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COMITÉ EXÉCUTIF
DU FONDS MULTILATÉRAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTRÉAL
Quarante et unième réunion
Montréal, 17 - 19 décembre 2003

PROGRAMME DE PAYS : SIERRA LEONE

Ce document comprend :

- Fiche d'évaluation du programme de pays (préparée par le Secrétariat du Fonds)
- Observations et recommandations du Secrétariat du Fonds
- Lettre de présentation du gouvernement de la Sierra Leone
- Fiche de couverture du programme de pays
- Programme de pays (sommaire analytique)

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT DU FONDS

DESCRIPTION

1. Selon une étude sur la consommation de SAO réalisée en 2002 lors de la préparation du programme de pays/PGF de la Sierra Leone, environ 71,7 tonnes PAO de CFC (CFC-12 essentiellement) étaient utilisées dans ce pays pour l'entretien de réfrigérateurs ménagers (39 tonnes PAO), de réfrigérateurs commerciaux et industriels (11,7 tonnes PAO) et de climatiseurs d'automobile (21 tonnes PAO). De plus, 0,2 tonne PAO de CTC était utilisée comme solvants et 1,2 tonne PAO comme produits de fumigation des sols.
2. L'utilisation de CFC dans les secteurs des aérosols et des mousses a été complètement éliminée au début des années 1980 et 1990. Trois entreprises de fabrication de mousse souple ont converti leurs installations de gonflage au chlorure de méthylène. Ces entreprises ont consommé une quantité totale de 10 tonnes PAO de CFC-11.
3. Toutes les SAO proviennent essentiellement des Émirats arabes unis; les importations (légales et illégales) en provenance du Nigeria et de la Guinée ont toutefois pris de l'importance aux cours des dernières années en raison de la différence de prix lorsque les CFC sont importés en vrac de ces pays. Les importations de SAO ne sont à l'heure actuelle pas réglementées.
4. Le gouvernement de la Sierra Leone propose d'instaurer une législation et un système de réglementation visant à contrôler les importations de SAO et d'équipements utilisant ces substances. Une taxe spéciale pourrait être imposée sur toutes les SAO importées afin d'encourager le remplacement de ces substances dans les applications où elle est facilement réalisable.
5. Le système de permis, qui sera mis en place par le ministère du Territoire, de l'Aménagement rural et de l'Environnement, exigera de tous les importateurs qu'ils détiennent un permis pour importer des SAO dans le pays. Ce système facilitera la transition à des technologies sans SAO en informant les importateurs, les grossistes et l'industrie sur les quotas d'importation de SAO autorisés chaque année.
6. Le Service de l'environnement, qui dépend du ministère du Territoire, de l'Aménagement rural et de l'Environnement, le Service des douanes et le ministère de la Justice seront responsables de l'application effective du système de permis d'importation/exportation. Des sanctions seront imposées afin de prévenir les importations illégales de SAO ou d'équipements utilisant ces substances.
7. Le programme de pays comprend un projet concernant la création d'une Unité de l'ozone au sein du ministère du Territoire, de l'Aménagement rural et de l'Environnement. Le gouvernement de la Sierra Leone sollicite la somme de 86 000 \$US pour la mise en œuvre de ce projet. Les observations et les recommandations du Secrétariat du Fonds relatives à cette demande sont présentées dans le document UNEP/OzL.Pro/ExCom/41/18.

8. Le programme de pays comprend également une proposition de projet de PGF. Le gouvernement de la Sierra Leone sollicite la somme de 658 513 \$US pour la mise en œuvre de ce projet. Les observations et les recommandations du Secrétariat du Fonds relatives à cette demande sont présentées dans le document UNEP/OzL.Pro/ExCom/41/56.

9. Le programme de pays comprend par ailleurs un volet d'assistance technique visant à protéger la santé et la sécurité au travail des individus qui manipulent le chlorure de méthylène lors de la fabrication de mousse souple (78 000 \$US).

OBSERVATIONS DU SECRÉTARIAT

10. Le Secrétariat de l'ozone a pris note que la section A du document émis par le Secrétariat de l'ozone sur l'état de la mise en œuvre des recommandations du Comité d'application sur les questions de non-conformité et les principaux cas potentiels de non-conformité découlant des données communiquées en vertu de l'Article 7 du Protocole de Montréal (UNEP/OzL.Pro/ImpCom/31/2) indique que la Sierra Leone ne s'est pas encore conformée aux Décisions XIV/14 et XIV/16 (relatives à la transmission de données en vertu de l'article 7).

11. Le Secrétariat a par ailleurs attiré l'attention sur la Décision 38/12 du Comité exécutif, qui prie instamment les agences d'exécution responsables d'un projet de renforcement des institutions dans un pays sans consommation de référence de s'assurer que le pays a reçu toute l'assistance possible pour communiquer ses données de référence et décrire sa situation au Secrétariat de l'ozone avant que les projets (autres que les projets de renforcement des institutions) ne soient préparés et présentés au Comité exécutif.

12. Sur la base des décisions ci-dessus, le Secrétariat a suggéré que le PNUE conseille au gouvernement de la Sierra Leone de :

- (a) Faire parvenir une lettre officielle au Secrétariat de l'ozone indiquant la consommation de SAO calculée à partir des données recueillies lors de la préparation du programme de pays;
- (b) Demander au Secrétariat de l'ozone si les dernières données de consommation déclarées dans le programme de pays peuvent être considérées comme données de référence pour les raisons fournies dans le programme de pays (par exemple, les conflits internes des années 1990-1999 ayant occasionné la destruction de systèmes de réfrigération ménagers et commerciaux, la récente importation d'unités de réfrigération ayant entraîné une forte hausse de la consommation de SAO; l'absence de données de consommation de SAO avant 2000); et
- (c) Présenter le plan d'action au Comité d'application, comme le propose le gouvernement dans le programme de pays, afin d'assurer la conformité aux dispositions du Protocole de Montréal.

13. Le PNUE a par la suite informé le Secrétariat du Fonds que le gouvernement de la Sierra Leone a fait parvenir au Secrétariat de l'ozone ses données de consommation de SAO pour 1986-2002.

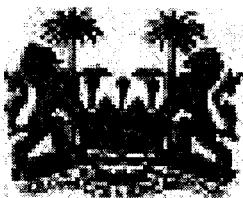
Assistance technique dans le secteur des mousses

14. Le Secrétariat a souligné que le programme d'assistance technique visant à protéger la santé et la sécurité au travail des individus qui manipulent le chlorure de méthylène lors de la fabrication de mousse souple ne représente pas un coût différentiel et qu'il n'est donc pas admissible à un appui financier.

RECOMMANDATIONS DU SECRÉTARIAT

15. Le Secrétariat du Fonds recommande l'approbation du programme de pays de la Sierra Leone, en précisant que cela ne signifie pas pour autant l'approbation des projets qui y sont définis ou de leur niveau de financement. Le programme de pays de la Sierra Leone est approuvé sous réserve des décisions qui peuvent être prises par les Parties après l'examen par le Comité d'application des données sur la consommation communiquées par le gouvernement de la Sierra Leone en vertu de l'article 7.

16. Le Secrétariat du Fonds recommande par ailleurs qu'il soit demandé au gouvernement de la Sierra Leone de remettre chaque année au Comité exécutif un rapport sur les progrès réalisés dans la mise en œuvre du programme, conformément à la décision du Comité exécutif sur la mise en œuvre des programmes de pays (UNEP/OzL.Pro/ExCom/10/40, par. 135). Le premier rapport, qui sera présenté selon le mode approuvé et qui visera la période du 1er janvier 2004 au 31 décembre 2004, devra être remis au Secrétariat du Fonds multilatéral avant le 1er mai 2005.



SIERRA LEONE GOVERNMENT
MINISTRY OF LANDS, COUNTRY PLANNING AND THE ENVIRONMENT
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Chief Officer:
Multilateral Fund for the Implementation of the Montreal Protocol
Fax : (514) 282 – 0099

8th October, 2003

Dear Chief Officer,

**ENDORSEMENT LETTER FOR THE COUNTRY PROGRAM AND REFRIGERANTS
MANAGEMENT PLAN FOR THE PHASE OUT OF THE OZONE DEPLETING
SUBSTANCES IN SIERRA LEONE**

I have the honour to herewith submit the Country Program and Refrigerants Management Plan for the Phase Out of the Ozone Depleting Substances in Sierra Leone to you as well as to the Secretariat of Multilateral Fund for the Implementation of the Montreal Protocol to be considered for Multilateral Fund available financial support for its implementation. In this regard, I would like to inform you that the enclosed Country Programme and Refrigerants Management Plan for the Phasing Out of the Ozone Depleting Substances in Sierra Leone is fully endorsed by my government.

We are pleased to assert that the Government of the Republic of Sierra Leone is highly committed to the implementation of its plan for the phase out of ozone depleting substances as stipulated in the Plan.

We hope that the Country Programme and Refrigerants Management Plan will get approval in the 41st Meeting of Executive Committee of the Multilateral Fund in December 2003.

Sincerely yours,

Alfred Bobbop Sesay (Dr)
Minister

CC:

Marco Gonzalez
Executive Secretary
Ozone Secretariat
Fax : (264 20) 62 39 13, 623601

Rajendra M. Bhada
Chief Energy and OzoneAction Unit
United Nations Environment Programme,
Division of Technology, Industry and Economic
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COUNTRY PROGRAMME COVER SHEET

COUNTRY: SIERRA LEONE

LEAD NATIONAL AGENCY: DEPARTMENT OF ENVIRONMENT (UNDER MINISTRY OF LANDS, COUNTRY PLANNING AND ENVIRONMENT)

LEAD IMPLEMENTING AGENCY: UNEP

DATE RECEIVED: OCTOBER 2003

**PERIOD COVERED BY COUNTRY:
PROGRAMME** 2004-2008

1. PHASE OUT SCHEDULE

SUBSTANCE	CURRENT CONSUMPTION (TONS X ODP) 2002	PLANNED TOTAL CONSUMPTION UNTIL PHASE-OUT (TONS X ODP) 2002-2010	PLANNED YEAR OF COMPLETE PHASE-OUT
CFC-12	71	150	2010
CFC-115	<1	<1	2010
CTC	<1	<1	2010
METHYL BROMIDE	<2	<3	2015
TOTAL	75	155	

2. GOVERNMENT ACTION PLAN

YEAR	DESCRIPTION OF ACTION	SECTOR	INTENDED EFFECT	ESTIMATED COST (US\$)
2003	Establishment of Ozone Office (Unit)	All	Provide monitoring and co-ordination	86,000
2003	Establishment of National Committee on ODS	All	Provide monitoring and co-ordination	
2003-2005	Public Awareness Campaign	All	Create Awareness	
2003-2005	Strengthening institutional framework	All	Provide monitoring and co-ordination	
2004-2006	Establishment of monitoring system for ODS imports, uses and Introduction of import licensing system	All	Ensure compliance with Protocol	
2004-2006	Enactment of regulations and provision of incentives and penalties	All	To ensure compliance with Action Plan	
2004-2006	Certification of refrigeration engineers and technicians	Refrigeration	To ensure improved servicing	
2004-	Establishment of National	Refrigeration	To supervise activities	524,260

2006	Committee on Improved Refrigeration Practices (NCIRP)		of refrigeration sector	
2004-2006	Improvement in servicing and maintenance of refrigeration equipment	Refrigeration	To reduce consumption of CFCs during servicing	
2004-2006	Training of refrigeration engineers and technicians	Refrigeration	Ensure improved servicing and maintenance practices	
2004	Improvement in the supply of nitrogen for servicing of refrigeration equipment	Refrigeration	To guarantee availability of nitrogen to reduce consumption of CFCs	
2004-2006	Introduction of Inspection scheme for imported refrigerators	Refrigeration	To reduce consumption of CFCs	
2004-20067	Introduction of retrofitting of industrial refrigeration systems	Refrigeration	To ensure adoption of proper retrofitting techniques	
2004-2006	Establishment of National Refrigeration Demonstration Centre Implementation of Train the Trainer Programme; Improved Servicing and Maintenance Practices in Refrigeration Sector;	Refrigeration	Trained technicians; To ensure reduction in ODS consumption.	
2004-2008	Incentive Programme for Commercial and Industrial refrigeration End-User Sector, Mobile Air-Conditioning (MAC) Project; Customs Training Programme; Monitoring of all activities within the RMP.	Refrigeration	To ensure reduction in ODSs consumption.	

EXECUTIVE SUMMARY

Background

The Montreal Protocol is an international agreement that aims at reducing and eventually phasing-out the production and use of Chlorofluorocarbons and Halons. The Protocol came into force in January 1989 and has since been ratified by 184 countries as of June 2003.

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.

The London Amendment was decided by the Second Meeting of the Parties in 1990 where controls on Annex B substances were added. At this meeting, the phase out schedules of Annex A substances were also accelerated. The amendment requires a complete phase-out of CFCs and halons by 2000, but developing countries with a calculated per capita consumption of Annex A substances below 0.3 kg (Article 5 countries) were allowed 10 years grace period to phase-out their use of ODS. It was also noted under the amendment that the use of ODSs in export products have to be phased-out by 2000, as the ten years grace period provision only applies to ODS used to meet domestic needs.

The London Amendment also provides (in Article 10) for a financial mechanism (Multilateral Ozone Fund) to assist Article 5 Paragraph 1 countries to comply with the control measures of the Protocol. An initial sum of US\$ 240 million dollars was allocated to the fund by non-Article 5 countries (industrialized countries) for the period 1991-1993. Additional contributions totaling US\$ 445 million were also committed for the period 1994-6, US\$ 466 million for 1997-9 and US\$ 440 million for 2000-2002.

Sierra Leone became a party to the Vienna Convention, Montreal Protocol, the London, Montreal, Copenhagen and Beijing Amendments on August 29, 2001. The consumption of ODS for 2002 is 82 ODP tons. This implies a per capita consumption of ODS of 0.01 kg. This means that Sierra Leone 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. Sierra Leone is currently temporarily categorized as an Article 5 Paragraph 1 country, pending receipt of the country's complete split data.

Use of ODSs in Sierra Leone

There is no production of ODSs in Sierra Leone. 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 71 metric tons (MT) in 2002 of which CFC-12 account for almost 99%. Approximately 1 metric ton of CFC-115 is used in the composite refrigerant CFC-502 consisting of 49% HCFC-22 and 51% CFC-115. Consumption of other ODSs including methyl bromide and carbon tetrachloride (CTC) is estimated at 2.2 metric tons. In terms of ODP weighted ODS consumption, the total has been estimated at 72 metric tons (Tables 2.1, 2.2 & 2.3).

The dominant part (85%) of 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 the like takes place in Sierra Leone. Manufacturing of flexible foam for mattresses, cushions etc. accounts for 12% of the 2002 regulated consumption, while the remainder includes methyl bromide and carbon tetrachloride, which are used for various purposes.

In the early 1990's, Sierra Leone experienced a decline in the use of CFCs as blowing agents in the manufacturing of flexible foam, when three of the largest manufacturer switched to methylene chloride due to awareness of the ozone issue. The use of CFCs as propellants for aerosols stopped around 1980.

Methodology of the Country Programme Preparation

The methodology for the preparation of the Country Programme involved two missions to Sierra Leone in April and June, 2003 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. Costs estimates were then made for the different actions and projects based on consultations with specialists both in Sierra Leone and abroad in the fields of refrigeration and flexible foam.

Critical Assumptions

In order to estimate the total incremental costs of ODS phase-out in Sierra Leone, 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 Sierra Leone comprise three elements:

- user costs, i.e. costs incurred at the level of manufacturers of ODS using products including incremental capital and operations costs, costs of re-training of personnel and research and development 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 early replacement of domestic refrigerators and extra costs of purchasing CFC free refrigerators instead of cheap second-hand CFC-12 refrigerators;
- government costs for institutional strengthening to ensure effective implementation of the Protocol.

The analyses in this report are based on a number of assumptions of which the most crucial are listed below:

- ODSs continue to be available in sufficient quantities to meet demand up to the year 2010 at current prices,
- unconstrained demand grows at a typical rate of 5-15% per year.

Phase-out Scenario

Since Sierra Leone has only six years to phase out her ODSs, only one phase-out scenario (allowable phase-out scenario) is selected and analysed for Sierra Leone . This allowable phase-out scenario is characterised by the full utilisation of the 10-year delay provision in the Protocol. It postpones ODSs 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 Sierra Leone.

Recommended Phase-out Strategy

This strategy adopted for Sierra Leone proposes a freeze in the consumption of ODSs at 1995, 1996 and 1997 average consumption levels by 1999, 50% reduction by 2005, 85% reduction by 2007 and 100% reduction by 2010. In view of the unavailability of ODSs consumption data for the period 1995 to 1997 due to a decade of war and related economic disruption, consumption figures for 2002 are used as the base year from which compliance calculation would have to be calculated.

This strategy will ensure compliance with the provisions of the Protocol and further reflect on Government's objectives to minimise Sierra Leone's consumption of ODSs 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 ODSs by 2010.

Action Plan

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

The Action Plan covers an initial period of five years from 2004 to the end of 2008. The plan comprises the introduction of Government initiatives to effectively regulate and monitor the use of ODSs, and a series of proposed projects in the ODS end user sectors some of which are seen as prerequisites for 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 beginning of 2003.

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 ODSs. Furthermore, under the DoE, a special Ozone Office has been created. This Office acts as secretariat for the Committee and is envisaged to undertake a coordinating as well as a monitoring function in all further activities concerning the phasing-out of ODSs. Three Task Groups of the Committee on Programme Implementation, Refrigeration and Foam Sectors will assist in the work of the office through periodic reviews of progress of actions.

A system for monitoring ODS use by substance has also been established. The system is based on the need for a clearance certificate to be obtained from the Ozone Office for import of ODSs before such import can be effected, and that the Customs and Excise Department will supply copies of all import declarations concerning ODSs 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 ODSs for specific purposes at specifically given dates in accordance with the recommended phase-out strategy; a special ODS tax on

imports of all controlled substances to encourage initial substitution of ODSs in easily substitutable applications such as flexible foams; and tax exemptions for imports of ODS conserving or benign technology and non-ODS containing products. A local legal consultant will assist in preparing a full schedule of regulatory measures and draft regulations for consideration of the Government through the National Committee on ODS. An economic consultant will also assess the impact of these regulations and cost implications.

Import/Export Licensing System

An import/Export Licensing System is expected to be established to allow 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 Sierra Leone include the following:

- Legal basis, structure and functioning of the Licensing system;
- Import restrictions for ODS (quota, bans);
- Seized ODSs and ODSs 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, Refrigeration and Foam sectors

The projects comprise of the following:

A) Project ISN 1: Institutional strengthening for the phase-out of ozone depletion substances

B) Project-R1- Refrigeration Sector Projects

Six (6) sub-projects that aim at eliminating the use of ODS within the refrigeration sector are proposed.

These sub-projects include:

- 1) Training of Trainers in Code of Good Refrigeration Practices & Establishment of National Refrigeration Demonstration Centre-Project R-1 (Detailed description included in RMP)
- 2) Improved Servicing and Maintenance within the refrigeration Sector-Recovery and Recycling Project-Project R-2 (Detailed description included in RMP)
- 3) Incentive Programme for Commercial and Industrial refrigeration End-User Sector, (Detailed description included in RMP)
- 4) Mobile Air-Conditioning (MAC) Project; (Detailed description included in RMP)
- 5) Customs Training Programme; (Detailed description included in RMP)
- 6) Monitoring of all activities within the RMP. (Detailed description included in RMP)

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.

The total incremental costs of the proposed Government Action Plan are estimated at US \$ 524,260 at 2003 prices.

It is proposed that the Multilateral Fund cater for all incremental costs not covered by other funding sources. Once the incremental costs of the proposed projects are approved by the Multilateral Fund, appropriate fund-handling mechanisms will be set up.

Project ISN: Institutional Strengthening for Programme Implementation

The purpose of the project is to strengthen the capability of the Department of Environment to co-ordinate the implementation of Sierra Leone's Country Programme to phase-out the use of ODSs.

Project R-1: Improved Servicing and Maintenance within the Refrigeration Sector

The purpose of the project is to create a lasting improvement of the maintenance and servicing procedures currently being employed within the refrigeration sector in Sierra Leone by training and supervisory programmes for technicians, introduction of recycling and strengthening of training institutions etc. The project will cover procedures related to all kinds of refrigeration equipment in use.

Budget and Financing of Activities 2004-2006

Tables 4.1-4.4 give 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. The costs of the Government Action Plan proposed are covered by the Fund as an institutional support project. Once the incremental costs of the proposed projects are approved by the Multilateral Fund, appropriate funds handling mechanisms will be set up.

Total incremental costs of the Country Programme for the period 2004-2008 is estimated at US\$ 524,260.