

**The Armenian Republic
Ministry of Nature Protection**

EXECUTIVE SUMMARY

**Country Programme
For
Phasing Out Ozone Depleting Substances**

Yerevan, Armenia
March 2002

Country Programme Cover Sheet

Country:	Armenia
Lead National Agency:	Ministry of Nature Protection of the Armenian Republic
Lead Implementing Agency:	UNDP, UNEP
Period Covered by Country Programme:	2002 – 2007
Base Year of Data	2000
Freeze Level	196.5 ODP Tonnes

1. Phase-Out Schedule

Substances	Current consumption in 2000, ODP Tonnes	Planned total consumption until phase-out, ODP Tonnes	Planned year of phase-out
Annex A, Group I			
CFC-11	10		2005
CFC-12	161.18		2009
Sub-total	171.18.		
Annex B, Group I			
CFC-13	0		
Annex C, Group I			
HCFC-22	1.7		As per MP
Annex E			
Methyl Bromide	0.6		As per MP
Grand total	173.48		

2. Government Action Plan

Years	Description of action	Sector	Intended effect
2002-2007	1. Institutional strengthening, establishment of ODS monitoring system, enhancing the system of the ecological certification, introduction of economic incentives	All	Development of the monitoring of Action Plan; provisions for established control of ODS use and consumption, and ODS emissions; public awareness raising; incentives to decrease import of ODS and equipment, containing ODS
2002-2004	Legislation development	All	Decrease of ODS import and consumption
2003-2004	Introduction of excise taxes to ODS	All	Import decreasing
2003-2004	Training of Customs officials	All	Further developing of customs control system
2003-2004	Licensing system and introduction of quota system	All	Decrease of ODS use
2003-2004	Ban of import of equipment containing ODS	All	Decrease of ODS use
2003-2006	Support to research programmes, Provide the access to the alternative technologies	All	Research for new alternative technologies
2003-2005	Training of the technicians	Refrigeration	Decrease of ODS use for equipment service and maintenance; introduction of ozone-friendly equipment and technologies (safe storage, utilization, recycling and elimination of ODS)
2003-2006	Recovery & Recycling Programme	Refrigeration	Decrease of ODS emissions
2003-2005	Conversion of some production equipment in the SAGA Commercial Refrigeration Company	Refrigeration	Decrease of ODS use
2003-2007	Awareness and Incentive Programme	Refrigeration	Decrease of ODS consumption
2003-2005	Conversion of some production equipment in the Yerevan Household Chemistry Plant JSC	Aerosols	Decrease of ODS use

2002-2005	Public awareness raising activity; Public involvement.	All	Development of public awareness campaigns and activity, public involvement into the discussions of plans and action towards decrease of ODS use
2003-2005	Decrease of MB use	Agriculture	Replacement to other alternatives

3. Projects Submitted for Funding

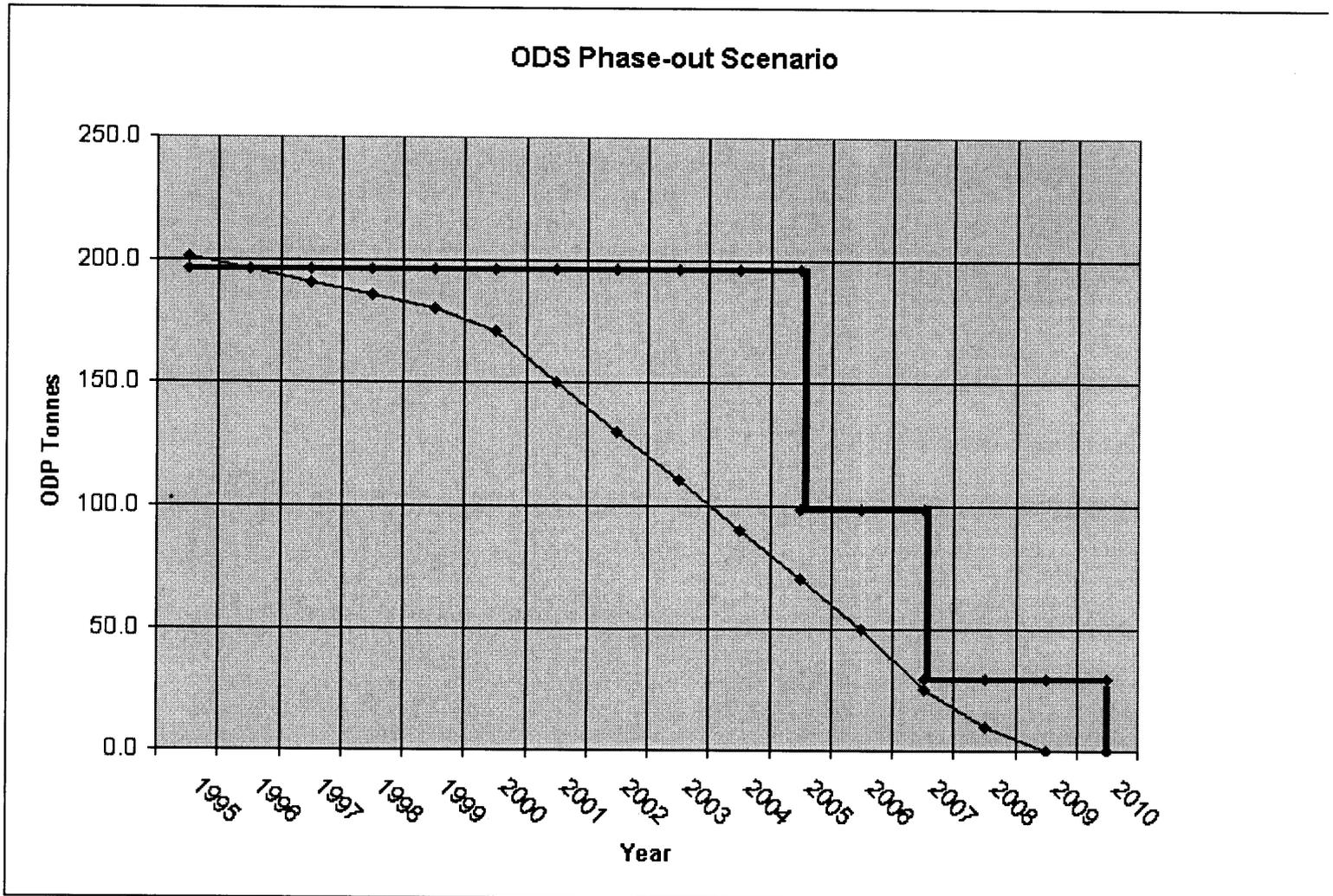
Starting Year	Project	Implementing Agency	Phase-out ODP Tonnes	Project Cost US\$	Govt or Industry Contribution US\$	Funds Request from GEF US\$
2002 - 2006	1. Institutional Strengthening Project and Capacity Building	UNEP		\$294,569	\$42,000	\$252,569
2002 - 2006	1.1 Establishment of and support to the Ozone Office	UNEP				
2002 - 2003	1.2 Equipment for Customs Department including Training of Customs Officers	UNEP				
2002 - 2006	2 Monitoring the activities in the RMP	UNDP		\$54,000		\$54,000
2002 - 2004	3. Train the Trainers of Refrigeration Technicians	UNEP	3	\$144,612		\$144,612
2002 - 2005	4. Recovery and Recycling Programme	UNDP	27.4	\$595,410		\$595,410
2003 - 2007	5. Awareness and Incentive Programme	UNDP	5	\$482,369		\$482,369

2003 - 2006	6. SAGA - Phase-out of CFC-11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment	UNDP	6.5	\$170,716		\$170,716
2003 - 2007	7. Phase-out of CFC 11/12 Mixture in the Manufacture of Aerosols at Yerevan Household Chemistry Plant	UNDP	14.33	\$263,296	\$35,200	\$228,096
TOTAL			56.23	\$2,004,972	\$77,200	\$1,927,772

4. Costs

Cost to the GEF of Projects in the Country Programme in USD	1,927,772
Estimated cost to complete ODS phase-out in USD	
Estimated cost effectiveness for GEF funded Projects in USD/kg	34.2
Estimated cost effectiveness for the complete phase-out in USD/kg	

5. Phase-out Scenario



The Armenian Republic has chosen the benchmarks. These happen to coincide with those for the phase-out of Article 5 Parties.

1. Introduction

1.1. Purpose

The Government of Armenia considers that production and consumption of ozone depleting substances (ODS) can have a crucial impact on human health and on the Nature Protection. In this respect, it also considers cooperation on an international level to be extremely important and supports all the efforts of the international community to protect the ozone layer.

Armenia became a Party to the Montreal Protocol on 1 October 1999, as a non-Article 5 (1) country (i.e. developed country).

This Country Programme has been compiled to assess the ODS situation in the country and to assist the Government of Armenia in defining its strategy and action plan to phase out the consumption of ODS by adopting among other actions, the forthcoming restrictions and bans on ODS as a party to the Montreal Protocol. The Government has closely cooperated with the local ODS users and is aiming to tackle the ODS issue jointly with the businesses and other organisations now dependent on these substances.

The Country Programme is structured according to the guidelines issued by the Executive Committee of the Multilateral Fund, and thus includes the following components:

- Evaluation of the current situation in Armenia regarding the production, imports and exports and use of ODS. The Country Programme report is based on the data and information gathered by the Ministry of Nature Protection of Armenia, the National Team and the UNDP/UNEP consultant during May/June 2001, and on the reports of the consultant of July 2001 and January 2002.
- Outlining the policy for further elimination of ODSs as an Action Plan, including the necessary monitoring and reporting measures; and
- Identification of potential projects, where the Government and local industries need international support in order to facilitate the phase-out process.

This Country Programme also describes the administrative and institutional framework within which the phase-out process will make progress. The programme specifies the follow-up and monitoring system regarding both the substances and the projects.

1.2 Status

This Country Programme Document was compiled by the Ministry of Nature Protection of Armenia, which has initiated and formed a National Ozone Team which included members from the Government, business and the scientific community.

The Country Programme was initiated with the support of UNDP and UNEP DTIE and through the joint communication between UNDP, UNEP DTIE and the Ministry of Nature Protection. The Government of Armenia expects that UNDP and UNEP will assist them in actively seeking the necessary mechanisms and finance to implement the proposed actions through international support.

The Ministry of Nature Protection has organised and conducted the data survey, with the assistance of National Ozone Team and a local UNDP/UNEP DTIE consultant. This Country Programme is based on its results and has been commented and accepted by the

National Team and the Ministry of Nature Protection in a National ODS workshop in which all stakeholders were present.

The National Programme will also be presented for approval by the Government of the Republic of Armenia, which would adopt a decision for its implementation.

1.3 Assistance Received

Following the ratification of the Vienna Convention and the Montreal Protocol, Armenia requested assistance for the preparation of the Country Programme. UNDP/UNEP IE provided financial support to the Ministry and a consultant to assist the National Ozone Focal Point on the preparation of the Country Programme, through funding from the Global Environment Facility (GEF).

2. Current Situation

2.1. Current and Forecast Consumption of ODSs

2.1.1. National Survey and Data Collection

A lot of difficulties were encountered by the National Ozone Team and the local UNDP/UNEP DTIE consultant in collecting ODS data. The different Government departments do not have complete recent records of imported ODS, importers and users are very reluctant to give information on their imports and use of ODS. However, there exist a few records and documents from when the Armenian Republic was a member of the former Soviet Union. The maximum amount of information was extracted from all available documents and persons met during the survey.

As an example of the difficulties encountered in one case, it took three visits and many hours of convincing for the National Ozone Officer, the National Consultant, the UNEP DTIE officer in charge of the present project in Armenia and two International Consultants to be able to visit an important ODS user's facilities. This situation should not be surprising as such circumstances occur in the early stages of development of Country Programmes. Importers and users are suspicious of the intentions of collection of such data. Besides, such persons are not quite familiar with the Montreal Protocol and the assistance they may receive.

Estimates of the numbers of equipment existing in the country were made based on interviews with repair technicians. Estimates of the frequency of repairs and the amounts of ODS used to repair equipment were also based on several interviews.

2.1.2. Current Consumption

Armenia does not produce any of the substances controlled under the Montreal Protocol. Total consumption of all ODSs in 2000 in Armenia was 203.5 Tonnes corresponding to 172.7 ODP Tonnes. Of this amount CFCs in Annex A, Group I constituted approximately 98.1 % (CFC-11 and CFC-12).

The substances from Annex C and Annex E are HCFC 22 and methyl bromide, corresponding to 0.94 % and 0.94 % respectively.

The distribution of the use of ODS by sector is as following:

- refrigeration sector used 160 ODP Tonnes or 90.9%,
- aerosols used 14.34 ODP Tonnes or 8.15%, and
- the agriculture sector used 1.65 ODP Tonnes or 0.94%.

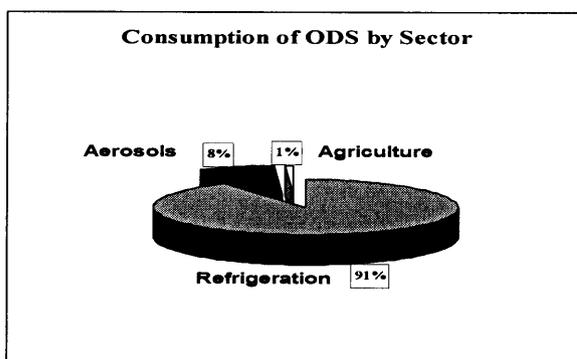


Table 2.1. and Table 2.2. below indicate consumption figures by substance and user in the year 2000

Table 2.1. Consumption of the Ozone Depleting Substances in 2000 in Armenia by Substance

Substance/	Consumption in 2000	ODP	Consumption in 2000
Source	Tonnes		ODP Tonnes
Annex A Group 1			
CFC 11	10	1	10
CFC 12	162.7	1	162.7
Subtotal	172.7		172.7
Annex A Group 2			
Halon 1211		3	
Halon 2402		6	
Subtotal			
Annex B Group 2			
CFC 13		1	
Carbon Tetrachloride		1.1	
Annex B Group 3			
MCF		0.1	
TOTAL ANNEX A + B	172.7		172.7
Annex C HCFC 22	30	0.055	1.7
Annex E			
Methyl			
Bromide	2.357	0.7	1.65
TOTAL ANNEX C + E	30.9		3.3
Grand Total	205		176

Table 2.2. Consumption of Ozone Depleting Substance

**in 2000 in Armenia, by Use and Application
Consumption by use of CFC-12**

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Domestic Refrigerators	CFC-12	1	1,140,000	18	205,200	600	123.12
2	Domestic Freezers used for ice cream	CFC-12	1	5,000	18	900	400	0.36
3	Display Refrigerators	CFC-12	1	9,500	24	2,280	1,600	3.65
4	Vertical freezers	CFC-12	1	3,800	25	950	1,400	1.33
5	Shelf refrigerators	CFC-12	1	4,200	23	966	6,500	6.28
6	Chillers	CFC-12	1	3	100	3	100,000	0.3
7	Refrigerated Wagons (stationary)	CFC-12	1	16	13	2	80,000	0.17
8	Fruit Refrigerated Units	CFC-12	1	1,600	30	480	6,500	3.12
9	Large Food Refrigerated Rooms	CFC-12	1	89	100	89	17,500	1.56
10	Food production of milk products and sausages	CFC-12	1	56	100	56	20,000	1.1
11	Ice-cream Production Refrigeration Equipment *	CFC-12	1		15	-		0.2
12	Assembly of Refrigerators	CFC-12	1			-		6
13	MAC	CFC-12	1	7,383	75	5,537	1,500	8.31
14	Aerosols	CFC-12	1					7.17
						TOTAL		162.67

Consumption by use of CFC-11

#	Application	Refrigerant	ODP	Estimated number				Estimated amount of Refrigerant used annually in ODP Tonnes
1	Assembly of Refrigerators	CFC-11	1	>6000				2
2	Repair of refrigerators	CFC-11						0.83
3	Aerosols	CFC-11						7.17
						TOTAL		10

Consumption by use of HCFC-22

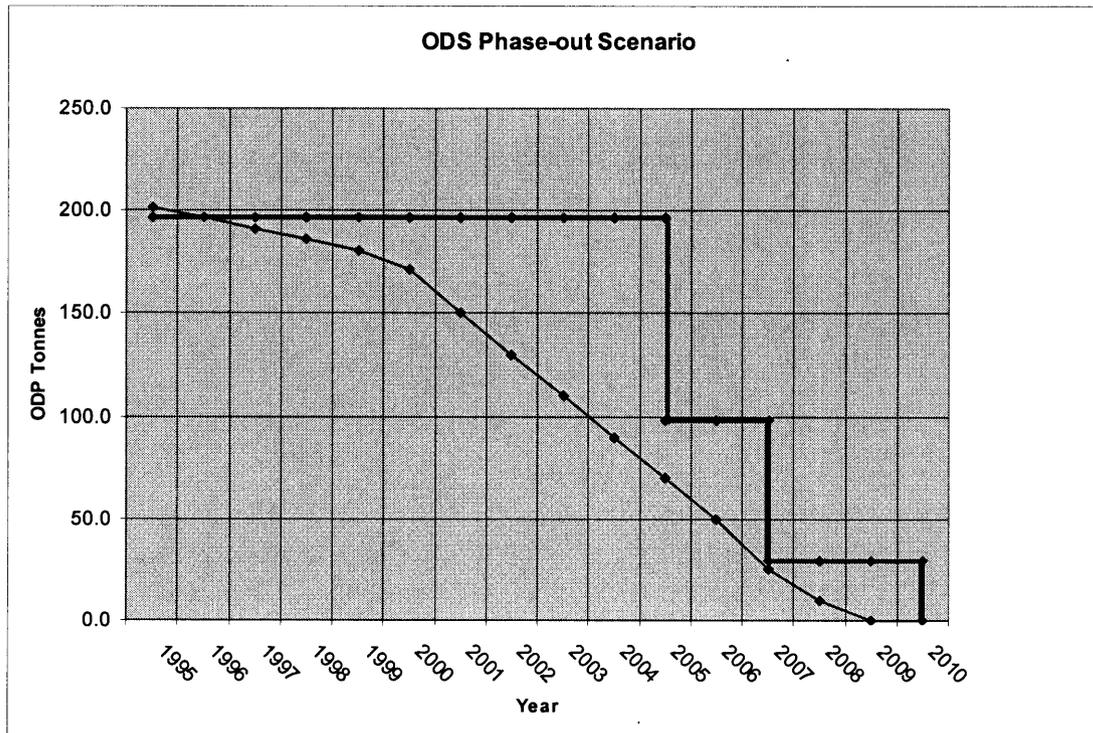
#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Window A/C	HCFC-22	0.055	42,000	20	8,400	800	0.4
2	Split units	HCFC-22	0.055	8,000	5	400	1500	0.0
3	Chillers	HCFC-22	0.055	15	100	15	30000	0.0
4	Refrigerated Trucks for Ice Cream	HCFC-22	0.055	120	75	90	7000	0.0
5	Large Food Refrigerated Rooms	HCFC-22	0.055	21	75	16	45000	0.0
6	Food production and milk products and sausages	HCFC-22	0.055	24	75	18	90000	0.1
7	Ice-cream Production Refrigeration Equipment *	HCFC-22	0.055		20	-		0.2
8	Assembly of Refrigerators	HCFC-22	0.055			-		0.1
9	Other	HCFC-22	0.055			-		0.9
						TOTAL	30	1.7

2.1.2 Forecast Consumption (covers period: 1986 to 2010)

Data for the years 1986 to 1995 were estimated based on available data and compared to that from members of the former Soviet Union Countries. The Consumption from 1986 to the year 2020 is estimated in the following table:

Year	1986	1988	1990	1995	1996	1997	1998	1999	2000
Consumption in ODP Tonnes	274	305	277	201.8	196.5	191.2	185.9	180.5	171.2
Year	2001	2002	2003	2004	2005	2007	2008	2009	2010
Consumption in ODP Tonnes	150	130	110	90	70	25	10	0	0

The Government of the Armenian Republic has chosen benchmarks that happen to coincide with phase-out of Article 5 Parties. It is to be noted that the freeze level (average of the Consumption for the years 1995 to 1997) is 196.5 ODP Tonnes. The ODS Phase-out scenario is shown in the chart below.



2.2. Industry Structure

2.2.1 Production of ODS

The Republic of Armenia does not produce ODS. All the ODS used in the country are imported.

2.2.2 Imports

Up to 2001 most of the ODS were imported from the Russian Federation. Starting from 2001 export from Russian Federation has stopped and now most of legal import is from Turkey (mostly through Georgia). Though the risk of illegal import of ODS does persist as the illegally imported ODS could sometimes be observed on the market. From 1994-1995, the import arrangements changed and the imports became difficult to monitor.

The Armenian Customs Department is applying the Harmonised System in the imports classification, but ODS import figures are not yet directly available from customs statistics. This system is not very detailed and does not help to identify certain substances. The data presented is mainly based on the information received from the importers and users through the ODS data survey.

2.2.2. Users

The largest ODS users in the Armenian Republic is in the servicing of refrigeration equipment sector accounting for 160.04 ODP Tonnes or nearly 90.9 % of the total. The other ODSs users are the aerosol sector and the agriculture sector with 14.34 and 1.65 ODP tonnes or 8.15 % and 0.94 % respectively of total ODS consumption.

2.2.2.1. Refrigeration

The refrigeration sector, as mentioned above is the main user of ODSs. Of the total of 155.51 ODP Tonnes, domestic refrigeration accounts for 123.12 ODP Tonnes, commercial refrigeration for 15.27 ODP Tonnes, industrial refrigeration 1.32 ODP Tonnes and transport refrigeration 9.81 ODP Tonnes. There is also one commercial refrigeration factory and some smaller assembly workshops. These use a total of 6 ODP Tonnes.

	Total ODS use in Tonnes	% use of ODS
DOMESTIC REFRIGERATORS	123.12	79.2
COMMERCIAL REFRIGERATION	15.27	9.8
INDUSTRIAL REFRIGERATION	1.32	0.8
TRANSPORT REFRIGERATION	9.81	6.3
PRODUCTION OF REFRIGERATION UNITS	6	3.9
TOTAL	155.51	

2.2.2.2 *Repair and Maintenance in the Service Sector*

There are over 40 small repair workshops and 2 large workshops in the country, with more than 750 technicians. About 200 technicians repair domestic refrigerators, 300 specialize in commercial refrigerators, 150 in industrial refrigeration equipment and over 100 unofficial technicians.

The total amounts of CFC-11, CFC-12 and HCFC-22 used in the repair and maintenance of refrigeration equipment are 0.83, 149.5 and 1.7 ODP tonnes respectively.

The following tables give a detailed break-up of the numbers of equipment and the estimated amounts of refrigerants used to repair and maintain refrigeration equipment.

Table 2.7. Servicing of Refrigeration Equipment – Use of CFC-11, CFC-12 and HCFC-22 in repair and maintenance

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Domestic Refrigerators	CFC-12	1	1,140,000	18	205,200	600	123.12
2	Domestic Freezers used for ice cream	CFC-12	1	5,000	18	900	400	0.36
3	Display Refrigerators	CFC-12	1	9,500	24	2,280	1,600	3.65
4	Vertical freezers	CFC-12	1	3,800	25	950	1,400	1.33
5	Shelf refrigerators	CFC-12	1	4,200	23	966	6,500	6.28
6	Chillers	CFC-12	1	3	100	3	100,000	0.3
7	Refrigerated Wagons (stationary)	CFC-12	1	16	13	2	80,000	0.17
8	Fruit Refrigerated Units	CFC-12	1	1,600	30	480	6,500	3.12
9	Large Food Refrigerated Rooms	CFC-12	1	89	100	89	17,500	1.56
10	Food production and milk products and sausages	CFC-12	1	56	100	56	20,000	1.1

11	Ice-cream Production Refrigeration Equipment *	CFC-12	1		15	-		0.2
12	MAC	CFC-12	1	7,383	75	5,537	1,500	8.31
TOTAL							149.5	

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Repair of refrigerators	CFC-11						0.83
TOTAL							0.83	

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Window A/C	HCFC-22	0.055	42,000	20	8,400	800	0.4
2	Split units	HCFC-22	0.055	8,000	5	400	1500	0
3	Chillers	HCFC-22	0.055	15	100	15	30000	0
4	Refrigerated Trucks for Ice Cream	HCFC-22	0.055	120	75	90	7000	0
5	Large Food Refrigerated Rooms	HCFC-22	0.055	21	75	16	45000	0
6	Food production and milk products and sausages	HCFC-22	0.055	24	75	18	90000	0.1
7	Ice-cream Production Refrigeration Equipment *	HCFC-22	0.055		20	-		0.2
8	Assembly of Refrigerators	HCFC-22	0.055			-		0.1
9	Other	HCFC-22	0.055			-		0.9

	TOTAL	30	1.7
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The Government of Armenia is eager to actively promote recovery and recycling programmes, training and equipment. These are the only existing options, apart from replacing the whole amount of existing domestic refrigerators, in order to be able to tackle the expected shortage of refrigerant for the servicing activities.

2.2.2.3. Production of Commercial Refrigerators

The only larger company that produces refrigerators is SAGA. It is a 100% Armenian-owned company that manufactures a range of unitary commercial refrigeration equipment. Currently 4.5 ODP Tonnes of CFC-11 is used as the blowing agent in the production of the rigid polyurethane (PU) insulation foam for the equipment cabinets and doors, while CFC-12 is used as refrigerant. Based on the year 2001 consumption figures a project will eliminate the use of 6.5 ODP Tonnes/year of CFC 11 and CFC 12 by conversion to the use of Water-blown PU-foam and HFC-134a respectively. Funds are requested from GEF to change the existing production lines, and for technology transfer, technical assistance, re-design, testing, pre-production trials, and training.

There are also some smaller workshops that assemble refrigeration equipment.

2.2.2.4. Aerosol Filler

The enterprise that fills aerosol cans is the Yerevan Household Chemistry Plant. It is the only Aerosol filler in ARMENIA. A project is proposed to phase-out the use of 14.333 ODP Tonnes of CFCs. The selected CFC replacement technology is hydrocarbon propellant to replace CFC 11/12. The enterprise presently is operating with three aerosol filling line. Funds are requested for

a) the propellants' storage, destenching column system and transfer system to the gassing unit:

Destenching Column System (US\$ 10,000), the replacement of existing process pump (US\$ 4,000), emergency shut-off valve (US\$ 3,000).

b) the filling line:

Aerosol Production Facility with Safety Controls and Gas Management Systems including: Manual can loading, automated can feeding through the product filling and crimping, connecting conveyor to the external gassing room, external prefabricated gassing room with insulation, twin speed ventilation, primary and secondary ventilation, Gas management system with three detector heads and a gas pipe work set. (US\$ 150,000). and

c) assistance in designing, installation, commissioning and training:

Technology transfer/technical advisory services/formulation assistance (US\$ 20,000)

Net annual Incremental Operating Savings for four years associated with the technology change from CFC 11/12 to hydrocarbon propellant including the increased maintenance cost associated with HAP's is calculated to be US\$ 1,208.

2.2.2.5. Agriculture Sector

2.357 Tonnes or 1.65 ODP Tonnes of Methyl Bromide are used in the Armenian Republic are used in the agricultural sector.

2.3. Institutional Framework

The leading agency participating in the preparation of this Country Programme, which will also be responsible for the implementation of the National Action Plan, is the Ministry of Nature Protection of Armenia and in particular its the Department of Atmosphere Protection.

The Ministry of Nature Protection has also been assisted in its work on the data survey and in the preparation of the Country Programme by local consultants and by the other Ministries, as well as representatives of the scientific community and from the main industries. and NGOs.

2.4. Policy Framework

The Republic of Armenia declared its independence on 21 September 1991. The Ministry of Nature Protection of Armenia, in cooperation with other Governmental institutions, is undertaking actions to create the necessary administrative and legislative measures to control the imports of ODSs and equipment using and containing ODSs to fulfil its obligations to the Montreal Protocol. However the wish of the Government is strong to adopt a policy, which leans heavily towards free market solutions, there is an understanding that certain control measures should be undertaken to be able to comply with the ODS consumption required.

A licensing system to monitor and control imports of ODSs is in preparation in cooperation with the Ministry of Trade. A system to ban the imports of ODSs based and containing equipment is also being discussed The National Environmental Policy Plan is currently under preparation. In general, this plan will support, at the high political and administrative level, all ODS phase-out measures taken by the Ministry of Nature Protection and other Governmental authorities.

2.5. Governmental and Industry Responses to the Protocol

Armenia ratified the Vienna Convention, the Montreal Protocol on 1 October 1999. A procedure on the ratification of the London Amendments is in preparation .

The Government is in the process of taking actions in enacting legislation to phase out ODS. Another way to establish a monitoring system on the imports and exports of the ODS is by issuing technical laws/regulations as the one on the environmental permissions. Other regulations are considered. One on import permits and the other one on the environmental taxation system.

Several private, small and medium enterprises in the refrigeration service sector are eager to establish contacts on bilateral level to develop small production lines for non-ODS using refrigeration equipment.

In addition, the Government is seeking an optimal cost substitute for methyl bromide for the fumigation of the agricultural products for exports.

3. Implementing Phase-out

3.1. Strategy Statement by the Government

The Government of Armenia clearly understands its responsibility as a member of the global community to protect the ozone layer. Also, the Government understands that Armenia must share the possible economic and social burden caused by the international efforts to phase-out ODSs.

The Government is well aware of the import and export restrictions and bans on ODSs and products containing them or produced using them. The Government will do its best to comply with the obligations as a Party to the Montreal Protocol and all its Amendments. It is expected that these efforts will be supported by the Multilateral Fund of the Montreal Protocol and other international environmental funds.

The strategic goals of the Government are as follows:

- Phase-out the consumption of CFCs by the year 2008, however allowing very minor amounts of CFC coolants for maintenance purposes beyond 2008 and up to 2010;
- Follow the phase-out schedules and benchmarks that happen to coincide with Article 5(1) Parties regarding the phase-out of ODS;
- Develop and establish the appropriate legal and regulatory framework to ensure the phase-out process;
- Develop and establish the necessary monitoring and licensing systems to control the imports of ODS and to ensure the phase-out process;
- Develop a permanent public awareness campaign to support the control measures to be undertaken;
- Support local industries to adopt ODS-free technologies, through, among others bilateral international cooperation;

The refrigeration sector (mostly the servicing sector) the one that accounts for the majority of ODS consumption with a small percentage and capacity for assembling of refrigeration equipment.

Regarding methyl bromide, the Government considers the present decrease of consumption is only due to the economic difficulties and the dependence of the country on imports of grain. The local production is negligible, due to restructuring of the agricultural sector. Thus, the Government is seeking the support of the international community to define the most suitable substitute to prevent the expected renewed consumption of methyl bromide.

When implementing the strategy outlined above, the Government believes that the phase-out of CFCs will be reached before the year 2008, which draws an earlier time limit than defined for Article 5(1) Parties.

3.2. Action Plan

3.2.1 Governmental Actions

The Government of Armenia would act as a leading body and would support the actual phase-out measures to be undertaken by the Ministry of Nature Protection, as well as the efforts of the local small and medium enterprises with the necessary regulatory mechanisms. The Ozone Unit would be established in the Ministry of Nature Protection to coordinate the implementation of the Action Plan.

The planned actions of the Government of Armenia to implement the phase-out process are described in the Table 3.1. below.

Table 3.1 Government Phase-out Strategy

Years	Description of action	Sector	Intended effect
2002-2007	1. Institutional strengthening, establishment of ODS monitoring system, enhancing the system of the ecological certification, introduction of economic incentives	All	Development of the monitoring of Action Plan; provisions for established control of ODS use and consumption, and ODS emissions; public awareness raising; incentives to decrease import of ODS and equipment, containing ODS
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2003-2006	Support to research programmes, Provide the access to the alternative technologies	All	Research for new alternative technologies
2003-2005	Training of the technicians	Refrigeration	Decrease of ODS use for equipment service and maintenance; introduction of ozone-friendly equipment and technologies (safe storage, utilization, recycling and elimination of ODS)
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2003-2005	Conversion of some production equipment in the SAGA Commercial Refrigeration Company	Refrigeration	Decrease of ODS use

2003-2007	Awareness and Incentive Programme	Refrigeration	Decrease of ODS consumption
2003-2005	Conversion of some production equipment in the Yerevan Household Chemistry Plant JSC	Aerosols	Decrease of ODS use
2002-2005	Public awareness raising activity; Public involvement	All	Development of public awareness campaigns and activity, public involvement into the discussions of plans and action towards decrease of ODS use
2003-2005	Decrease of MB use	Agriculture	Replacement to other alternatives

3.2.2. Projects

To ensure the effective implementation of the Action plan, the Government is supporting the implementation of the seven projects. The annex contains individual project sheets giving the details of these.

3.2.3 Projects Submitted for Funding

Table 3.5. Projects Submitted for Consideration

Starting Year	Project	Implementing Agency	Phase-out ODP Tonnes	Project Cost US\$	Government or Industry Contribution US\$	Funds Requested from GEF US\$
2002 - 2006	1. Institutional Strengthening Project and Capacity Building	UNEP		\$252,569	\$42,000	\$252,569
2002 - 2006	1.1 Establishment of and support to the Ozone Office	UNEP				
2002 - 2003	1.2 Equipment for Customs Department including Training of Customs Officers	UNEP				
2002 - 2006	2 Monitoring the activities in the RMP	UNDP		\$54,000		\$54,000
2002 - 2004	3. Train the Trainers of Refrigeration Technicians	UNEP	3	\$144,612		\$144,612
2002 - 2005	4. Recovery and Recycling Programme	UNDP	27.4	\$595,410		\$595,410

2003 - 2007	5. Awareness and Incentive Programme	UNDP	5	\$482,369		\$482,369
2003 - 2006	6. SAGA - Phase-out of CFC-11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment	UNDP	6.5	\$170,716		\$170,716
2003 - 2007	7. Phase-out of CFC 11/12 Mixture in the Manufacture of Aerosols at Yerevan Household Chemistry Plant	UNDP	14.33	\$228,096	35,200	\$228,096
	TOTAL		56.23	1,927,772	\$77,200	1,927,772

3.3. Roles in Implementing the Strategy

The leading agency in the phase-out process is the Ministry of Nature Protection. This Ministry will be supported by the National Ozone Team in all essential policy aspects.

As mentioned earlier, the Government's role will only be an advisory one to the industry, but it would have to apply control measures to keep with the requirements of the Montreal Protocol. The Government supports the industries in finding the necessary external contacts and financial sources.

3.4. Timetable and Consumption Implications

Armenia operates under Article 2 of the Montreal Protocol and the chosen benchmarks happen to coincide with the phase-out of ODS of Article 5 Parties..

The Armenian Government considers an early phase-out feasible in view of the present consumption levels in the country. It is envisaged that the improvement of the economic factors would lead to an increase in consumption of ODSs and the Government commits to applying control measures to prevent that process.

3.5. Budget and Financing Programme

The following Table 3.5. presents the estimated costs of the proposed Action Plan and looks forward to an early availability of the financing of the proposed projects through the GEF.

3.6. Monitoring Arrangements

The overall responsibility of monitoring the Country Programme/Action Plan and reporting on the imports, consumption and possible exports of ODSs will be with the Ministry of Nature Protection, within which a specific unit, described earlier in the proposed Institutional Strengthening Project, will be established. The Institutional Strengthening Project will enhance the training of customs officers enabling the Ministry of Nature Protection to extract and report the imports (and possible exports) of ODSs in more detail.

In addition to the standard monitoring the Government will monitor the performance of the Customs Department regarding the implementation of the Harmonised System.

The Government of Armenia will report ODSs consumption data to the UNEP Ozone Secretariat on an annual basis, as per the requirements of Article 7 of the Montreal Protocol.

The Government of Armenia will report to the GEF secretariat and its Implementing Agencies on the progress of implementing the Country Programme and the Projects in the CP.

4

ARMENIAN REPUBLIC REFRIGERANT MANAGEMENT PLAN

MARCH 2002

Prepared by: Dr. Adham KHALIL, Eng. / NOU

Date: March 2002

ARMENIAN REPUBLIC REFRIGERANT MANAGEMENT PLAN

1.0 EXECUTIVE SUMMARY

The baseline for CFC's (1995-97 average) amounts to 196.5. ODP Tonnes. According to the Country Programme the CFC consumption in the refrigeration sector has fallen to 158.21 ODP Tonnes in 2000. The estimated consumption of all ODS was 173.48 ODP Tonnes in 2000.

However, in spite of these positive results, the Armenian Republic will need assistance to comply with its chosen benchmarks that happen to coincide with those of Article 5. Thus, the country needs assistance in order to meet the 50% reduction measure in 2005. This document is the first RMP for the Armenian Republic and is submitted to the GEF with the purpose to assist the country to meet the Montreal Protocol obligations.

Several legislative measures were already in the process of being put into place in the Armenian Republic, which should allow a successful phase out of the Refrigeration Sector, if coupled with the activities that are proposed within this RMP document.

A checklist was made to make sure that Decision 31/48 of the Executive Committee was fully taken into account and is included in the Annex to this document. The Government of the Armenian Republic is fully aware of its implications as described in this checklist.

After careful consideration, the following activities are requested for financial assistance from the Multilateral Fund:

PROJECT TITLE	Budget
a. Institutional Strengthening Project and Capacity Building including Customs Training - UNEP	US\$ 252,569 ✓
b. Monitoring of the Activities in the RMP - UNDP	US\$ 54,000 ✓
c. Implementation of train the trainer programme and national demonstration programme. - UNEP	US\$ 144,612 ✓
d. Recovery/Recycling Programme - UNDP	US\$ 595,410 ✓
e. Awareness/Incentive Programme for Commercial/Industrial End-User Sector - UNDP	US\$ 482,369 ✓
f. SAGA - Phase-out of CFC11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment - UNDP	US\$ 170,716 ✓
TOTAL	US\$ 1,699,676

Note 1: The institutional strengthening request is being submitted at the same time as the RMP.

While the activities of the that project will have an impact on the RMP, it is usually not considered as part of the RMP.

Note 2: As per ExCom of the GEF Decision 31/48, "e" equals 50% of "b + c + d + f"

Note 3: Funds requested from the GEF ("a" through "f") amount to US\$ 1,699,676

--(US\$ 1,302,495 for UNDP and US\$ 397,181 for UNEP)

Note 4: All budget figures in above table include 8 % support cost

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2.0. Status of the country with regard the Montreal Protocol

Armenia became a Party to the Montreal Protocol on 1 October 1999 as a non-Article 5 (1) country (i.e. developed country). The documentation for the ratification of the London Amendments to the Montreal Protocol has been prepared.

3.0 Status of Country Programme:

The Country Programme for the Phasing Out of Ozone Depleting Substances (ODS) for the Armenian Republic was being prepared at the same time as the present Refrigerant Management Plan (RMP). The base year for the data in both documents was 2000.

The Country Programme reflects institutional and political activities of the Government of the Armenian Republic to implement the undertaken responsibility with regard to the process of the phasing out of ODS consumption and production in the shortest possible time taking into account the following:

- availability of substitute substances to the CFC that are in use in the country;
- residual life of the existing equipment that use CFC;
- Enactment of legislation that will monitor and control import and use of CFC without creating a black market for these substances.

A summary of the Government Action Plan as per the Country Programme is given hereunder:

- Setting up a Coordinating Group on the Implementation of the Montreal Protocol
- Announcement of phase-out schedule
- Setting up a National Ozone Office
- Official paper publication of the Customs new subheadings
- Introducing import license scheme for ODS (on reducing quota)
- Introducing User Permit Scheme
- Introducing import license scheme for equipment containing ODS
- Granting duty concession for the import of ODS substitutes and equipment containing ODS substitutes

4.0 Institutional Framework and the Status of Institutional Strengthening Project

4.1 Institutional Framework

The responsible governing body within the Government of the Armenian Republic in the field of environmental protection is the Ministry of Nature Protection of the Armenian Republic. There are some duties regarding nature protection that are being

implemented by the Ministry of Healthcare, Ministry of Agriculture and Water Industry as well as by the State Departments of Geology and Forestry.

In accordance with the Law of the Armenian Republic "The ratification of the Vienna Convention on the Ozone Layer Protection and the Montreal Protocol on Substances that Deplete the Ozone Layer", the Ministry of Nature Protection has been designated to be the responsible national authority that for the implementation of the Vienna Convention and the Montreal Protocol.

The Ministry of Nature Protection of the Armenian Republic has a branched organizational structure including regional divisions throughout the administrative areas of the Republic.

An interdepartmental commission will be established that shall include experts from the Ministry of Nature Protection as well as from other departments and Ministries such as the Ministry of Industry and External Trade, the Ministry of Foreign Affairs, the Ministry of Internal Affairs, the Ministry of Finance, the State Customs Department, members of the public and representatives of the private sector. They shall coordinate the overall activities with regard to substitution of existing ODS to new alternatives.

A National Ozone Office (NOO) is to be established in the Ministry of Nature Protection. This Office shall be a responsible for data collection, project management, preparation of documents for the Commission, annual reports to the Ozone Secretariat and to the Implementing Agencies and the GEF Secretariat.

Local consultants will provide technical assistance and will be involved in a process of ODS substitution. A coordinator of the National Ozone Office will be responsible for all the activities related to the NOO and TOR for each expert and assistant.

4.2 Institutional Strengthening Project

The Institutional Strengthening Project has not yet started as the Armenian Republic Country Programme for the Phase out of Ozone Depleting Substances according to the Montreal Protocol was being prepared at the same time as the present document.

Once financial and technical assistance is received from the GEF, the establishment of the Institutional Strengthening Project shall be undertaken.

4.3. Legislative Aspects.

The Government through the efforts of the Ministry of Nature Protection, has already started the process of establishing legislative measures to control import of ODS and equipment that contain them.

5.0 Justification for the RMP

This RMP was formulated in compliance to Decision 22/25 taken at the Twenty Second Executive Committee Meeting of the Multilateral Fund for the Implementation of the Montreal Protocol. The development of the RMP gives rise to a better understanding of each of the actions taken during the development of this plan.

The need for a Refrigerant Management Plan (RMP) stems from the strategy to contain, recover and recycle refrigerant, making provision for the critical stocks for the service tail through internal conservation techniques as well as external suppliers, if necessary. It entails an awareness / end-user incentive programme and is a critical management tool for the country for a smooth transition to non-ODS.

As described above and in spite of the decrease in ODP consumption over the last few years, Armenian Republic will still need assistance to comply with the 50% reduction measure in 2005, and even more so to comply with further reduction measures. The country may not be able to meet the control measures of the Montreal Protocol thus the need of this RMP with associated activities is of utmost importance.

With the improvement of the economic situation in the country and an increase in the amount of ODS imported unofficially into the country over the last few years and the unavailable know-how within customs to monitor, control and record the quantities of these chemicals entering the country, there is an obvious increase of CFC on the market. Therefore the approval of further regulations on importation and consumption of ODS coupled with the training of Customs Officers as well as the awareness/incentives to end-users to convert their equipment to using non ODS will ensure a smooth phase-out of ODS in Armenian Republic.

The new decisions pertaining to RMP's taken at the 31st meeting of the Executive Committee (decision 31/48) were also taken into account. Armenian Republic did not yet have an RMP, and therefore falls under section "B" of that decision (i.e. New RMP's). Annex 1 of this document illustrates that all the concerns of this decision were fully addressed.

6. The Refrigeration Sector

6.1. Estimated 2000 Consumption of Ozone Depleting Substances in the Refrigeration Sector

SUBSTANCE	TONS	ODP	ODP TONS
CFC-11	2	1	2
CFC-12	155.51	1	155.51
HCFC-22	31	0.055	1.7
TOTAL			158.21

6.2. Use of CFC-12 – Summary Table

	Nr of units	Nr of units charged per year	Total ODS use in Tons
DOMESTIC REFRIGERATORS (see 6.3 below)	1,140,000	205,200	123.12
COMMERCIAL REFRIGERATION (see table 6.3 below)	20 940	295	15.27
INDUSTRIAL REFRIGERATION (see table 6.3 below)	71	115	1.32
TRANSPORT REFRIGERATION (See table 6.3. below)	11,199	113	9.81
PRODUCTION OF REFRIGERATION UNITS (See table 6.3. below)	> 6,000		6
TOTAL			155.51

6.3 Use of CFC-11 and CFC-12 by sub sector

Estimate of CFC-12 in the Refrigeration Sector

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes
1	Domestic Refrigerators	CFC-12	1	1,140,000	18	205,200	600	123.12
2	Domestic Freezers used for ice cream	CFC-12	1	5,000	18	900	400	0.36
3	Display Refrigerators	CFC-12	1	9,500	24	2,280	1,600	3.65
4	Vertical freezers	CFC-12	1	3,800	25	950	1,400	1.33
5	Shelf refrigerators	CFC-12	1	4,200	23	966	6,500	6.28
6	Chillers	CFC-12	1	3	100	3	100,000	0.30
7	Refrigerated Wagons (stationary)	CFC-12	1	16	13	2	80,000	0.17
8	Fruit Refrigerated Units	CFC-12	1	1,600	30	480	6,500	3.12
9	Large Food Refrigerated Rooms	CFC-12	1	89	100	89	17,500	1.56
10	Food production and milk products and sausages	CFC-12	1	56	100	56	20,000	1.12
11	Ice-cream Production Refrigeration Equipment *	CFC-12	1		15			0.20
12	SAGA - Assembly of Commercial Refrigerators	CFC-12	1	6,000				4.50
13	Assembly of Refrigerators							1.50
14	MAC	CFC-12	1	7,383	75	5,537	1,500	8.31
TOTAL								155.51

Estimate of CFC-11 in the Refrigeration Sector

#	Application	Refrigerant	ODP	Estimated number	Estimated amount of Refrigerant used annually in ODP Tonnes
12	SAGA - Assembly of Commercial Refrigerators	CFC-11	1	6,000	2

Estimate of HCFC-22 in the Refrigeration Sector

#	Application	Refrigerant	ODP	Estimated number	Estimated percentage repaired annually	Estimated number repaired annually	Estimated amount of Refrigerant used to repair one unit in grammes	Estimated amount of Refrigerant used annually in ODP Tonnes	
1	Window A/C	HCFC-22	0.055	42,000	20	8,400	800	0.37	
2	Split units	HCFC-22	0.055	8,000	5	400	1,500	0.03	
3	Chillers	HCFC-22	0.055	15	100	15	30,000	0.025	
4	Refrigerated Trucks for Ice Cream	HCFC-22	0.055	120	75	90	7,000	0.035	
5	Large Food Refrigerated Rooms	HCFC-22	0.055	21	75	16	45,000	0.039	
6	Food production and milk products and sausages	HCFC-22	0.055	24	75	18	90,000	0.09	
7	Ice-cream Production Refrigeration Equipment *	HCFC-22	0.055		20	-		0.15	
8	Assembly of Refrigerators	HCFC-22	0.055			-		0.12	
9	Other	HCFC-22	0.055			-		0.85	
TOTAL									1.7

6.4. TECHNICIANS AND WORKSHOPS

Estimated number of technicians that repair and maintain refrigeration equipment	750
Estimated number of workshops that repair and maintain refrigeration equipment	42

7.0

Current Situation

Armenian Republic has been totally dependent on the importation of all ODS to meet its domestic needs. The Refrigeration Sector accounts for 89.9% of the current CFC consumption in the country. The Sector includes, among others, domestic appliances, air-conditioning systems and cold storage systems.

The high consumption of CFC-12 for servicing of domestic and commercial refrigerators may be explained by the relatively old age of most of the units and the need for training of the refrigeration technicians.

Based on surveys completed in January 2002, the prices of refrigerants are as following:

Trade Name	Name	Market Price per kg Excluding Taxes	
		US \$ in January 2002	US \$ in 2000
CFC-12	CFC-12	4	2.5
R-22	HCFE-22	5	5
R-134a	HFC-134a	10	

8.0 *Elements of Action Plan in each sub sector with a precise and realistic timetable*

8.1. Justification for the activities being proposed.

The purpose of the RMP is to plan lasting improvements in the maintenance and servicing procedures currently being employed in the country, to significantly minimize the emission of all refrigerants (particularly CFC-12) and to ensure the implementation of the Action Plan of the Government aimed at phasing-out controlled substances (in this context ODS refrigerants) by the year 2009. With the proposed action plan, the Government of Armenian Republic hopes to reduce the consumption of CFC-12 to negligible amounts from the year 2009 onwards, which is four years faster than the requirements under the Montreal Protocol.

As indicated in paragraph 2, the CFC baseline for Armenian Republic is 196.5 ODP Tonnes and according recent reports, ODS consumption in Armenian Republic in 2000 has decreased to about 173 ODP Tonnes. While these results are very encouraging, they are mainly due to the economic situation in the country. With the improvement of the economic situation it is expected that the ODS consumption will increase if no actions are taken. The Government will still have to make efforts to meet its benchmark of 50% by reduction by 2005 as for Article 5 Parties. This means that the activities are needed if the Armenian Republic wants to comply with the Montreal Protocol stipulations for the 2005 reduction of 50% and 2007 reduction of 85% as for Article 5 Parties.

It should also be noted that during a recent UNDP/UNEP visit, the Government emphasized the urgent need for the activities in the Country Programme and the RMP in order to meet its obligations. With the risk of an increase in the amount of ODS imported unofficially into the country, and the unavailable know-how within customs to monitor, control and record the quantities of these chemicals entering the country, there is a real possibility to have an increased availability of CFC's on the market. Therefore the approval of further regulations on importation and consumption of ODS coupled with the activities proposed in this RMP will ensure a smooth phase-out of ODS in the Armenian Republic. Detailed justification for each proposed activity is provided in the following bullet points:

- **Legislation for the import of ODS (quota system).**
Justification: Stricter enforcement of the legislation introduced so far that imposes that individual requests for import must be cleared by the National Ozone Office and that puts limits to the amounts that can be imported.
- **Custom Training program.**
Justification: With 14 border entry points in the country and customs officers that are presently at a loss on how to monitor the import of ODS, the need for this US\$ 47 960 as part of the US\$ 252 569 for the Institutional Strengthening Project is proposed. This activity forms an integral part of all RMP.
- **Recovery and Recycling of CFC-12.**
Justification: The Commercial and Industrial sub-sector uses some 89.9% of the ODS consumed. In order to save the CFC-12 from being vented and being able to maintain the refrigeration equipment beyond the time when CFC-12 will no longer be available, it is imperative that a Recovery and Recycling be implemented as soon as possible. The proposed project will save some 27.4 ODP Tonnes of CFC-12. A US\$ 595 410 project is included. Since the price of CFC's is relatively high and labor cost is comparatively low, the incentive to recover/recycle the used refrigerant will be high.
- **Train the Trainers of Refrigeration Technicians.**
Justification: Hand in hand, with recovery/recycling operations there is an urgent need for trained technicians that specialize in the modern and proper techniques of maintenance and servicing refrigeration equipment. Train the Trainers Project in general good practices in repair and maintenance in included A modest project (US\$ 144,612) is being proposed.
- **Monitoring project.**
Justification: This small project should ensure that all activities of the RMP are correctly being implemented and followed-up. The project cost is US\$ 54,000 that will mostly be used for the services of a National Consultant that will assist the Ozone Unit.
- **Awareness and Incentive Programme for the end-users.**
Justification: a large amount of ODS is being consumed through leaks and maintenance of end-user systems in the Armenian Republic. To tackle this, an innovative type of public awareness and incentive Programme is being proposed, and is being presented jointly with this RMP. The cost of this project is US\$ 482, 369.

PROJECT TITLE		Budget
a. Institutional Strengthening Project and Capacity Building including Customs Training - UNEP		US\$ 252 569
b. Monitoring of the Activities in the RMP - UNDP		US\$ 54 000
c. Implementation of train the trainer programme and national demonstration programme. - UNEP		US\$ 144 612
d. Recovery/Recycling Programme - UNDP		US\$ 595 410
e. Awareness/Incentive Programme for Commercial /Industrial End-User Sector - UNDP		US\$ 482 369
f. SAGA - Phase-out of CFC11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment - UNDP		US\$ 170 716
TOTAL		US\$ 1 699 676

9.0 Elements of Action Plan in each sector with a precise and realistic timetable

9.1 SCHEDULE OF ACTIVITIES

Activity	2002				2003				2004				2005				2006				2007			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
a. Institutional Strengthening Project and Capacity Building including Customs Training - UNEP			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
a.i Public awareness			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
a.ii Customs Training - UNEP				X	X	X	X																	
b. Monitoring of the Activities in the RMP -UNDP																								
c. Implementation of train the trainer programme and national demonstration programme. - UNEP				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
d. Recovery/Recycling Programme - UNDP			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
e. Awareness and Incentive Programme for Commercial /Industrial End-User Sector - UNDP				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
f. SAGA - Phase-out of CFC11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment - UNDP			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Apart from the obvious use of the following table in giving dates and costs of actions, the spreadsheet will be used by the Focal Point as a follow-up tool for the activities and a tool to prioritize the actions.

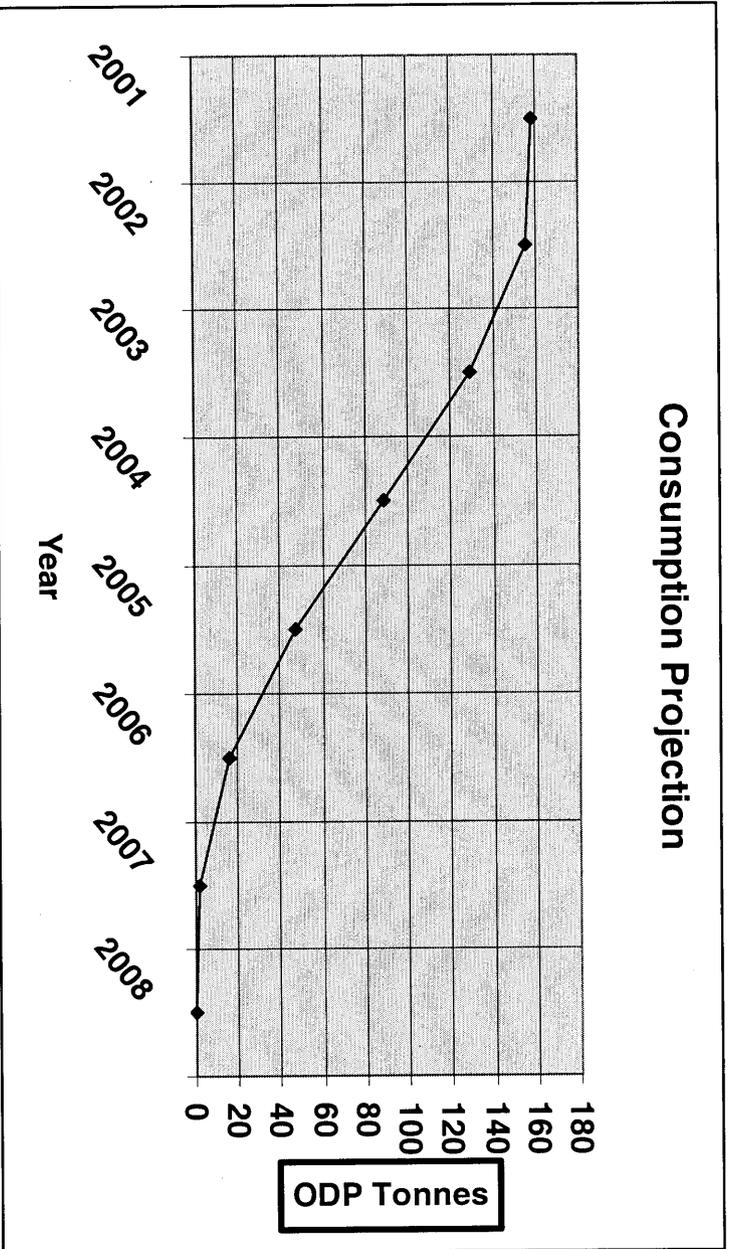
It is to be noted that the phase-out scenario shown in the following tables is a theoretical one. It does not include CFCs on the market coming from unknown sources.

9.2 Elements of Action plan in Each Sector with precise and realistic Timetable

No.	ACTION / EVENT	Budget (US\$) incl. Support cost	IMPACT OR SITUATION	DATE OF ACTION	ODP IN TONNES/YEAR	ODS REDUCED IN TONNES (cumulative - see next table)	REMAINING ODS IN TONNES
Present Consumption							
a.i	a. Institutional Strengthening Project and Capacity Building including Customs Training - UNEP	Not considered as part of RMP even though its actions will contribute to phase-out.		2002			
a.i	Public awareness		Decrease ODS use	2002-2006			
a.ii	Customs Training - UNEP		Decrease ODS use	2002-2003			
b.	Monitoring of the Activities in the RMP - UNDP	54,000	Decrease ODS use	2002-2006			
c.	Implementation of train the trainer programme and national demonstration programme. - UNEP	144,612	Improved control of Consumption as well as its reduction. Improved reporting	2002	3.0		155.51
d.	Recovery/Recycling Programme - UNDP	595,410	Its actions will accelerate phase-out in other components of RMP.	2002	27.4		127.81
e.	Awareness and Incentive Programme for Commercial /Industrial End-User Sector - UNDP	482,369	Decrease ODS use	2002	5.0		122.81
f.	SAGA - Phase-out of CFC11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment - UNDP	170,716	Decrease ODS Consumption	2002	6.0		116.81
***	TOTAL RMP Related Activities (i.e. from item through f.	1,699,676			41.4		
							158.21

No.	ACTION / EVENT	Budget incl. Support cost US\$	IMPACT OR SITUATION	CONSUMPTION OF ODS IN 2008											
				2002	2003	2004	2005	2006	2007	2008	TOTAL				
A	Institutional Strengthening Project.	Not considered as part of RMP even though its actions will contribute to phase-out.													
a.i	Public awareness		Decrease ODS use	1	1	1	1	1						5	
a.ii	Customs Training – UNEP		Decrease ODS use	1	3	4	5	2	1					16	
b.	Monitoring of the Activities in the RMP – UNDP	54,000	Decrease ODS use		1	2	3	2	1				9		
c.	Implementation of train the trainer programme and national demonstration programme – UNEP	144,612	Improved control of Consumption as well as its reduction. Improved reporting	1	2	3	3	2					11		
d.	Recovery/Recycling Programme – UNDP	595,410	Its actions will accelerate phase-out in other components of RMP.		18	25	20	15	10			2	90		
e.	Awareness and Incentive Programme for Commercial /Industrial End-User Sector – UNDP	482,369	Decrease ODS use		1	3	3	3	2			.2	12.2		
f.	SAGA – Phase-out of CFC11 & CFC-12 in the Manufacture of Commercial Refrigeration Equipment – UNDP	170,716	Decrease ODS Consumption			3	6	6					15		
SUBTOTAL:				-	3	26	3	26	41			2.2	158.2		
***	Cost to GEF	1,447,107	Remaining ODP at the end of the year	155.2	129.2	88.2	47.2	16.1	2.2			-	689.1		

Note. The consumption will be able to be eliminated by the end of 2007 with the implementation of the projects defined in this RMP. It should also be noted that the tonnage for the non-investment activities are only vague estimates of their indirect ODP-reduction impact.



10.0 Institutional framework - existing or needed

The institutional Strengthening project will start as soon as funds are received by the country. The National Ozone Office will be created and data will be collected and transmitted to the Ozone Secretariat and the Multilateral Fund Secretariat.

11.0 Project List

The list of projects was already mentioned in the executive summary, as well as in the tables of paragraph 9.2. A short justification for each activity is provided for in paragraph 8.1, and is further elaborated upon in each respective project document which forms part of this RMP.

Annex 1 – Checklist to make sure Decision 31/48 is fully taken into account.

(1) *that the project preparation phase for RMPs should, as intended by the existing guidelines, include a full survey of CFC consumption in all sub sectors, the development of a comprehensive government phase-out strategy and a commitment by the government to enact regulations and legislation required for the effective implementation of activities to phase out the use of CFC refrigerants. To enable these preparatory activities, including the development of legislation and regulations, to be completed in full, the funding provided for the project preparation phase should be double the level traditionally provided.*

The National Ozone Office in the Armenian Republic will be created as soon as funds are received for this purpose. This document was prepared following two missions by an international consultant under mandates from UNDP and UNEP. A national consultant was recruited under a MOU by UNEP to survey some end-user enterprises in the commercial and industrial refrigeration sector. The draft RMP was finalized with the National Ozone Team further to a series of discussions in the Armenian Republic.

(2) *In addition, when preparing this RMP, the following factors were duly taken into account:*

(i) *The Government of the Armenian Republic has chosen benchmarks that happen to coincide with the phase-out schedule of Article 5 Parties. Current and forecast future consumption in relation to the freeze, 50% cut in 2005, 85% cut in 2007 and phase-out in 2010 were taken into account, and the size of consumption cuts in the refrigeration sector required to meet these targets were calculated;*

The tables in paragraph 9 of the RMP shows that the various activities being proposed, together with the ongoing legislative measures, would reduce to consumption of CFC's in this sector to negligible levels from the year 2006 onwards.

(ii) *forecast cuts in consumption attributable to the activities already approved under the RMP, including training activities and recovery/recycling were included;*

There were no past approvals for Armenia.

(iii) *it was ensured to the maximum extent possible that the current and expected future consumption of all sub sectors, including the informal sector, small and medium-sized enterprises and mobile air conditioners, were included in the review;*

As described in the above paragraph (1), surveys were undertaken to make sure to the maximum extent possible that the whole sector was covered.

(iv) *for each activity identified, the cost and means of funding, including national financing was duly considered;*

Funding for each proposed activity was duly considered in paragraph 11.2 of the RMP. National financing will be provided on an "in-kind" basis only.

Annex 1 – Continued.

(v) *the RMP includes adequate provision for monitoring and reporting on progress;*

A separate request for monitoring the activities of the RMP was included in the RMP (see paragraph 11.2).

(3) *Since this RMP includes the 50% extra funding, we also made sure that*

(i) *the justification for the activities to be funded in the context of the country's national phase-out strategy is included;*

Paragraph 8.1 in the RMP provides detailed justification for each of the activities.

(ii) *a clear explanation was given of how this funding, together with the initial RMP funding and steps to be taken by the government, will ensure compliance with the Protocol's reduction steps and phase-out;*

The table in paragraph 9 in the RMP provides the link with the overall phase out schedule in this sector.

(iii) *A commitment was given to achieve, without further requests for funding for the RMP, at least the 50% reduction step in 2005 and the 85% reduction step in 2007. This shall include a commitment by the country to restrict imports if necessary to achieve compliance with the reduction steps and to support RMP activities;*

The transmittal letter from the Government states their commitment in this regard.

(iv) *a commitment was given to annual reporting of progress in implementing the RMP and meeting the reduction steps;*

The project for monitoring the RMP will ensure that this annual reporting will take place.

(v) *That it will review in 2005 whether further assistance is needed for the post-2007 period, and what assistance the Fund might consider at that time to enable full compliance with the Protocol's phase-out requirements.*

This exercise will be undertaken when the time comes.

(4) *that in lieu of the ability given to already approved RMPs to request additional funds, the total level of funding for the implementation of new RMPs could be increased by up to 50% compared to the level of RMP funding typically approved to date, with flexibility for the country in selecting and implementing the RMP components which it deems most relevant in order to meet its phase-out commitments. With the exception of the post-2007 phase noted in section A, subparagraph (d) above, no further funding beyond this level including funding for retrofits, would be considered for activities in this sector;*

The Government has fully understood this aspect, as mentioned in their letter of transmittal of the RMP.