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Executive Committee of the
Multilateral Fund for the
Implementation of the Montreal Protocol

Eleventh Meeting
Bangkok, 10-12 November 1993

COUNTRY PROGRAMME: BURKINA FASO

This document consists of:

a) Country Programme Evaluation Sheet (prepared by the Fund Secretariat);

b) Country Programme Cover Sheet (prepared by the Fund Secretariat);

c) Transmittal Letter from the Government of Burkina Faso;

d) Country Programme.

BURKINA FASO COUNTRY PROGRAMME EVALUATION SHEET

The Burkina Faso Country Programme was revised in accordance with the "Procedures for Presentation of Country Programmes and Project Proposals to the Executive Committee"[1]. It consists of:

- Letter of transmittal from the Government of Burkina Faso;
- Country Programme Cover Sheet;
- Summary;
- Introduction;
- Current and forecast ODS consumption levels, industry structure (importers and users), institutional and policy frameworks, and government and industry responses to the Protocol;
- Strategy statement by the Government, action plan and planned measures by the Government and the industrial sector, timetable and expected results, country programme budget and incremental costs to the country;
- Description of specific project proposals (as annexes).

Burkina Faso does not produce controlled substances. In 1991, the country's consumption of ODS was estimated at 30.4 tonnes (32.8 ODP weighted tonnes), which corresponds to a per capita consumption of 0.003 kg. About 96 per cent (29.2 tonnes) of the total ODS consumed in the country was CFC-12 used in the refrigerator sector, distributed as follows:

- Service of domestic refrigerators: 15.0 tonnes
- Service of cold storage chambers: 0.7 tonnes
- Mobile air conditioning units: 12.3 tonnes
- Refrigerated trucks: 1.2 tonnes

The remaining 4 per cent (1.2 tonnes) was halon 1211 used in portable fire extinguishers.

For economic reasons, the following industries have already replaced the use of CFC with non-ODS in their facilities:

- Ammonia is used as refrigerant in Burkina's breweries for manufacturing ice-blocks;
- Butane is used as propellant for insecticide aerosol products at SAPHYTO; and
- Methylene chloride is used as a blowing agent in the production of flexible foam.

For the implementation of the country programme, the Government is planning to establish an Ozone Board, headed by the Ministry of Environment and Tourism. It will be responsible for the co-ordiantion and follow-up on the action plan to comply with the provisions of the Montreal Protocol.

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[1] UNEP/OzL.Pro/ExCom/5/5/Rev.2.

The Government is proposing to reduce the consumption of ODS in the country by 60 per cent between 1994 and 1996. In order to achieve this goal, the Government will enforce regulatory measures (which include banning CFC aerosol propellants, taxation on ODS and on equipment containing ODS, establishment of a recovery incentive system), control the establishment of new industrial facilities that might use ODS, and control refrigeration service workshops.

The Government action plan has been developed on the basis of strengthening a national institution to co-ordinate activities proposed in the action plan and training programmes in the refrigeration sector. The following project proposals are been requested for funding through the Multilateral Fund for the implementation of the first phase of the country programme (1994-1996):

I. Institutional strengthening ($126,596)

- Establishment of the Ozone Board ($83,500)
- Public awareness ($28,530)
- Customs training ($14,566)

II. Industrial sector activities ($41,455)

- Training for refrigeration repair technicians ($41,455).

The total phase-out costs for Burkina Faso are estimated at US $168,000 million. Total incremental costs estimates to be incurred for complete ODS phase-out are about US $16.15 million.

Recommendations

The following recommendations are made for the consideration of the Executive Committee:

1. Approval of the country programme. Such approval does not denote approval of all of the projects listed therein or their funding levels;

2. Approval of US $139,500 as funding for the following project proposals:

- Institutional strengthening ($83,500);
- Customs training ($14,500);
- Training for refrigeration repair technicians ($41,500).

These activities are to be included as amendments to UNEP's work programme, allocating and additional $18,135 as support costs.

COUNTRY PROGRAMME COVER SHEET

Country: BURKINA FASO

Lead National Agency: Ozone Board
Participating Implementing Agencies: UNEP

Phase-out schedule

Substance	Current consumption (1991) (ton x ODP)			Planned cumulative consumption till phase-out (ton x ODP)	
				Article 5 schedule (1)	Accelerated schedule (2)
CFC-12	29.1	x 1.0 =	29.1	544.6	162.5
Halon-1211	3.6	x 1.0 =	3.6	67.4	20.1
TOTAL			32.7	612.0	182.6

(1) Projected at an annual growth rate of 4.8 per cent through the year 2010.

(2) The following ODS phase-out phases are being proposed:
- Phase I (1993-1997): 60 per cent reduction in the consumption of ODS;
- Phase II (1997-2000): additional 20 per cent reduction in the consumption of ODS;
- Phase III (2000-2010): complete ODS phase-out.

Government Action Plan

Year	Description of Action	Intended Effect	Sector	Estimated cost (US $)			
				1994	1995	1996	Total
I. INSTITUTIONAL STRENGTHENING							
1994 – 1996	Establishment of the Ozone Board	Co – ordination, control, technical support, monitor	All	35,500	24,000	24,000	83,500
1994 – 1996	Public awareness programme	Create awareness in different sectors of the society on the impacts due to depletion of the ozone layer	All	15,178	6,676	6,676	28,530
1994 – 1996	Customs training	Training	All	10,930	1,818	1,818	14,566
	Sub – total cost			61,608	32,494	32,494	126,596
II. INDUSTRIAL SECTOR ACTIVITIES							
1994	Training and upgrading for repair technicians	Training	Refrigeration	29,273	12,182		41,455
	Sub – total cost			29,273	12,182		41,455
	TOTAL COST			90,881	44,676	32,494	168,051

Project Summary

Year	Type of Project	Project Description	Agency	Project cost (US$)
1994–1996	Institutional strengthening	Establishment of appropriate institutional framework, public awareness programme and customs training	UNEP Ozone Board	126,596
1994	Industrial sector activities	Training for refrigeration repair technicians	UNEP	41,455
TOTAL COST				168,051

The Government of Burkina Faso proposes to eliminate 60% of its ODS consumption between 1993 and 1997; additional 20% by the year 2000; and the remaining 20% by the year 2010.

MINISTERE
DE L'ENVIRONNEMENT
ET DU TOURISME

BURKINA FASO
La Patrie ou la Mort, Nous Vaincrons !

Ouagadougou, le 22 SEP. 1993

N° 93-042 /MET/DGE/DIPAC

Le Ministre de l'Environnement
et du Tourisme

Objet : Soumission du Programme de Pays du Burkina Faso au 11é Comité Exécutif du Fonds Multilatéral pour approbation.

Réf. :

Au

Docteur El-Arini, Chef du
Secrétariat du Fonds Multilatéral
d'application du Protocole de
Montréal

27F/002 Montréal Trust
Bulding 1800 MXGill
Collège Avenue Montréal,Quebec
H_3 A 3 J 6

Canada

Fax (1) 514 282 0068

Monsieur,

J'ai l'honneur par la présente, au nom du Gouvernement du Burkina Faso, de soumettre à l'approbation du 11è Comité Exécutif du Fonds Multilatéral du Protocole de Montréal, le programme de pays et les projets qui y sont inhérents au Burkina Faso pour la mise en oeuvre du Protocole de Montréal.

Le Burkina Faso, qui est déjà signataire de la Convention de Vienne pour la protection de la Couche d'Ozone, a ratifié le Protocole de Montréal le 10 Juillet 1989 et en est partie depuis le 18 Octobre 1989.

Aussi, avons-nous entrepris d'élaborer le présent Programme de Pays afin de doter notre pays des moyens d'éliminer progressivement et dans les meilleurs délais les substances qui appauvrissent la couche d'ozone.

Notre programme comporte, d'une part une analyse de la situation d'utilisation des substances qui appauvrissent la couche d'ozon et d'autre part une déclaration de stratégie du Gouvernement et un plan d'actions par la réduction puis l'arrêt de l'utilisetion de ces

Les principaux éléments du plan sont :

- La mise en place d'un Bureau d'Ozone, structure administrative qui servira au renforcement des institutions. Sous l'autorité du Gouvernement, cet organisme sera chargé de la mise en oeuvre du Programme de Pays, de coordonner les mesures d'application du Protocole de Montréal, et enfin de rectifier ces mesures si cela est nécessaire, en conformité avec la recommandation du Comité Exécutif.

- La formation, l'information, la sensibilisation des différents acteurs du développement concernés par l'utilisation des substances règlementées (frigoristes, douaniers, opérateurs économiques, décideurs).

- La préperation d'un programme d'élimination accélérée des substances, notamment des projets de conversion des technologies et des mesures administratives plus précises.

En tant que Partie du Protocole de Montréal régie par l'article 5, paragraphe 1 (notre consommation est de l'ordre de 0,0038 par habitant), et compte tenu des contraintes que connaît l'économie Burkinabè, nous soumettons ce programme de pays ainsi que les projets au 11ème Comité Exécutif du Fonds Multilatéral pour approbation et financement pour un montant de Cent Soixante Huit Mille dollars US ($US 168 000).

Une telle contribution permettrait au Gouvernement Burkinabé d'honorer les engagements pris à travers sa déclaration de stratégie contenue dans le Programme de Pays.

Par ailleurs, le Centre d'Activité du Programme Industrie et Environnement du PNUE à Paris, qui nous a fortement assité dans l'élaboration de ce programme pourrait vous fournir des précisions sur plusieurs aspects du document.

Veuillez agréer, Monsieur le Secrétaire, les assurances de ma haute considération.

MINISTRY OF THE ENVIRONMENT
AND TOURISM

BURKINA FASO

COUNTRY PROGRAMME
NATIONAL WORKING GROUP

BURKINA FASO
COUNTRY PROGRAMME
FOR THE
IMPLEMENTATION OF
THE MONTREAL PROTOCOL

UNITED NATIONS ENVIRONMENT PROGRAMME
UNEP IE/PAC

SEPTEMBER 1993

MINISTRY OF ENVIRONMENT
AND TOURISM

BURKINA FASO
La Patrie ou la Mort, Nous
Vaincrons!

Ouagadougou
September 22, 1993

No. 93-042/MET/DGE/DIPAC

The Ministry of Environment and Tourism

Subject: Presentation of the Burkina Faso Country Programme for approval by the 11th Meeting of the Executive Committee of the Multilateral Fund

To: Dr. El-Arini
Head Officer
Multilateral Fund Secretariat for the
Implementation of the Montreal Protocol
27F/002 Montreal Trust Building
1800 McGill College Avenue
Montreal, Quebec
H3A 3J6
Canada

Fax (1) 514 282 0068

Dear Sir:

On behalf of the government of Burkina Faso, I am honoured to submit Burkina Faso's Country Programme and related projects for the implementation of the Montreal Protocol for approval by the 11th Meeting of the Executive Committee of the Montreal Protocol Multilateral Fund.

Burkina Faso, already a signatory of the *Vienna Convention for the Protection of the Ozone Layer*, ratified the Montreal Protocol on July 10, 1989, and has been a Party to it since October 18, 1989.

Therefore, we began to develop the present Country Programme in order to provide our country with the means for the quickest possible phase-out of substances that deplete the ozone layer.

One one hand, our programme includes an analysis of the situation regarding the use of substances that deplete the ozone layer and, on the other hand, a government strategystatementand an action plan for reducing and stopping the use of these substances.

The primary components of the plan are:

- The establishment of an Ozone Board, an administrative structure aimed at institutional strengthening. Under the authority of the government, this organization will be responsible for implementing the Country Programme, coordinating measures related to implementation of the Montreal Protocol and, if needed, correcting these measures in accordance with recommendations by the Executive Committee.

- Training, information and sensitization for the different development actors affected by the use of controlled substances (refrigeration engineers, customs officials, economic agents, decision makers).

- The preparation of an accelerated phase-out programme, particularly technological conversion programs and more-accurate administrative measures.

As a Party to the Montreal Protocol under Article 5, paragraph 1 (our consumption being 0.0038 per person) and in consideration of the restrictions experienced by Burkina's economy, we are submitting the Country Programme and related projects to the 11th Meeting of the Executive Committee of the Multilateral Fund for approval and funding. The amount requested is US$168,000.

Such a contribution would enable Burkina's government to honour the commitments made in the Country Programme's strategy statement.

The UNEP Industry and Environment Programme Activity Centre (Paris), which assisted us greatly in the preparation of the present Programme, would be able to provide you with further information on several aspects of the document.

Sincerely,

[Signature and stamp]
Anatole Gomtirbou TIENDREBEOGO

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LIST OF ABBREVIATIONS

AITFB:	ASSOCIATION DES INGÉNIEURS ET TECHNICIANS FRIGORISTES DU BURKINA (Burkina Association of Refrigeration Engineers and Technicians)
IBE:	INSTITUT BURKINABE DE L'ÉNERGIE (Burkina Energy Institute)
INSD:	INSTITUT NATIONAL DE LA STATISTIQUE ET DE LA DÉMOGRAPHIE (National Statistics and Demography Institute)
MAC:	Mobile Air Conditioning
MET:	MINISTERE DE L'ENVIRONNEMENT ET DU TOURISME (Ministry of the Environment and Tourism)
ODS:	OZONE-DEPLETING SUBSTANCE(S)
SBE:	SOCIÉTÉ D'ÉQUIPEMENT BURKINABE (Burkina Equipment Company)
SONABEL:	SOCIÉTÉ NATIONALE D'ÉLECTRICITÉ DU BURKINA (Burkina National Electricity Company)
UNDP:	UNITED NATIONS DEVELOPMENT PROGRAMME
UNEP IE/PAC:	UNITED NATIONS ENVIRONMENT PROGRAMME INDUSTRY AND ENVIRONMENT PROGRAMME ACTIVITY CENTER

SUMMARY

S.1 On July 10, 1989 Burkina Faso signed and ratified the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer in its concern for contributing to the international community's effort to safeguard the world environment. Burkina Faso thus became a Party to these conventions on October 18, 1989.

S.2 In September 1992, the government set up the National Working Group under the auspices of the Ministry of the Environment and Tourism for the purpose of developing a "Country Programme" for implementation of the Montreal Protocol.

S.3 The Working Group has benefited from the Multilateral Fund assistance through United Nations Environment Programme Activity Centre (UNEP IE/PAC).

S.4 Findings show that Burkina Faso neither produces nor exports controlled substances as defined in the Montreal Protocol.

S.5 In 1991, the base year for the consumption estimates, 30.4 tonnes (32.8 ODP tonnes) of controlled substances were imported for domestic consumption. These were 29.2 tonnes (29.2 ODP tonnes) of CFC-12; negligible amounts of R-502; and 1.2 tonnes (3.6 ODP tonnes) of Halon-1211.

S.6 Since CFC's are only used in the refrigeration sector in the country and as it accounts for over 99 percent of consumption, the Country Programme analysis shall be limited to CFC-12.

S.7 CFC -12 is used in the in the following applications:

- Recharging domestic refrigerators and freezers: 15 tonnes;
- Recharging automobile air-conditioning units: 12.3 tonnes;
- Recharging commercial cold-storage chambers/warehouses: 1.9 tonnes.

S.8 The foam industry in the country uses methylene chloride to blow foams.

S.9 Reliable data on halon consumption has not been found. However, the amounts of Halon-1211 contained in imported extinguishers was estimated at 1.2 tonnes (3.6 ODP tonnes).

S.10 The Country Programme includes an analysis of the current situation, a defined strategy and an Action Plan for phasing out the consumption of controlled substances. This Action Plan essentially concerns CFC-12, which represents over 99 percent of consumption. It covers the first phase of the Country Programme.

S.11 Project descriptions, expected results and project costs contained in the Action Plan are included in the following table:

PROJECTS AND BUDGET AS DEFINED IN THE ACTION PLAN

PROJECT	EXPECTED RESULTS	TIME FRAME	FIRST RESULTS	COST US$
OZONE BOARD	Decrease in the number of Refrigeration and air-conditioning units to be serviced	1993-1996	1995	83 500
PUBLIC AWARENESS	Decrease in the volume of CFCs used for repairs	1994-1996	1995	28 530
REPAIR TRAINING	Decrease in the volume of CFCs released into the atmosphere	1994-1996	1995	41 455
CUSTOMS TRAINING	Improved gathering of data Better information	1995-1996	1996	14 566
OTHER	Refined information Measures for the future	1995-1996	1997	---
TOTAL				168 051

S.12 It is expected that this Action Plan will allow for the reduction of the consumption of ODS by more than 60 percent by 1997. This will be the end of the first phase. The reduction of over 80 percent may be achieved by the year 2000 by the end of the second phase. The ultimate aim is to achieve zero consumption before 2010.

S.13 The incremental cost to the national economy due to the provisions of the Montreal Protocol is calculated based on the following data:

• Estimated number of existing domestic refrigerators (1991):	50 000
• Estimated number of domestic refrigerators (2010):	121 852
• Average cost of a domestic refrigerator (1983-1997):	US $600
• Average cost of a domestic refrigerator (1997-2010):	US $625
• Average recharging frequency per domestic refrigerator:	every 5 years
• Cost of CFC-12 recharge:	US $8
• Cost of recharge with HFC-134A:	US $40
• Discount rate:	10 %
• Cost, in 1992 US dollars, without the Montreal Protocol:	US $4 000 000
• Incremental cost for servicing only, in 1992 US dollars due to the provisions of the Montreal Protocol:	US $700 000
• Incremental cost due to premature retirement and purchases of HFC-134a domestic refrigerators and vehicle air-conditioning units (MAC):	US $16 000 000

S.14 In 1991 the population of Burkina Faso was about 9 000 000. The consumption per capita of controlled substances is thus 0.003 kg. The country thus meets the criteria defined in paragraph 1 of Article 5 of the Montreal Protocol.

S.15 The government of Burkina Faso is submitting the present programme to the Executive Committee of the Montreal Protocol requesting funding of the projects it contains.

1.0 INTRODUCTION

PURPOSE

1.1 The government of Burkina Faso ratified the Vienna Convention for the Protection of the Ozone Layer on March 30, 1989 and the Montreal Protocol on Substances that Deplete the Ozone Layer on July 20, 1989. The country thus became a Party to the Protocol on October 18, 1989.

1.2 This programme constitutes a basis and a framework for different measures related to the elimination of ODS. The activities presented cover a three-year period, following which a better understanding will make it possible to propose more-complete measures for total phase-out of controlled substances by the year 2010.

BASIC FACTS

1.3 The Burkina Faso Country Programme was developed by a multidisciplinary Working Group under the auspices of the Ministry of the Environment and Tourism. The information it contains are as a result of surveys and research carried out from September to December 1992. The document was submitted for appraisal to several authorities; IBE, Burkina Energy Institute, AITFB, Burkina Association of Refrigeration Engineers and Technicians, SP/PANE, National Action Plan for the Environment, Customs Department and other interested parties before being presented to Cabinet for adoption by the Government.

1.4 Due to the fact that some ODS as bulk is smuggled into the country, the data provided is the best estimate by the Working Group.

ASSISTANCE RECEIVED

1.5 The greatest support was from the United Nations Environment Programme, Industry and Environment Programme Activity Centre (UNEP IE/PAC). The support was the subject of a letter of agreement between the Ministry of the Environment and Tourism and the Director of UNEP IE/PAC. The support from the Multilateral Fund through UNEP IE/PAC comprised financial as well as technical information. A UNEP IE/PAC consultant was also sent to Burkina Faso to assist the country in developing the present document.

1.6 Much support was also received from interested government departments, the Burkina Association of Refrigeration Engineers and Technicians (AITFB) and the private sector especially importers. Government representatives and AITFB members also received technical assistance during the UNEP IE/PAC Regional Workshop and the Regional training Course on Refregiration in Nairobi in December 1992.

2.0 CURRENT SITUATION

PRESENT AND FORECAST LEVELS FOR CONSUMPTION OF ODS

PRESENT LEVEL

2.1 Burkina Faso does not produce substances controlled by the Montreal Protocol. Neither does it produce equipment nor appliances containing such substances. For 1991, the total ODS consumption was estimated at 32.8 ODP tonnes. The breakdown of consumption by user sector is given below.

1991 CONSUMPTION OF CONTROLLED SUBSTANCES IN ODP TONNES BREAKDOWN BY USER SECTORS

SUBSTANCE	USER SECTOR	QUANTITY (ODP TONNES)
CFC-115	REFRIGERATION	Negligible
CFC-12	REFRIGERATION • Refrigeration cold storage / warehouses • Refrigerator vehicles - MAC • Domestic Refrigerators AUTOMOBILE AIR CONDITIONING	 0.7 1.2 15.0 12.3
HALON 1211	FIRE PROTECTION	3.6
TOTAL		**32.8**

2.2 Due to the lack of adequate information, the following table provides estimates of ODS consumption from 1986 - 1991, based on the available data for 1991.

ESTIMATE OF PAST AND PRESENT ODS CONSUMPTION

SUBSTANCE	UNITS	1986	1987	1988	1989	1990	1991
CFC-12	TONNES	22.8	24.0	25.2	26.5	27.8	29.2
HALON-1211	TONNES	1.0	1.0	1.1	1.1	1.2	1.2
TOTAL	TONNES	23.8	25.0	26.3	27.6	29.0	30.4
TOTAL	ODP TONNES	25.8	27.0	28.5	29.8	31.4	32.8

CONSUMPTION OF CFC-12

2.3 CFC-12 is used essentially in the refrigeration sector in the following applications:

- Domestic refrigerators;
- Industrial and Commercial refrigeration;
- Refrigerated Trucks; and
- Automobile air conditioning.

DOMESTIC REFRIGERATION

2.4 CFC-12 consumption for recharging domestic refrigerators is based on a study undertaken by the Burkina Association of Refrigerator Engineers and Technicians (AITFB) and interviews with five household appliance dealers (CICA, SBE, PARE, SOTIF and SONY) in the city of Ouagadougou. The following are some of the findings:

IMPORTER	PERIOD OF AVAILABILITY OF DATA
Burkina Equipment Company (SBE)	1980-1991
CICA	1985-1991
PARE, SOTIF and SONY	1988-1991

2.5 In 1980 the above five companies sold a total of 664 domestic refrigerators and freezers. The number of units sold rose to 15 662 in 1991. The average rate of increase in sales being about 33 percent over this period.

2.6 Sales by SOFRAF, PHILLIPS, BALIMA Abdou and FASO YAAR, other domestic refrigerator and freezer dealers in Ouagadougou, was not included in the above figures. Nor were sales by dealers in the remainder of the country.

2.7 Some households sell cold and frozen products made in domestic refrigerators and freezers: ice cubes, cold water, syrups, etc.

2.8 Interviews with a number of dealers, with service, maintenance and repair technicians, as well as with the national electricity utility led to the following table.

ESTIMATED NUMBER OF REFRIGERATORS IMPORTED 1980-1991	30 000 UNITS
THE USEFUL LIFE OF A DOMESTIC REFRIGERATOR	ABOUT 20 YEARS
NUMBER OF UNITS BASED ON STATISTICS FROM CONNECTIONS TO THE BURKINA NATIONAL ELECTRICITY COMPANY (SONABEL)	63 134
NUMBER OF DOMESTIC REFRIGERATOR UNITS IN THE COUNTRY	50 000 UNITS
ESTIMATED NUMBER OF DOMESTIC REFRIGERATORS AND FREEZERS NEEDING REPAIR PER YEAR	12 500
RECHARGE PER UNIT DURING SERVICING	1.2 KG
ESTIMATED CONSUMPTION OF CFC-12 FOR DOMESTIC REFRIGERATION IN 1991	15 000 KG

REFRIGERATED COLD STORAGE /WAREHOUSES AND REFRIGERATED VEHICLES

2.9 Refrigerated cold storage/warehouses use large- and medium-sized units. Some 50 refrigerated vehicles are also found in the country. A summary of the consumption of these units is shown in the following table.

REFRIGERATION UNITS	USAGE	ANNUAL CONSUMPTION
UCOBAM	FRUIT AND VEGETABLE EXPORTERS	10 CYLINDERS X 12 KG = 120 KG
FLEX FASO	FRUIT AND VEGETABLE EXPORTERS	4 CYLINDERS X 12 KG = 48 KG
SICOPAG	FRUIT AND VEGETABLE EXPORTERS	1 CYLINDER X 12 KG = 12 KG
REFRIGERATED SLAUGHTERHOUSE	STORAGE OF MEAT	4 CYLINDERS X 12 KG = 48 KG
COLD-STORAGE CHAMBERS	40 COLD STORAGE CHAMBERS	40 CHAMBERS X 1 CYLINDER X 12 KG = 480 KG
SUB-TOTAL		708 KG
REFRIGERATOR VEHICLES	50 UNITS	1 200 KG
TOTAL		1 908 KG

CONSUMPTION OF CFC-12 IN SMALL REFRIGERATION UNITS

AUTOMOBILE AIR CONDITIONING

2.10 The document entitled *SITUATION DU PARC AUTOMOBILE* by the National Statistics and Demography Institute (INSD) gives the number of vehicles from 1969 to 1987. The number of private cars, coaches, buses and small trucks rose from 4 226 in 1969 to 26 024 in 1987, yielding an average yearly growth rate of 10.6 percent. A projection to 1991 provides a total number of 38 940.

VEHICLES BY TYPE OF OWNER (1991)

TYPE OF VEHICLE BY OWNER	NUMBER OF VEHICLES	% OF TOTAL VEHICLES	% OF AIR CONDITIONED VEHICLES	NUMBER OF AIR CONDITIONED VEHICLES
STATE	4 167	10.7%	5	208
PRIVATE	27 063	69.5%	10	2 706
COMPANY, NGO AND INTERNATIONAL ORGANIZATION	7 710	19.8%	95	7 325
TOTAL	38 940	100.0%		10 239

2.11 The conditions and the kind of equipment used, especially in refrigerant connections, make CFC-12 leakage very frequent in care of vehicles. Service and maintenance and repair personnel estimate that 1 kg is needed per recharge and that 60 percent of these automobiles may be serviced twice a year. The CFC-12 consumption would thus be estimated at 12 287 kg per year.

SUMMARY TABLE

USE	KG OF CFC-12)
RECHARGING LARGE- AND MEDIUM-SIZED UNITS	1 908
RECHARGING REFRIGERATORS AND FREEZERS	15 000
RECHARGING AUTOMOBILE AIR-CONDITIONING UNITS	12 287
TOTAL	29 195

BURKINA FASO'S CONSUMPTION OF CFC-115 IN 1991

2.12 R-502, which is a mixture containing 51 % CFC-115, is used for refrigeration in Burkina Faso. The only available data on this substance was furnished by the refrigerated slaughterhouse, which uses yearly 24 kg of R-502 i.e. 12.24 kg of CFC-115. This amount is considered negligible.

1991 CONSUMPTION OF HALON IN BURKINA FASO

2.13 Burkina Faso's single halon importer is DIAFCA, whose 1991 imports of fire extinguishers using halon-1211 was 1 200 kg.

SUMMARY TABLE

1991 CONSUMPTION OF CONTROLLED SUBSTANCES

BREAKDOWN BY SUBSTANCES AND SOURCES

SUBSTANCE	CONSUMPTION (TONNES)	ODP	CONSUMPTION (ODP TONNES)
GROUP IA			
CFC-115	0.012	0.6	NEGLIGIBLE
CFC-12	29.2	1.0	29.2
TOTAL	29.2		29.2

CONSUMPTION OF CONTROLLED SUBSTANCES

FROM 1986 TO 1991

2.14 The following data was interpolated on the basis of information obtained in 1991 and with an average annual increase of approximately 4.8 percent for CFC.

EVOLUTION IN PER CAPITA CONSUMPTION OF

CONTROLLED SUBSTANCES (1986-1991)

YEAR	1986	1987	1988	1989	1990	1991
TOTAL CONSUMPTION (ODP TONNES)	22.8	24.0	25.2	26.5	27.8	29.2
POPULATION IN MILLION	8.2	8.4	8.6	8.9	9.1	9.4
CONSUMPTION PER CAPITA	0.003	0.003	0.003	0.003	0.003	0.003

FORECAST CONSUMPTION LEVELS OF

CONTROLLED SUBSTANCES

2.15 The following are the unconstrained consumption forecasts based on the assumption that ODS will continue to be available in unlimited quantities.

FORECAST CONSUMPTION OF CFC-12 TO THE YEAR 2010

2.16 The forecasts are based on an average annual increase of approximately 4.8 percent, which corresponds to the rate of increase of domestic refrigerators.

YEAR	CONSUMPTION (TONNES)	CONSUMPTION ODP TONNES	POPULATION MILLION	CONSUMPTION PER CAPITA (KG)
1991	29.2	29.2	9.4	0.003
1994	33.6	33.6	10.2	0.003
1997	38.7	38.7	11.0	0.004
2000	44.5	44.5	12.0	0.004
2003	51.2	51.2	13.0	0.004
2007	61.8	61.8	14.5	0.004
2010	71.2	71.2	15.6	0.005

2.17 Some of the dealers consulted regarding these estimated forecasts agreed with the figures that are presented. However, Burkina Faso's economic agents are usually distrustful with respect to state institutions and do not provide clear answers to the questions asked. This is one of the main reasons for the need for an information and awareness campaign which may help in obtaining reliable information.

FORECAST CONSUMPTION OF HALON-1211 TO THE YEAR 2010

2.18 The following forecasts are based on an average annual increase of 3 %, which corresponds to the rate of increase in extinguisher sales. It is assumed that if the provisions of the Montreal Protocol are enforced consumption will end in 1993.

YEAR	CONSUMPTION IN TONNES	ODP TONNES
1991	1.2	3.6
1994	1.3	3.9
1997	1.4	4.3
2000	1.6	4.7
2003	1.7	5.1
2007	1.9	5.8
2010	2.1	6.3

INDUSTRY STRUCTURE

2.19 Controlled substances are used chiefly in the refrigeration and air-conditioning sectors.

A) IMPORTERS

2.20 The Working Group identified the following firms as the primary importers of CFCs and

refrigeration and air-conditioning equipment.

- SOBUGAZ is the local representative of the French firm "Air Liquide". It is importer of gases;
- CICA Burkina is an automobile dealer. CICI Burkina also sells domestic refrigerators, including freezers and air-conditioning units. These use HCFC-22;
- DIAFCA also sells automobiles, domestic refrigerators, refrigeration, air-conditioning equipment as well as fire extinguishers;
- PEYRISSAC is a domestic refrigerator dealer that also markets refrigeration and air-conditioning equipment as well as extinguishers;
- SBE (Burkina Equipment Company). SOTIF. PEYRISSAC. PARE and SONY market domestic refrigerators. Including freezers and refrigerators.

2.21 Only DIAFCA, which represents the French firm SICLI sells fir extinguishers that do not contain Halons.

B) USERS

2.22 Approximately 100 service, maintenance and repair shops have been located in the country. About 60 of them are in Ouagadougou.

2.23 The primary users of halon extinguishers are gasoline stations, depots, automobile repair garages, hotels and banks.

2.24 The survey did not include air transport. In this sector halon extinguishers are very likely to be used. However, the airport does not use halon fire equipment.

INSTITUTIONAL FRAMEWORK

2.25 The Ministry of the Environment and Tourism is the governmental body responsible for coordinating environmental programmes. Interdepartmental bodies assist the ministry in this task on the basis of specific environmental themes. This is currently the case of the National Action Plan for the Environment.

2.26 For the purpose of implementing the Country Programme. a secretariat known as the "Ozone Board" will be established within the Ministry of the Environment and Tourism. Moreover, all administrative and private sector organizations that are involved in implementation of the Country Programme will be brought together in the "Ozone Committee." under the authority of the Ministry of the Environment and Tourism.

2.27 The Ozone Committee, whose primary task is to assist the Ozone Board in an advisory capacity, will meet periodically. The head of the Ozone Board will also be the coordinator of

the Ozone Committee.

2.28 Country Programme actions will be executed by the different bodies belonging to the Ozone Committee each in accordance with its specific field of expertise and under the supervision of the Ozone Board.

GENERAL POLICY FRAMEWORK

2.29 The Burkina Faso second five-year economic and social development plan is now being implemented. Sector-specific plans and programmes have been developed. Implementation of the Country Programme will be guided by developments in those sectors of activities in which ODS use is the greatest especially the refrigeration and air-conditioning sector. The Structural Adjustment Programme (SAP), which has been in progress in the country since 1990, has led the government into giving more importance to private initiatives.

2.30 In 1991, parallel to the above economic-development policy, the Government adopted the National Action Plan for the Environment (PANE). This will integrate environmental-protection concerns into the development imperatives of the different sectors of Burkina Faso's economy.

2.31 In the legislative realm, an Environmental Code was developed by an interdepartmental commission. This code is consistent with the Constitution, which classifies environment as a matter requiring specific treatment.

GOVERNMENT AND INDUSTRY RESPONSES TO THE PROTOCOL

2.32 Burkina Faso signed the Montreal Protocol on September 14. 1988 and ratified it on July 20. 1989. Entry into force for the country was on October 18. 1989. The Ministry of Commerce has prepared draft documents designed to regulate the importation of CFC-based aerosol products. These texts will soon be published.

2.33 On the institutional level, a Pollution Prevention Department was created in 1990. It is responsible for among other things, following up on certain international commitments. The Burkina Energy Institute, which is an applied research institute, perfected a refrigerator whose shell polyurethane foam is replaced by bombax (kapok) wool. Experiments with such a model are in progress. A new refrigerator insulation seems promising.

2.34 The Ministry of Employment has undertaken the organization of the informal sector enabling repair technicians to establish workshops and establishing for them an association.

2.35 The industrial sector has a positive attitude towards the Montreal Protocol. The country's

largest industrial units are mostly sub-branches of Western firms. They are thus often ahead of others in the application of new technology.

2.36 The flexible-foam is highly developed in Burkina Faso. It uses methylene chloride instead of CFCs. Many potential users of controlled substances are using uncontrolled alternatives because of economic reasons. These are:

- Burkina Faso's breweries; which uses ammonia in facilities where ice blocks are made;
- SAPHYTO; a pesticide producer that uses butane as a propellant;
- Two flexible-foam blowing factories using methylene chloride.

3.0 IMPLEMENTATION OF ELIMINATION

STRATEGY STATEMENT BY THE GOVERNMENT

3.1 The Government of Burkina Faso will enforce regulatory measures to comply with the provisions of the Montreal Protocol. It is estimated that with the proposed Action Plan, the consumption of controlled substances will be reduced by over 60 percent. The initial period covered by the Action Plan is three years beginning in 1994. Following this period, the country's review of the situation will include technological conversion designed to eliminate the controlled substances.

3.2 Another component of government strategy is the control over the establishment of new industrial units that might use controlled substances.

3.3 Other planned measures include:

- Licensing and control over the opening of service, maintenance and repair shops;
- Control over the import of equipment and products containing ODS such as aerosols and fire extinguishers containing Halons;
- Control of import of refrigeration equipment containing ODS once the alternative technology is fully developed and is commercially available.

ACTION PLAN

PLANNED GOVERNMENT MEASURES

3.4 The course of action by the Government will be supported by the following measures:

- **Establishment of the "Ozone Committee" and the "Ozone Board"**

  The creation of an ad hoc committee called the "Ozone Committee" that will include representatives from the different sectors concerned by the Ozone issue. This committee will act as support to the "Ozone Board", which is responsible for the coordination and implementation of the Montreal Protocol.

- **Public awareness campaign**

  This measure is designed to sensitize users, importers and refrigeration service, maintenance and repair personnel. The campaign will cover the following:

  - Controlled substances, their impact on the ozone layer and consequently on public health and the environment;
  - The Montreal Protocol;
  - The Country Programme;
  - Socio-economic repercussions resulting from measures already or yet to be taken by both Burkina Faso and the international community;
  - Rational use and maintenance of refrigeration equipment.

  The public awareness campaign will not only make it possible to carry out the other measures included in the Country Programme, but will also sensitize the population and help limit the breakdown in the number of refrigeration units, thereby reducing venting of ODS into the atmosphere and early conversion to alternate ODS.

- **Development of regulations aimed at import control of ODS containing equipment and chemicals**

  Development of regulations aimed at controlling and monitoring the import of ODS into the country.

- **Training customs officials to improve techniques for identifying controlled substances**

  Training of customs officials to enable the establishment of a coding system for ODS and to train customs officials in ODS identification.

- **Preparation of a programme for the total elimination of the remainder of ODS after 1997**

MEASURES PLANNED FOR THE INDUSTRIAL SECTOR

- **TRAINING FOR SERVICE, MAINTENANCE AND REPAIR PERSONNEL IN THE REFRIGERATION AND AIR-CONDITIONING SECTOR**

  Training of service, maintenance and repair personnel aims at the reduction of wasted CFC-12 due to venting by some 60 %. Provision of Nitrogen supplies will be made.

  Training in recovery and recycling will at first be centered in the city of Ouagadougou and will be gradually extended to other localities in the country.

- **FEASIBILITY STUDY ON RECOVERY AND RECYCLING OF SUBSTANCES DURING SERVICE, MAINTENANCE AND REPAIR**

  A feasibility study will be carried out during the first phase of the programme to allow for the establishment of a recovery and recycling system. The study aims at the industrial and commercial subsector.

3.5 Detailed projects covering the above are given separately.

TIMETABLE FOR MEASURES AND EXPECTED RESULTS

MEASURE	PERIOD	EXPECTED RESULTS	FIRST RESULT S
PUBLIC AWARENESS	1994-1996	Decrease in the number of appliances needing service	1995
TRAINING OF SERVICE, MAINTENANCE AND REPAIR PERSONNEL	1994-1996	Decrease in the volume of CFC used for repairs	1995
RECOVERY AND RECYCLING	1994-1996	Decrease in volume of CFC vented	1995
CUSTOMS TRAINING	1995-1996	Control over imports and improved data collection; better information	1996
SECOND PHASE	1995-1996	More-refined information and defined future measures Elimination of ODS	1997

ROLES IN IMPLEMENTING THE STRATEGY

3.6 The execution of different measures comprised in the government strategy will be carried out in conjunction with concerned government bodies and representatives of interest groups. Among others:

- The Burkina Energy Institute (IBE);
- The General Customs Department;
- The General Industrial Development Department;
- The Chamber of Commerce. Industry and Crafts;
- The Burkina Association of Refrigeration Engineers and Technicians;
- The national media (press. Television and radio).

BUDGET AND FUNDING PROGRAMME

COUNTRY PROGRAMME BUDGET

3.7 The total cost of the projects in the Country Programme is US $ 168 051 for a three year period. The Government's contribution to the execution of the Country Programme will be US $ 75 000. The primary expenses that will be covered by the Government budget are:

- Rental of office etc. for the Ozone Board;
- Support personnel and their salaries.

BUDGET FOR BURKINA FASO'S COUNTRY PROGRAMME

PROJECT	YEAR 1 US $	YEAR 2 US $	YEAR 3 US $	TOTAL US $
OZONE BOARD	31 500	24 000	24 000	83 500
PUBLIC AWARENESS	15 178	6 676	6 676	28 530
SERVICE, MAINTENANCE AND REPAIR TRAINING	29 273	12 182	...	41 455
CUSTOMS TRAINING	10 930	1 818	1 818	14 566
TOTAL IN US $	90 881	44 676	32 494	168 051

INCREMENTAL COST TO THE COUNTRY'S ECONOMY

3.8 The provisions of the Montreal Protocol shall have an important impact on the economy of Burkina Faso.

3.9 As the refrigeration and air-conditioning sector accounts for over 99 percent ODS use, this is the only sector studied in the economic analysis. The incremental costs will thus mainly comprise the effects of end of world production of CFC-12 and its substitution. At the time of writing this document, the most probable substitute for CFC-12 in new equipment will be HFC-134a. Other technologies have not been commercially available.

3.10 Available information has enabled the evaluation of the incremental cost due to the acquisition of new HFC-134a domestic refrigerators.

3.11 The Government strategy comprises measures to ban the import of equipment containing CFC-12 as of 1997 provided that alternate technologies are made commercially available.

3.12 On the basis of a ten-percent discount rate, the incremental cost to the national economy resulting from the different measures that have been or will be taken is estimated at US $ 16 148 414. This calculation was based on a gradual replacement of CFC-12 with HFC-134a beginning in the year 1997. The following data was used in the calculations:

- Estimated number of existing domestic refrigerators (1991) = 50 000;
- Estimated number of domestic refrigerators (2010) = 121 852;
- Average cost of a domestic refrigerator (1983-1997) = US $ 600;
- Average cost of a domestic refrigerator (1997-2010) = US $ 625;
- Average recharging frequency per appliance. Once every 5 years;
- Cost of CFC-12 recharge = US $ 8;
- Cost of recharge with substitute product = US $ 40;
- 1992 US dollars cost without the Montreal Protocol = US $ 4 123 862;
- Incremental cost only for servicing with the provisions of the Montreal Protocol in 1992 US dollars = US $ 676 093;
- Incremental cost due to premature retirement and purchases of HFC-134a domestic refrigerators and vehicle air-conditioning units (MAC): US $16 000 000

3.13 Two of the parameters missing from the above analysis are the incremental costs related to the incremental costs of purchasing new vehicles equipped with HFC-134a air conditioning and the acquisition of forced new industrial refrigeration equipment charged with substitute refrigerants.

3.14 One other factor that has not been accounted for in the economic analysis is the impact on households that earn income from the sale of cold and frozen products made in domestic

refrigerators and freezers: ice cubes, cold water, syrups, etc.. Increases in the price of refrigeration equipment, their service, maintenance and repair will affect such economic activities.

3.15 The factors that have not been accounted for in the economic study may be compensated by a fairly rapid drop in the prices of new refrigeration and air-conditioning equipment. This analysis was not part of the economic study.

MONITORING SYSTEM

3.16 One of the Ozone Board's tasks will be to provide an annual update on the importation and consumption of controlled substances in Burkina Faso and report on consumption to the Ozone Secretariat and the Multilateral Fund.

3.17 Owing to the different measures that have been planned and the assistance received from the Ozone Committee, several institutions and interested parties will be involved in monitoring the activities defined in the Programme Country.

3.18 Following the training of customs officials it will become easier to identify imported controlled substances and to provide the Ozone Board with annual imported data.

3.19 Insofar as industrial groups, importers and professional associations, these will be directly associated with the Ozone Committee. They will also present annual reports on imports, sales and use of controlled substances.

3.20 The recovery and recycling service centres, when operational, will provide regular reports on recovered and recycled substances.

3.21 The Ozone Board will prepare an annual progress report on the implementation of the Country Programme. This report will be appraised by Government then sent to the UNEP, the Multilateral Fund's Executing Agency for transmittal to the Executive Committee.

MINISTRY OF THE ENVIRONMENT
AND TOURISM

BURKINA FASO

COUNTRY PROGRAMME
NATIONAL WORKING GROUP

PROPOSED PROJECTS

BURKINA FASO
COUNTRY PROGRAMME
FOR THE
IMPLEMENTATION OF
THE MONTREAL PROTOCOL

UNITED NATIONS ENVIRONMENT PROGRAMME
UNEP IE/PAC

SEPTEMBER 1993

PROJECT I	:	**ESTABLISHMENT OF THE OZONE BOARD**
PROJECT II	:	**PUBLIC AWARENESS CAMPAIGNS**
PROJECT III	:	**TRAINING FOR REFRIGERATION REPAIR TECHNICIANS**
PROJECT IV	:	**EXPANSION AND UPGRADING OF STATISTICS AND CUSTOMS NETWORK**
PROJECT V	:	**ADDITIONAL PROJECT (NOT INCLUDED IN THE PROGRAMME)**

PROJECT NUMBER ONE

COUNTRY:	BURKINA FASO
PROJECT TITLE:	ESTABLISHMENT OF THE OZONE BOARD
NATIONAL COORDINATING BODIES:	THE OZONE BOARD UNDER THE MINISTRY OF THE ENVIRONMENT AND TOURISM
IMPLEMENTING AGENCY:	UNEP
SECTORS COVERED:	ALL SECTORS
ODS CONSUMPTION BY SECTORS COVERED:	32.8 ODP TONNES IN 1991
PROJECT DURATION:	THREE YEARS
PROJECT IMPACT:	• IMPROVED CAPACITY OF STATE STRUCTURES RESPONSIBLE FOR ODS CONTROL AND USE • CONTRIBUTION BY THE COUNTRY TO THE PROTECTION OF THE OZONE LAYER
GOVERNMENT CONTRIBUTION:	US $ 75 000
REQUESTED MULTILATERAL FUND CONTRIBUTION:	US $ 83 500

ORGANIZATION OF THE OZONE BOARD

THE OZONE BOARD, UNDER THE RESPONSIBILITY OF THE MINISTRY OF THE ENVIRONMENT AND TOURISM, WILL BE COMPOSED OF REPRESENTATIVES FROM GOVERNMENT, INDUSTRY AND RELEVANT NGOS. IT WILL BE THE MAIN BODY FOR COORDINATION AND FOLLOW-UP ON THE ACTION PLAN DESCRIBED IN THE COUNTRY PROGRAMME. MEASURES IT WILL TAKE INCLUDE ADOPTION OF THE ACTION PLAN, STRATEGY, TRAINING, SENSITIZATION AND FINANCIAL MANAGEMENT.

OZONE BOARD TEAM

TECHNICAL-ADMINISTRATIVE AND FINANCIAL SUPPORT WILL BE PROVIDED BY AN OZONE BOARD SECRETARIAT. MADE UP OF A TEAM OF ONE PROFESSIONAL AND ONE SECRETARY.

ACTIVITIES AND SCOPE OF PROJECT

IF THE OZONE BOARD IS TO ATTAIN THE ABOVE OBJECTIVES. IT WILL HAVE TO UNDERTAKE SEVERAL ACTIVITIES, COMPRISING BUT NOT LIMITED TO THE FOLLOWING:

- IDENTIFY ODS USERS IN ORDER TO HELP THEM TO DEVELOP PROJECTS WITH ALTERNATIVE TECHNOLOGIES;
- PREPARE CRITERIA FOR BANS SO AS TO APPLY THE COUNTRY PROGRAMME'S STRATEGY TO THE ACTION PLAN;
- ESTABLISH A LARGE-SCALE INFORMATION PROGRAMME FOR PUBLIC AWARENESS REGARDING ODS PROBLEMS AND PRESENT ALTERNATIVE TECHNOLOGIES. IN CONJUNCTION WITH RELEVANT SECTORS AND NGOS;
- SET UP A DATA BANK. INCLUDING INFORMATION ON ODS USE IN THE COUNTRY;
- MAKE AN ANNUAL REPORT. AS REQUIRED. TO THE MONTREAL PROTOCOL SECRETARIAT ON ODS CONSUMPTION IN THE COUNTRY;
- FACILITATE INFORMATION SHARING WITH OTHER PARTIES TO THE MONTREAL PROTOCOL;
- BE RESPONSIBLE FOR THE IMPLEMENTATION OF TRAINING PROGRAMMES AND FOLLOW-UP ON THEM;

- MONITOR AND CONTROL PROJECTS THAT ACCELERATE ODS PHASE-OUT. INCLUDING THE CREATION OF THE OZONE LOGO PROJECT;

- PUBLIC AWARENESS AND DISSEMINATION OF INFORMATION TO LOCAL USERS;

- BE RESPONSIBLE FOR FUNDING OBTAINED FROM THE MULTILATERAL FUND.

MONITORING

THE OZONE BOARD WILL BE RESPONSIBLE FOR DEVELOPING AND IMPLEMENTING AN OPERATIONAL SYSTEM FOR EFFECTIVELY MONITORING ODS PHASE-OUT IN ACCORDANCE WITH THE ACTION PLAN. THE MONITORING SYSTEM WILL:

- GATHER INFORMATION FROM CUSTOMS IN RELATION TO THE IMPORTATION OF ODS AND ODS-CONTAINING PRODUCTS;

- REPORT REGULARLY ON ODS CONSUMPTION (TYPES AND AMOUNTS). BROKEN DOWN BY USER SECTORS, AND PROJECTS IDENTIFIED IN THE ACTION PLAN;

- MAKE ASSESSMENTS IN ORDER TO CONFIRM REPORTS AND REVIEW AND ESTABLISH FINANCIAL AND TECHNICAL SUPPORT NEEDS FOR THOSE SECTORS CONCERNED BY THE ACTION PLAN.

PROJECT BUDGET

BUDGET TO BE PROVIDED BY THE GOVERNMENT OF BURKINA FASO

THE BUDGET TO BE PROVIDED BY THE GOVERNMENT AMOUNTS TO US $ 75 000. THIS THREE-YEAR BUDGET WILL COVER THE FOLLOWING COSTS:

- OFFICE SPACE, FURNITURE, BASIC EQUIPMENT, ETC.;
- VEHICLES, DRIVERS, GASOLINE, MAINTENANCE, ETC.;
- OTHER TRANSPORTATION COSTS;
- HONORARIUMS AND EXPENSES FOR SPECIALIZED SENEGALESE CONSULTANTS.

BUDGET REQUESTED FROM THE MULTILATERAL FUND

THIS BUDGET, WHICH AMOUNTS TO US $ 83 500, IS ALSO INTENDED TO COVER THREE YEARS. IT WILL INCLUDE THE ITEMS INDICATED ON THE FOLLOWING PAGE.

BUDGET REQUESTED FROM THE MULTILATERAL FUND

1.	CAPITAL EXPENDITURE	YEAR 1	YEAR 2	YEAR 3	TOTAL
	PERSONAL COMPUTER WITH DISK DRIVE	3 500			
	MODEM AND STABILIZER	500			
	PRINTER AND SOFTWARE	3 000			
	PHOTOCOPIER	2 000			
	TYPEWRITER	500			
	FAX	1 000			
	SUBTOTAL	10 500			10 500
2.	RECURRENT EXPENSES				
	PERSONNEL: INCENTIVES				
	MANAGERIAL STAFF AND SUPPORT STAFF				
	SUBTOTAL	10 0 00	9 000	9 000	28 000
3.	OPERATING COSTS				
	DISSEMINATION OF INFORMATION, LOCAL TRAVEL, TELECOMMUNICATIONS, PUBLIC UTILITIES (ELECTRICITY, WATER, ETC.), OFFICE SUPPLIES, SERVICING OF EQUIPMENT				
	SUBTOTAL	15 000	15 000	15 000	45 000
	GRAND TOTAL	35 500	24 000	24 000	83 500

PROJECT NUMBER TWO

PROJECT TITLE:	PUBLIC AWARENESS CAMPAIGNS
COUNTRY:	BURKINA FASO
SECTORS COVERED:	INDUSTRIAL, HOUSEHOLD, INFORMAL AND TRANSPORT
ODS CONSUMPTION:	29.20 TONNES
PROJECT TITLE:	SENSITIZATION OF ACTORS IN THE REFRIGERATION AND AIR-CONDITIONING SECTOR
PROJECT DURATION:	THREE YEARS
PROJECT IMPACT:	40% ODS ELIMINATION; IMPROVED USE OF REFRIGERATION EQUIPMENT INFORMATION AND JUSTIFICATION TO THE PUBLIC OF THE MONTREAL PROTOCOL AND COUNTRY PROGRAMME ACTIVITIES IMPROVED MANAGEMENT IN REFRIGERATION AND AIR-CONDITIONING WORKSHOPS PROMOTION OF NEW REFRIGERATION AND AIR-CONDITIONING EQUIPMENT ADHESION OF ALL REFRIGERATION AND AIR-CONDITIONING ACTORS TO COUNTRY PROGRAMME MEASURES
PROJECT BUDGET:	US $ 28 530
EXECUTING AGENCY:	UNEP
NATIONAL COORDINATING BODY:	OZONE BOARD

SENSITIZATION OF ACTORS IN THE REFRIGERATION AND AIR -CONDITIONING SECTOR

DATA ON SECTORS

OVER 99 PERCENT OF SUBSTANCES CONTROLLED BY THE MONTREAL PROTOCOL ARE CONSUMED BY THE REFRIGERATION AND AIR-CONDITIONING SECTOR.

THE FOLLOWING ARE THE LARGEST ECONOMIC SECTORS USING REFRIGERATION AND AIR CONDITIONING IN OUR COUNTRY.

- HOUSEHOLDS
- TRANSPORTATION
- INDUSTRIAL AND COMMERCIAL SECTORS

BREAKDOWNS HAVE MANY CAUSES, SOME OF WHICH ARE:

- A LACK OF KNOWLEDGE ABOUT REFRIGERATION EQUIPMENT;
- INCORRECT USE AND MANAGEMENT OF REFRIGERATION EQUIPMENT;
- NON ADAPTABILITY OF REFRIGERATION EQUIPMENT;
- NONTROPICALIZATION OF REFRIGERATION EQUIPMENT;
- A LACK OF QUALIFICATIONS ON THE PART OF REFRIGERATION TECHNICIANS.

OUTLINE

THIS PROJECT COMPRISES THE PRODUCTION OF A DOCUMENTARY ENTITLED *HE USE OF REFRIGERATION EQUIPMENT AND ITS IMPACT ON THE ENVIRONMENT.* IT WILL DEAL WITH SUCH TOPICS AS:

- THE ROLE OF REFRIGERATION AND AIR CONDITIONING;
- THE USE OF REFRIGERATION EQUIPMENT;
- TECHNICIANS SPECIALIZED IN THE ASSEMBLY, INSTALLATION AND REPAIR OF REFRIGERATION EQUIPMENT;
- THE EFFECTS OF REFRIGERATION EQUIPMENT ON OUR ENVIRONMENT;
- THE MONTREAL PROTOCOL AND THE COUNTRY PROGRAMME;
- PRACTICAL ADVICE REGARDING MAINTENANCE AND MANAGEMENT OF REFRIGERATION EQUIPMENT.

PRODUCTION OF THE DOCUMENTARY WILL BE CARRIED OUT JOINTLY WITH THE NATIONAL TELEVISION NETWORK AND WILL BE BASED ON INTERVIEWS WITH:

- USERS;
- DEALERS;
- SERVICE TECHNICIANS;
- SPECIALISTS IN REFRIGERATION EQUIPMENT;
- OTHER INDIVIDUALS AND ENTITIES THAT CAN ENRICH DIFFERENT ASPECTS OF THE DOCUMENTARY.

ORGANIZATION OF REFRIGERATION DAYS

ORGANIZED "REFRIGERATION DAYS" HAVE BEEN PLANNED TO BE HELD ANNUALLY DURING THE WARMEST DAYS OF THE YEAR, WHEN THE DEMAND ON REFRIGERATION EQUIPMENT IS THE GREATEST. THESE WEEK-LONG ACTIVITIES WILL BE CARRIED OUT IN CONJUNCTION WITH THE BURKINA ASSOCIATION OF REFRIGERATION ENGINEERS AND TECHNICIANS (AITFB) AND WILL MAKE IT POSSIBLE TO FOCUS THE POPULATION'S ATTENTION ON PROBLEMS RELATED TO REFRIGERATION AND AIR CONDITIONING IN BURKINA FASO. A GREAT NUMBER OF STANDS WILL BE AVAILABLE TO REPAIR, INSTALLATION AND ASSEMBLY TECHNICIANS, ECONOMIC AGENTS, CONSUMERS ORGANIZATIONS, ETC. SO THAT THEY MAY PRESENT EXHIBITS AND INFORM THE POPULATION ABOUT REFRIGERATION EQUIPMENT (ITS EVOLUTION, MAINTENANCE AND OPERATION). IN ADDITION, THE FOLLOWING ACTIVITIES WILL BE ORGANIZED:

- TELEVISION AND RADIO DISCUSSIONS;
- WORKSHOPS AND DISCUSSIONS AIMED AT TARGET GROUPS, SUCH AS STUDENTS, BUSINESSPERSONS AND ICE PRODUCERS;

CONTINUING PUBLIC AWARENESS

NOT ONLY WILL THERE BE REFRIGERATION DAYS: CONTINUING PUBLIC AWARENESS HAS BEEN PLANNED, WITH DISSEMINATION OF RADIO AND TELEVISION SPOT ANNOUNCEMENTS, INFORMATION BROCHURES AND NEWSPAPER PUBLICITY. ALL THESE ACTIVITIES ARE AIMED AT MAINTAINING PRESSURE ON USERS AND REFRIGERATION PROFESSIONALS SO THAT THEY WILL NOT SLACKEN IN THEIR EFFORTS TO PROTECT THE ENVIRONMENT AGAINST CFC.

PROJECT TIMETABLE

1993	-PRODUCTION OF DOCUMENTARY -ORGANIZATION OF REFRIGERATION DAYS -MEETINGS WITH ACTORS IN THE REFRIGERATION SECTOR
1994	-ORGANIZATION OF REFRIGERATION DAYS -PRODUCTION AND DISSEMINATION OF SPOT ANNOUNCEMENT -TELEVISED WORKSHOPS AND DISCUSSIONS
1995	-DISSEMINATION OF SPOT ANNOUNCEMENT -WORKSHOPS AND DISCUSSIONS
1996	-ORGANIZATION OF REFRIGERATION DAYS -PRODUCTION AND DISSEMINATION OF SPOT ANNOUNCEMENT -TELEVISED WORKSHOPS AND DISCUSSIONS

RESULTS

IMPLEMENTATION OF THIS PROJECT WILL LEAD TO THE FOLLOWING RESULTS:

- GREATER ACCOUNTABILITY ON THE PART OF REFRIGERATION-EQUIPMENT ACTORS AND USERS;
- BETTER MAINTENANCE AND MANAGEMENT OF REFRIGERATION EQUIPMENT;
- A REDUCTION IN THE NUMBER OF BREAKDOWNS IN REFRIGERATION EQUIPMENT;
- A REDUCTION IN THE VOLUME OF CFCS RELEASED INTO THE ATMOSPHERE;
- ENERGY SAVINGS.

BUDGET

1. PRODUCTION OF A DOCUMENTARY ENTITLED THE USE OF REFRIGERATION EQUIPMENT AND ITS IMPACT ON THE ENVIRONMENT

US $

- VIDEOCASSETTES FOR REPORTING AND EDITING
- LOCATION RESEARCH (5 DAYS)
- FILMING (10 DAYS)
- RENTAL OF TECHNICAL PRODUCTION EQUIPMENT
- ADMINISTRATIVE EXPENSES
- SUBTITLING EQUIPMENT

- EDITING
- CONTINGENCIES

SUBTOTAL	8 500

2. ORGANIZATION OF REFRIGERATION DAYS

	US $
• POSTERS	
• BANNERS	
• PUBLIC ANNOUNCEMENT (MEGAPHONE MOUNTED ON VEHICLE)	
• NEWSPAPER ADVERTISEMENTS	
• PREPARATION OF OFFICIAL INVITATIONS	
• TV AND RADIO COVERAGE (THROUGHOUT THE WEEK)	
• RENTAL OF EXHIBIT SITE	
• SECURITY	
• PREPARATION OF STANDS	
• ELECTRICAL FACILITIES	
• TRANSPORTATION	
• EDUCATIONAL MATERIALS	
• PER DIEMS	
• CLOSING CEREMONY	
SUBTOTAL	8 400

3. CONTINUING PUBLIC AWARENESS

	US $
• PRODUCTION AND DISSEMINATION OF TV/RADIO SPOT	
• ANNOUNCEMENTS	
• NEWSPAPER ADVERTISEMENTS	
• PRODUCTION OF BROCHURES AND OTHER LITERATURE	
SUBTOTAL	11 640
PROJECT TOTAL	**28 530**

PROJECT NUMBER THREE

COUNTRY:	BURKINA FASO
SECTORS COVERED:	REFRIGERATION
ODS CONSUMPTION BY SECTORS COVERED:	29.20
PROJECT TITLE:	TRAINING FOR REFRIGERATION REPAIR TECHNICIANS
PROJECT DURATION:	TWO YEARS
PROJECT IMPACT:	80% ODS ELIMINATION BY 1997
PROJECT BUDGET:	US $ 41 455
EXECUTING AGENCIES:	UNIDO/UNEP
NATIONAL COORDINATING BODIES:	OZONE BOARD BURKINA ASSOCIATION OF REFRIGERATION ENGINEERS AND TECHNICIANS (ASSOCIATION DES INGÉNIEURS ET TECHNICIANS FRIGORISTES DU BURKINA)

TRAINING FOR DOMESTIC REFRIGERATOR REPAIR TECHNICIANS

OBJECTIVES

THIS PROJECT WILL PROVIDE TECHNICAL INFORMATION AND TRAINING TO SERVICE, MAINTENANCE AND REPAIR PERSONNEL IN THE REFRIGERATION SECTOR IN ORDER TO REDUCE CFC CONSUMPTION DURING THE SERVICING OF DOMESTIC REFRIGERATORS AND AUTOMOBILE AIR-CONDITIONING UNITS.

DATA RELATED TO THE SECTOR

FOOD INDUSTRIES (UCOBAM, FASOFLEX, ETC.), REPAIR SHOPS AND SELF-SERVICE COLD ROOMS CONSUME A YEARLY TOTAL OF APPROXIMATELY 29.2 TONNES OF CFC-12, WHICH AMOUNTS TO 99 PERCENT OF BURKINA FASO'S TOTAL CONSUMPTION OF CONTROLLED SUBSTANCES.

DESCRIPTION

THE QUALIFICATIONS OF THE PERSONNEL WHO DO ASSEMBLY, INSTALLATION AND MAINTENANCE IN THE REFRIGERATION SECTOR IS QUESTIONABLE. THESE TECHNICIANS, IN 90 PERCENT OF CASES, HAVE NO FORMAL TRAINING. THIS LACK OF QUALIFICATIONS ENTAILS REPETITIVE SERVICING OF SAID EQUIPMENT, WITH MORE REFRIGERANT VENTED INTO THE ATMOSPHERE AND CONSEQUENTLY AN OVER CONSUMPTION OF CFC AMOUNTING TO FOUR OR FIVE TIMES THE NORMAL NEED. THE SPECIFIC OBJECTIVES OF THIS PROJECT ARE:

- THE ACQUISITION OF THEORETICAL AND HANDS-ON TRAINING IN REFRIGERATOR AND AIR CONDITIONING SERVICE, MAINTENANCE AND REPAIR;
- AN IMPROVEMENT IN THE QUALITY OF SERVICING ON THE TECHNICAL LEVEL;
- THE ACQUISITION OF APPROPRIATE METHODS FOR LIMITING LEAKAGE OF REFRIGERANTS.

THE TRAINING WILL COVER REFRIGERATION ASSEMBLY, INSTALLATION AND REPAIR TECHNICIANS IN THE FOOD INDUSTRIES, AFTER-SALES SERVICE FOR COMPANIES THAT MARKET REFRIGERATION EQUIPMENT AS WELL AS SERVICE, MAINTENANCE AND REPAIR SHOPS;

FOUR TRAINING SESSIONS HAVE BEEN PLANNED TO COVER ALL THE SERVICE, MAINTENANCE AND REPAIR PERSONNEL OVER A TWO-YEAR PERIOD. THESE SESSIONS WILL BE HELD AS FOLLOWING:

- TWO IN THE CITY OF OUAGADOUGOU;
- ONE IN THE CITY OF BOBO-DIOULASSO;
- ONE IN OTHER LOCALITIES (KOUDOUGOU, BANFORA, OUAHIGOUYA).

THE FIRST SESSION WILL BE CONDUCTED BY A CONSULTANT, WHO WILL BE ASSISTED BY TWO MEMBERS OF THE AITFB (BURKINA ASSOCIATION OF REFRIGERATION ENGINEERS AND TECHNICIANS). IT WILL BE INTENDED FOR REFRIGERATION TECHNICIANS WORKING IN REFRIGERATED WAREHOUSES AND AFTER-SALES SERVICES, AS WELL AS FOR INSTRUCTORS IN REFRIGERATION AND AIR CONDITIONING. EMPHASIS WILL BE ON:

- METHODS FOR APPROPRIATE SERVICE PROCEDURES IN DOMESTIC AND COMMERCIAL REFRIGERATORS;
- METHODS FOR RECOVERING AND RECYCLING CFCS;
- DEVICES FOR RECOVERING AND RECYCLING CFCS.

THE THREE OTHER SESSIONS WILL BE ORGANIZED AND DIRECTED BY THE BURKINA ASSOCIATION OF REFRIGERATION ENGINEERS AND TECHNICIANS (AITFB).

EXPECTED RESULTS

- A REDUCTION IN THE NUMBER OF REPAIRS ON REFRIGERATION EQUIPMENT AND, CONSEQUENTLY, A DECREASE IN CFC RELEASE INTO THE ATMOSPHERE;

- A REDUCTION IN RECHARGING FOR REFRIGERATORS AND FREEZERS, FOR EXAMPLE, FROM 1.2 KG TO LESS THAN 0.5 KG;

- A REDUCTION IN NATIONAL CFC-12 CONSUMPTION.

BUDGET

PROFESSIONAL TRAINING IN 1994

FIRST PHASE OF TRAINING SESSIONS
THE FOLLOWING IS THE COST ESTIMATE FOR THE FIRST PHASE OF THE TRAINING SEMINARS. THE TOTAL IS **US $ 17 455**

DESCRIPTION	US DOLLARS
SERVICES OF EXPERT	10 000
LOGISTICS ·MEETING ROOM .RENTAL OF EQUIPMENT FOR MEETING INCLUDING THE SERVICES OF A TECHNICIAN ·INTERNAL TRANSPORTATION ·PHOTOCOPIES AND TEACHING MATERIAL SUB-TOTAL	7 455
TOTAL	**17 455**

OTHER TRAINING SESSIONS

THE COST IS **US $ 24 000.**

TRAINING OF OTHER GROUPS FOR BEGINNING AND END OF 1994

DESCRIPTION	US DOLLARS
THREE SESSIONS	24 000
TOTAL	**24 000**

TOTAL PROJECT COST

DESCRIPTION	US DOLLARS
PHASE ONE SESSIONS	17 455
PHASE TWO SESSIONS	24 000
TOTAL	41 455

PROJECT NUMBER 4

COUNTRY:	BURKINA FASO
PROJECT TITLE:	EXPANSION AND UPGRADING OF STATISTICS AND CUSTOMS NETWORK
NATIONAL COORDINATING BODIES:	THE OZONE BOARD UNDER THE MINISTRY OF THE ENVIRONMENT AND TOURISM
EXECUTING AGENCY:	UNEP
SECTORS COVERED:	ALL SECTORS
ODS CONSUMPTION BY SECTORS COVERED:	32.8 ODP TONNES IN 1991
PROJECT DURATION:	TWO YEARS
PROJECT IMPACT:	TO EXPAND AND UPGRADE THE STATISTICS CUSTOMS NETWORK AND THE DEPARTMENT OF STATISTICS (DEPARTMENT OF FORECASTS AND STATISTICS)
REQUESTED MULTILATERAL FUND CONTRIBUTION:	US $ 14 546

PURPOSE

THIS PROJECT IS DESIGNED TO EXPAND AND UPGRADE THE STATISTICS CUSTOMS NETWORK.

JUSTIFICATION

IN RESPONSE TO THE RECOMMENDATIONS OF THE MONTREAL PROTOCOL COMMITTEE THAT STUDIED IMPROVEMENTS TO THE CUSTOMS DEPARTMENTS REGARDING THE REGISTRATION OF ODS UNDER THE BRUSSELS HARMONIZED SYSTEM SUBCATEGORIES, THE OBJECTIVES OF THIS PROJECT WILL BE:

- AVAILABILITY OF STATISTICS ON ALL ODS; PRODUCTS, APPLIANCES, MACHINES OR EQUIPMENT CONTAINING OR OPERATING WITH ODS;

- CONTROL OVER ALL IMPORTED ODS OR ODS-BASED PRODUCTS.

THIS PROJECT WILL FACILITATE MORE-EFFICIENT CONTROL OVER THE ODS CONSUMPTION AND WILL CONSTITUTE THE BASIS FOR A MONITORING NETWORK. THE PROJECT AIMS AT TRAINING 20 PERSONS FOR FIVE DAYS. THEREAFTER, THE SERVICES OF TWO COMPUTER AND ODS-TECHNOLOGY EXPERTS WILL BE REQUIRED FOR ONE MONTH.

BUDGET
TRAINING FOR CUSTOMS OFFICERS IN 1994

THE FOLLOWING ARE THE COST ESTIMATE FOR THIS PROJECT.

DESCRIPTION	US DOLLARS
SERVICES OF AN EXPERT ON THE BRUSSELS HARMONIZED SYSTEM FOR FIVE DAYS	7 000
LOGISTICS ·MEETING ROOM .RENTAL OF EQUIPMENT FOR MEETING INCLUDING THE SERVICES OF A TECHNICIAN INTERNAL TRANSPORTATION, PHOTOCOPIES AND TEACHING MATERIAL SUB-TOTAL	7 566
TOTAL	**14 566**

PROJECT NUMBER FIVE
(NOT INCLUDED IN THE PROGRAMME)

USE OF INSULATION MADE FROM LOCAL RAW MATERIALS

(SEE ORIGINAL VERSION IN FRENCH: *MISE EN OEUVRE D'ISOLANTS À PARTIR DE LA MATIÈRE PREMIÈRE LOCALE.*)