average consumption levels as the baseline.**

The strategy will ensure compliance with the provisions of the Protocol and further reflect Government's objectives to minimise Eritrea's consumption of ODS while at the same time reducing the cost associated with the country's industries and consumers. This is also in accordance with projects proposed for financing from the Multilateral Fund and in agreement with the aim of the Fund to provide incentives for the eventual phase-out of ODS by 2010.

## Action Plan

The objective of the Action Plan is to phase-out the consumption of ODS in Eritrea in compliance with the Montreal Protocol as ratified by the Eritrean Government, and in accordance with the recommended ODS phase-out strategy.

The Action Plan covers a period of three years from 2008 to the end of 2010. The plan comprises the introduction of Government initiatives to effectively regulate and monitor the use of ODS, and a series of proposed projects in the ODS end user sectors some of which are seen as prerequisite for the implementation of the phase-out schedule.

### **Government Actions:**

Two of the basic actions included in the plan have already been initiated with effect from the June 2005.

The relevant institutional framework for implementation of the Action Plan has been created by the establishment of the National Committee for ODS (NACODS), which includes representatives from key Government institutions as well as representatives for different user associations. The Committee shall advise the Department of Environment (DoE) on all issues related to ODS. Furthermore, under the DoE, a special Ozone Office has been created.

A Task Group of the Committee on Programme Implementation within the Refrigeration Sector (Refrigeration Expert Sub-Committee) will be constituted to assist in the work of the office through periodic reviews of progress of actions within the refrigeration sector.

A system for monitoring ODS use by substance is expected to be established. The system will be based on the need for a clearance certificate to be obtained from the Ozone Office for import of ODS before such import can be effected. As part of the system, the Customs Department (Ministry of Finance) will supply copies of all import declarations concerning ODS to the Ozone Office on the basis of the clearance certificate permitting the import. This will enable the Office to be in control of all imports passing through the ports and points of entry.

### **Other proposed Government Actions include:**

#### Introduction of Regulatory Measures

The proposed regulatory measures include a schedule of bans on the use of ODS for specific purposes at specifically given dates in accordance with the recommended phase-out strategy. A local legal consultant will be contracted to assist in preparing a full schedule of regulatory measures and draft regulations for consideration of the Government through the National Committee on ODS.

#### 3. Import/Export Licensing System

An Import/Export Licensing System is expected to be established to allow for the monitoring and controlling of ODS in and out of the country. The system will facilitate the smooth transition to non-ODS technology by providing clear signal to importers, wholesalers and industry about the maximum quantities of ODS permitted to be imported each year into the country until the phase-out date. The key elements of the Import/Export Licensing system in Eritrea will include the following:

- Legal basis, structure and functioning of the Licensing System;
- Import restrictions for ODS (quota, bans);
- Seized ODS and ODS based equipment;
- Recording of data, data management and reporting;
- Monitoring and evaluation;

- Introduction of certification arrangements for refrigeration engineers & technicians and
- Information dissemination.

### **Project Proposals:**

**Seven (7) projects under two main sectors are proposed for funding from the Multilateral Fund. The sectors are Institutional Strengthening and Refrigeration.**

The projects comprise of the following:

- A) Project IS 1:** Institutional strengthening for the phase-out of ozone depletion substances
- B) Project-R1-** Refrigeration Sector Projects

Four (4) sub-projects that aim at eliminating the use of ODS within the refrigeration sector will be proposed in a NPP.

These sub-projects include:

- Training of Trainers in Code of Good Refrigeration Practices & Establishment of National Refrigeration Demonstration Centre-Project R-1
- Improved Servicing and Maintenance within the Refrigeration Sector-Recovery and Recycling Project
- Customs Training Programme and
- Monitoring of all activities within the RMP.

Detailed description of these will be included in the Total Phase-out Management Plan (TPMP) proposal for Eritrea

Table 4.4 shows the proposed phasing and duration of the proposed projects. The projects will be initiated as soon as the Government secures funds for their implementation from the Multilateral Fund.

### **Budget and Financing of Activities 2007- 2010**

Table 4.1 gives a breakdown of costs of the Action Plan by components and by year of implementation. It is proposed that all the costs are incremental project costs to be funded by the Multilateral Fund.