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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Thirty-second Meeting  
Ouagadougou, 6-8 December 2000

**COUNTRY PROGRAMME: OMAN**

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 Oman
- Country Programme Cover Sheet
- Country Programme (Executive Summary)

## OMAN COUNTRY PROGRAMME EVALUATION SHEET

*National Ozone Office, Ministry of Regional Municipalities and Environment*

***Status of ratification of the Vienna Convention and the Montreal Protocol***

	<b>Signature</b>	<b>Ratification</b>	<b>Entry into force</b>
Vienna Convention (1985)		30-Jun-99	28-Sep-99
Montreal Protocol (1987)		30-Jun-99	28-Sep-99
London Amendment (1990)		05-Aug-99	03-Nov-99
Copenhagen Amendment (1992)		05-Aug-99	03-Nov-99

***Production of controlled substances:*** No controlled substances produced

***Consumption of controlled substances (1999)*** 262.4 metric tonnes  
269.5 weighted tonnes (ODP)

(tonnes)	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	TOTAL	Halon121	Halon130	TOTAL	CTC	MCF	TOTAL Me-Br
ODS	9.8	247.5			3.8	261.1	1.1	0.2	1.3			7.1
ODP	9.8	247.5			2.3	259.6	3.3	2.1	5.4			4.3

***Distribution of ODP by substance:*** CFC 96.3% Halon 2.1% CTC and MCF MeBr 1.6%

***Distribution of ODP by sector:***

	Aerosol	Foam	Halon	Refrigeration	Solvent	Other	MeBr
Consumption (ODP tonnes):	0.0	0.0	5.6	259.6	0.0	0.0	4.3
Percent of total:			2.1%	96.3%			1.6%

<b>MONTREAL PROTOCOL</b>	<b>(ODP tonnes)CFCs</b>	<b>Halons</b>	<b>Methyl bromide</b>
Baseline consumption	248.4	13.8	4.3
Allowable level of consumption in 2005	124.2	6.9	3.4

Source: UNEP/OzL.Pro.11/6 (5 October 1999)

**Country Programme**

***Duration of country programme:*** 10 years (2001-2010)

***ODS phase out target:*** 60% reduction by 2005; complete phase out by 2010

***Phase out priority area:*** Refrigeration servicing sector

***Cost of activities in country programme:*** \$486,250

***Strategy:***

*The Government is committed to phasing out the consumption of ODS in a controlled and cost effective manner. The strategy is based on containment, recovery and recycling of refrigerants. Implementation of control measures, public awareness campaigns and training activities for refrigeration service technicians are the main components of the action plan. Legislation will be put in place and enactment texts will be defined, where necessary. Technical monitoring capacity will be improved to ensure effective monitoring of the legal and technical provisions provided for under the Montreal Protocol. The National Ozone Unit within the Air and Noise Pollution Section of the Ministry of Regional Municipalities and Environment, is the focal point for all activities*

## COMMENTS AND RECOMMENDATIONS OF THE FUND SECRETARIAT

### COMMENTS

1. The total ODS consumption in the country in 1999 was estimated at 269.3 ODP tonnes, mainly CFCs used for servicing refrigeration equipment (259.6 tonnes), halons (5.4 tonnes) and methyl bromide (4.3 tonnes). The annual calculated level of Annex A Substances' consumption for the period 1995-1997, the baseline for determination of Oman's compliance with the Montreal Protocol, is 248.4 tonnes. The 1995-1998 baseline for MB is one tonne. ODS consumption data collected during the preparation of the country programme has been forwarded to the Ozone Secretariat.
2. During the survey for the preparation of the Oman country programme, there was found to be a high consumption of CFC-12 (247.5 tonnes equivalent to 92% of the total ODS consumption in the country) in spite of the fact that since 1995 automobiles equipped with a MAC unit are based on HFC-134a refrigerant (Korean models switched to HFC-134a MAC units in 1998), and that nearly all refrigeration appliances and commercial refrigeration units currently marketed in the country are CFC-free. The survey concluded that CFC-12 is being used as a top-up gas for HFC-134a systems (mainly in the MAC sector), since it is more economical to do so.
3. The refrigeration service sector consists of about 2,000 technicians, several of them trained at vocational training centres or technical/industrial colleges. However, a certification programme for refrigeration and air conditioning technicians has not yet been established. Plans have been approved to establish centres to certify or license service technicians by the end of 2002.
4. Since 1991, the Directorate of Civil Defence and Fire has prohibited the use of halons (Royal Decree 76/91 and amendment 75/99) in all new facilities; a complete phaseout of halons has been proposed in 2005. The main users of halon are Petroleum Development Oman (PDO) and Oman Telecommunications Company (Omantel). PDO has a halon phase-out policy in place and proposes a complete phase out by 2001/2002. Omantel is gradually replacing its halon systems (no specific date for a complete phase out has yet been proposed).
5. In 1999, about 4.3 tonnes of MB was used as a fumigant for date storage.
6. The Government of Oman is developing a Regulation for the Control and Management of ODS within the framework of Royal Decree No. 73/98.
7. The country programme includes a project for the establishment of a National Ozone Office within the Ministry of Regional Municipalities and Environment (institutional strengthening). The Government of Oman is requesting a total of US \$84,250 for the implementation of this project. The Fund Secretariat's comments and recommendations on this request are presented under UNIDO's work programme amendments (UNEP/OzL.Pro/ExCom/32/26).
8. The country programme also includes a refrigerant management plan (RMP) project proposal. The Government of Oman is requesting a total of US \$402,000 for the implementation

of this project. The project will be submitted to a future meeting of the Executive Committee, once the Ozone Unit is established and operational.

## **RECOMMENDATIONS**

The Fund Secretariat recommends as follows:

1. To approve the Oman Country Programme. Approval of the Country Programme does not denote approval of the projects identified therein or their funding levels.
2. To request the Government of Oman 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 1 December 2000 to 31 December 2001, should be submitted to the Fund Secretariat no later than 1 May 2002.

## COUNTRY PROGRAMME COVER SHEET

**COUNTRY**

**SULTANATE OF OMAN**

**LEAD NATIONAL AGENCY**

**MINISTRY OF REGIONAL MUNICIPALITIES AND ENVIRONMENT**

**PERIOD COVERED BY COUNTRY PROGRAMME**

**2001 – 2010**

### 1. PHASE OUT SCHEDULE

Substance	ODP Value	1999 Consumption in ODP Tonnes	Planned Total Cons. until phase-out (Tonnes x ODP)	Planned year of Phase-out
CFC-11	1.0	9.800	47.962	2005
CFC-12	1.0	247.496	1456.074	2010
CFC-115	0.6	2.340	11.452	2005
Halon 1211	3.0	3.354	16.415	2005
Halon 1301	10.0	2.100	10.278	2005
Methyl Bromide	0.7	5.025	55.000	2010

### 2. ACTION PLAN OF OMAN

In order to implement its phase out strategy, the Government has developed an Action Plan as follows: (Since 96.35% of ODS consumption is in the Refrigeration and Air-Conditioning sector, this action plan matches the one drawn up within the Refrigerant Management Plan)

- Establish the National Ozone Unit within the Air and Noise Pollution Section, Ministry of Regional Municipalities and Environment, as the focal point for all activities related to the Montreal Protocol.
- Embark on a public awareness program with assistance of UNIDO, UNEP and funding from the Multilateral Fund
- Develop and implement control measures such as:
  - Prohibit imports of ODS using equipment.
  - Prohibit expansion of existing enterprises using ODS.
  - Prohibit new enterprises producing and/or assembling equipment, foams, or aerosols using ODS
  - Establish import quotas into the existing licensing system.
- Train Customs Directorate, and NOU in monitoring and collection of data to meet the reporting requirements of the Protocol.
- Implement a Recovery and Recycling Demonstration project.
- Strengthen monitoring system for ODS imports and use.

### 3. PROJECTS

A summary of the projects identified so far, and detailed in Annex 1 and 2 are given below:

(i)	Date	Estimated Cost to Multilateral Fund (US\$)	ODS Consumed (ODP Tonnes)	
Institutional Strengthening	2001 - 2004	84,250	287.159	
Refrigerant Management Plan	i) Training of Trainers and Technician Training in Good Refrigerant Management Practices	2001	80,000	CFC-11: 9.800 CFC-12: 247.496 CFC-115: 2.340 HCFC-22: 17.044
	ii) Training of Customs and NOU in Monitoring and Control of ODS	2002	18,000	287.159
	iii) Recovery/Recycling Demonstration Project	2001	170,000	CFC-12: 247.496
	iv) Additional projects including end-user application	After 2004	134,000	
National or Regional Halon Bank (project to be submitted later)				
<b>TOTAL</b>		<b>486,250</b>		

#### 4. COSTS

ODP to be phased out	287.159 ODP Tonnes
Total Cost of phase-out	US\$ 486,250
Cost of projects being submitted with this Country Programme	US\$ 486,250
Cost effectiveness	US\$ 1.69/kg

## EXECUTIVE SUMMARY

The Sultanate of Oman ratified the 1985 Vienna Convention, 1987 Montreal Protocol, 1990 London Amendments, and the 1992 Copenhagen Amendments by Royal Decree 73/98 dated September 28, 1998 and qualifies as an Article 5 country. The 1997 Montreal Amendments will be ratified at a later date. In order to comply with the provisions of the Protocol, the Government of Oman has carried out a national survey and formulated its Country Programme with the assistance of UNIDO and funding assistance from the Multilateral Fund.

The Country Programme provides data on import and use of ODS in Oman and expresses the commitment of the Government to phase out consumption of ODS. An Action Plan has been defined, and steps will be taken to implement some or all of the action items, after scrutiny, to ensure a smooth phase out without causing undue economic hardship to the industrial, commercial and, in particular, the domestic consumers.

Oman does not produce any ODS and all its requirements are met through imports. The total 1999 ODS consumption amounted to 287.159 ODP Tonnes. Annex A consumption was 265.090 ODP Tonnes, resulting in a consumption of 0.116 kg/capita. (1998 population 2.287 million)

The principal consumption of ODS is in the Refrigeration and Air Conditioning sector – 276.680 ODP Tonnes or 96.35% (including HCFC-22). Halon 1211 and Halon 1301 are in use in critical areas, particularly in the Oil and Gas producing industries and 1999 consumption is estimated at 5.454 ODP Tonnes or 1.9% of total ODS. Methyl Bromide is used for date fumigation and 1999 consumption is estimated at 5.025 ODP Tonnes or 1.75% of total ODS consumed.

The Government of Oman is committed to phasing out the consumption of ODS in a controlled and cost effective manner. It will take the steps outlined in the Action Plan to meet the freeze and phase out schedule required by the Protocol. The Government is concerned about availability of a supply of ODS to meet the service requirements of existing ODS based equipment to enable them operate to the end of their economic life. It is expected that by 2010, most equipment will have been retrofitted or replaced with ODS free technology, with some CFC-12 based equipment remaining. It will strongly encourage recovery and recycling to meet this requirement. Market forces such as rising prices and increasing availability of ozone friendly technology are playing a vital role in the shift by consumers to ODS free technology, particularly in the commercial and industrial sector.

The government has nominated the Air and Noise Pollution Section within the Directorate General of Environmental Affairs of the Ministry of Regional Municipalities and Environment as the focal point for Montreal Protocol activities. An institutional strengthening project is submitted for the formation of the National Ozone Unit. The NOU will be constituted within the Air and Noise Pollution Section of the D.G. of Environmental Affairs to act as the focal point, and coordinate and monitor activities towards a complete phase out of ODS.

A total of US\$ 486,250 is being requested from the Multilateral Fund to implement the identified projects.