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

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Montreal, 16-18 October 1996

COUNTRY PROGRAMME: BAHRAIN

This document consists of:

- Country Programme Evaluation Sheet (prepared by the Fund Secretariat)
- Comments and Recommendations of the Fund Secretariat
- Transmittal Letter from the Government of Bahrain
- Country Programme Cover Sheet
- Country Programme (Executive Summary)

BAHRAIN COUNTRY PROGRAMME EVALUATION SHEET

National ozone office, Ministry of Housing, Municipalities and Environment

Status of ratification of the Vienna Convention and the Montreal Protocol

	Signature	Ratification	Entry into force
Vienna Convention (1985)		27/Apr/90	26/Jul/90
Montreal Protocol (1987)		27/Apr/90	26/Jul/90
London Amendment (1990)		23/Dec/92	23/Mar/93
Copenhagen Amendment (1992)			

Production of controlled substances: No controlled substances produced

Consumption of controlled substances (1994) 387.3 metric tonnes
181.9 weighted tonnes (ODP)

(tonnes)	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	TOTAL	Halon1211	Halon1301	TOTAL	CTC	MCF	TOTAL	Me-Br
ODS	5.8	105.6		0.4	4.1	115.9	6.8	2.1	8.9		262.5	262.5	
ODP	5.8	105.6		0.4	2.5	114.3	20.4	21.0	41.4		26.3	26.3	

Distribution of ODP by substance: CFC 62.8% Halon 22.8% CTC and MCF 14.4%

Distribution of ODP by sector:	Aerosol	Foam	Halon	Refrigeration	Solvent	Other
Consumption (ODP tonnes):			41.4	114.2	26.2	
Percent of total:			22.8%	62.8%	14.4%	

Country Programme

Duration of country programme: 14 years (1997-2010)

ODS phase out target: Phase out of CFC-11 by 1997. Complete phase out by 2010

Phase out priority area: Refrigeration, halon and solvent sectors

Cost of activities in country programme: \$3,290,960

Strategy:

The Government strategy is consistent with the country's economic development strategy, the national economic strategy towards development of small and medium scale industries, and the country's social and economic aspirations and the need for adequate fire protection in certain strategic industries and activities. The strategy will be based, inter alia, in enacting legislation and regulations for ozone layer protection, reducing dependence on ODS based technologies, promoting the use of local refrigeration and air conditioning technicians, and supporting regional cooperation.

COMMENTS AND RECOMMENDATIONS OF THE FUND SECRETARIAT

COMMENTS

1. The Country Programme conforms to the format of the approved guidelines. The total ODS consumption in the country is estimated at 181.92 tonnes, mainly CFCs used for servicing domestic refrigerators and freezers, commercial refrigerators and MAC units, and halons (1211 and 1301) used in fire protection and for large and significant buildings.
2. A project proposal related to CFC recovery and recycling and a training programme in good refrigeration practices for service technicians, and a project related to halon banking and halon replacement strategy are included in the Country Programme.

Institutional strengthening

3. The country programme includes a project for the establishment of an National Ozone Office within the Ministry of Housing, Municipalities and Environment (institutional strengthening). The Government of Bahrain is requesting financial support for the implementation of this project totaling US \$169,200.
4. Based on the ODS consumption levels in Bahrain and their sectoral distribution, analysis of similar projects so far approved by the Executive Committee, current market prices of office equipment and software, the Fund Secretariat recommends a budget of US \$66,000 for a three-year period, with the following break-down:

Capital costs:	US \$8,000
Personnel:	US \$32,000
Operational costs:	US \$20,000
Contingency:	US \$6,000

RECOMMENDATIONS

1. The Fund Secretariat recommends as follows:
2. To approve the Bahrain Country Programme. Approval of the Country Programme does not denote approval of the projects identified therein or their funding levels.
3. To request the Government of Bahrain to present annually information to the Executive Committee on progress being made in the implementation of the country programme, in accordance with the decision of the Executive Committee on implementation of country programmes (UNEP/OzL.Pro/ExCom/10/40, para 135). Using the approved format, the initial report, covering the period 18 October 1996 to 31 December 1997, should be submitted to the Fund Secretariat no later than 31 March 1998.
4. To request the implementing agency selected by the Government of Bahrain to assist in the preparation of the refrigerant recovery and recycling programme identified in the country programme.
5. To approve the amount of US \$66,000 and US \$8,580 support cost for institutional strengthening to be included as an amendment to UNEP's 1996 work programme. To request UNEP not to disburse any funds for this activity until after the refrigerant recovery and recycling programme is approved by the Executive Committee.

STATE OF BAHRAIN
ENVIRONMENTAL PROTECTION COMMITTEE



دولة البحرين
لجنة حماية البيئة

EP/25/96/338/AEW-16

6 August, 1996

Chief Officer
Multilateral Fund for the Implementation
of the Montreal Protocol
1800, McGill College Ave. 27th Floor
Montreal, Quebec
CANADA H3A 3J6

Fax. 01 514 282 0068

Dear Sir,

I have the honour to submit herewith the Country Programme of Bahrain for the consideration and approval of the Multilateral Fund for the Implementation of the Montreal Protocol.

Bahrain adhered to the Protocol on 27th April, 1990 and became a Party on 26th July, 1990. It is classified as operating under Paragraph 1 of Article 5 of the Montreal Protocol.

I would like to place on record the appreciation of the Government of Bahrain for the assistance extended to it through the UNEP IE OzonAction Programme for the preparation of the Country Programme which started during the beginning of 1995. I am pleased to say that the Government is committed to the implementation of actions contained in the Country Programme.

I further assert that it is the Government's intention to monitor compliance with the Protocol. If necessary, further and different action from those specified in the Country Programme will be updated and submitted to the Executive Committee of the Multilateral Fund.

Country Programme Cover Sheet

Country: Bahrain **Date Received:**
Lead National Agency: Environment
 Protection Affairs
Lead Implementation Agency: UNEP **Period Covered by Country Programme:** 1997 - 2010

1. PHASE-OUT SCHEDULE:

SUBSTANCE	Current consumption (tonnes ODP)	Cumulative consumption until phase-out (Tonnes ODP)		Phase-out date
		Article 5 Schedule	Proposed Phase-out Schedule	
	1994			
Annex A group I				
CFC-11	5.77	15	15	1998
CFC-12	105.6	1540	1004	2010
CFC-114	0.44	4	4	1998
CFC-115	2.46	3	3	1998
Sub-total	114.27	1562	1026	
Annex A group II				
Halon 1211	20.4	287	150	2010
Halon 1301	21	296	148	2010
Annex A group III				
Methyl Chloroform	26.25	350	350	2010
TOTAL	181.92	2495	1674	

2. GOVERNMENT ACTION PLAN:

Year	Item	Description of Actions
1997	Ozone office	Creating an implementing unit to monitor and control all imported ODS
1997-2000		To manage and control ODS phase-out projects
1997-1998		To establish a bank for Halon systems
1997-2000	Public awareness	Raising the public awareness on ozone layer depletion
1997-2000	Policy	Ban on use of CFCs in new mobile AC systems
1997-2005		Ban on use of CFCs in new domestic refrigerators
1994-1997		Ban on the use of CFCs in cleaning, sterilization and foam industry
1997-1999		Increase restriction on use of Halon
1997-1999		Ban on use of Halons where alternatives are available

3. PROPOSED PROJECTS:

Project	Starting date	Estimated Cost (US\$)	Funds requested from MF (US\$)	Implementing Agency
Institutional Strengthening:	1997	240,960	169,200	UNEP

4. PROJECTS TO BE PREPARED (not being presented for funding)

The following additional projects are to be formulated upon establishment of the National Ozone Office:

Project	Estimated Cost (US\$)	Contribution from MF	Government contribution	Funding Requested
Training of Technicians and Engineers	150,000	To be estimated	To be estimated	No
Recovery and Recycling Training in Technical Schools	110,000	To be estimated	To be estimated	No
Halon Banking and Halon Replacement Strategy	550,000	To be estimated	To be estimated	No
Chiller retrofit	2,240,000	To be estimated	To be estimated	No

Improving Health & Safety in Foam Industries using Dichloromethane	To be estimated	To be estimated	To be estimated	No
Refrigerator and water cooler industry - CFC-12 replacement	To be estimated	To be estimated	To be estimated	No
TOTAL	3,050,000			

4. Costs

Cost of activities and projects in Country Programme	US\$ 240,960
Estimated cost of complete phase out	US\$ 3,290,960
Multilateral Fund contribution sought through this Country Programme	US\$ 169,200
Estimated cost effectiveness of complete phase-out	US\$ 18.09/kg

EXECUTIVE SUMMARY

This is the *Country Programme for the Phase-Out of Ozone Depleting Substances for the State of Bahrain*. The Programme has been prepared, reviewed and approved by the Environmental Protection Affairs within the Ministry of Housing, Municipalities and Environment of the State of Bahrain.

Bahrain signed the Montreal Protocol on 28 September 1989, acceded to the Protocol on 27 April 1990 and became a party on 26 July 1990. Bahrain indicated its acceptance of the London Amendment on 23 December 1992.

Bahrain is classified as an Article 5 developing country with an annual per capita consumption of 0.27 kgs of Annex A substances and 0.047 kilogram of Annex-B substances. It thereby qualifies for financial assistance from the Multilateral Fund of the Montreal Protocol. Total ODS consumption was 181.92 ODP tonnes in 1994.

ODS consumption by substance in 1994

Substance	Consumption (kg)	ODP ratio	Consumption in ODP tonnes	Percentages
Annex A, Group I				
CFC-11	5,770	1.0	5.77	3.2
CFC-12	105,600	1.0	105.6	58
CFC-114	400	1.1	0.44	0.2
CFC-115	4,100	0.6	2.46	1.4
Subtotal	115,870		114.27	62.8
Annex A, Group II				
Halon 1211	6,800	3.0	20.4	11.2
Halon 1301	2,100	10.0	21	11.5
Subtotal	8,900		41.4	22.8
Total Annex A			155.67	
Annex B, Group III				
Methyl Chloroform	262,500	0.1	26.25	14.4
TOTAL CONSUMPTION			181.92	

Virtually most of the ODS consumption is in the mobile air-conditioning and domestic refrigeration sectors.

The national strategy for phasing out ODS will concentrate on the service sector. It will operate through voluntary agreements and persuasion and the Government will concentrate its efforts on encouraging the consumer to replace ODS consuming equipment at the earliest

possible opportunity. This will be done through a programme of training and a campaign for increasing awareness. Greater efforts will be made to register users and importers and to encourage good management and housekeeping in reference to the handling of ODS. The Government will ban specific imported equipment containing ODS to avoid dumping. In addition it will promote recycling and appropriate training so as to reduce the need for further ODS imports. If the voluntary programme does not work, government will enforce it through regulation and legislation.

The Government of Bahrain is adopting a phase-out strategy which will lead to a rapid reduction in ODS per capita consumption from around 0.28 kg in 1996 to 0.15 kg in the year 2000.

The lead agency for the Programme will be the Environmental Protection Affairs in the Ministry of Housing, Municipalities and Environment. This will be supported by the Bahrain Ozone Team which is composed of representatives from all concerned Ministries, private and public organizations involved in ozone layer protection. Several other Ministries e.g. Health, Finance and Commerce will also be involved in implementing the phase-out.

One project, Institutional Strengthening, is being submitted with this Country Programme with an estimated budget of USD 240,960. The followed identified projects are expected to be developed for submission to the Executive Committee at a later date.

1. Training of Technicians and Engineers
2. Recovery and Recycling training in technical schools in Bahrain
3. Halon replacement strategy and chiller retrofitting.
4. Improving Health and safety in foam industries using Dichloro-methane
5. Refrigerator and water cooler industry - CFC-12 replacement with non ODS alternatives
6. Establishment of Halon Management, Recycling and Bank

Without the necessary financial, technical and technological support for these projects, the Government of Bahrain will not be able to fulfill its Country Programme effectively and enforce and implement the required plan of action for the phase-out of ODS.

APPENDIX I:

PROJECT N°1:

INSTITUTIONAL STRENGTHENING

Country	:	Bahrain
Sectors Covered	:	All
Project Title	:	Institutional Strengthening: Establishment of a National Ozone Office
Duration	:	1997-2000 (3 years)
Project Impact	:	1. Phase-out of ODS in accordance to the Action Plan 2. Strengthening the national institutional structure for coordinating and monitoring the phase-out of ODS
Proposed Budget	:	US \$ 240,960
Implementing Agency	:	UNEP
National Coordinating Agency	:	Ministry of Housing, Municipalities and Environment

1. Project Description

The Government has limited capacity to monitor and supervise the phase-out process in all its aspects and to ensure that the measures set out in the Country Programme are effectively implemented. The institutional strengthening project will be aimed at these aspects and will develop a public awareness campaign to supplement restrictions introduced to limit imports and consumption of ODS and containing ODS products.

2. Institutional Setting

- 2.1 The National Ozone Office (NOO) will be established within the EPA, under the overall responsibility of the Ministry of Housing, Municipalities and Environment. It will be run by the current Ozone Focal Point in the EPA with the assistance of a technical team and will report through the EPA to the Minister .

The NOO will be advised by the Ozone Focal Point and the BOT and will be responsible for implementing the Government Country Programme and Strategy and Action Plan for the phase-out of ODS. The office will therefore be responsible for all aspects of the phase-out process and in particular

- coordinating and monitoring the phase-out of ODS as per the Action Plan
- promotion of public awareness
- monitoring and reporting of ODS consumption and use
- liaison with Implementing Agencies, other Parties and organs established by the Protocol and the Multilateral Fund
- cooperation with other Gulf Cooperation Council (GCC) countries on Ozone Layer Protection issues
- assistance in identification and formulation of projects
- assistance in registration of users and importers of ODS

3. Activities

- 3.1 The NOO will carry out the following activities:

- Set up an information system to record the identities of known users and importers of ODS and to record imports on a monthly basis.
- Set up a system to register all significant ODS users i.e. repair workshops, maintenance institutions and manufacturers.
- Develop a public awareness programme
- Draft appropriate regulations for the Minister for presentation for Cabinet approval
- Monitor and report on all imports and consumption of ODS.

- 3.2 The NOO will seek competitive bids to design and execute a public awareness

campaign, whose purpose will be to inform the general public of the Government's strategy for phase-out of ODS and to inform them of how they can cooperate in the phase-out process.

- 3.3 The contractor will be responsible for:
- preparing public awareness programme;
 - preparation of material for presentation on radio, TV, newspaper, etc;
 - presentation of material on radio and TV
 - distribution of public awareness programme material.

4. Inputs

- 4.1 The NOO shall be staffed on a day-to-day basis by a qualified and experienced Environmental Engineer who will support the function of the Ozone Focal Point, to be funded by the Government of Bahrain. The EPA will provide necessary secretariat support where required.
- 4.2 Furnished office space shall be rented and a personal computer, printer, portable copy machine and fax machine shall be rented or purchased.

5. Budget

- 5.1 The total budget for the three year period will be US \$ 240,960
- 5.2 The Government of Bahrain will contribute to the Institutional Strengthening project in terms of staff time, facilities and other resources, such as car rental, office space and furniture.

The contribution of the Government is estimated to be US \$71,760.

Contribution requested from the Multilateral Fund:

Item	1997	1998	1999	Total
1 Engineer - 3 years	16,000	16,000	16,000	48,000
1 Exe-Secretary - 3 years	8,433	8,433	8,433	25,300
Computer & printers	7,800			7,800
Computer software	3,000			3,000
Photocopier Machine	3,000			3,000
Fax machine	2,600			2,600
Consumables - stationery, utilities	6,500	6,500	6,500	19,500
Public awareness programme	20,000	20,000	20,000	60,000
Total				169,200

6. Outputs

6.1 The expected outputs of the Project are:

- * An operational National Ozone Office
- * Compliance with the Country Programme
- * Heightened awareness of ozone layer protection issues in the general population
- * A system for regulating the consumption and import of ODS