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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty-sixth Meeting
Montreal, 4-8 July 2005

PROJECT PROPOSAL: EGYPT

This document consists of the comments and recommendation of the Fund Secretariat on the following project proposal:

Phase-out

- National CFC phase-out plan UNIDO

PROJECT EVALUATION SHEET
(MULTI-YEAR PROJECTS)
EGYPT

PROJECT TITLE	BILATERAL/IMPLEMENTING AGENCY
National CFC phase-out plan	UNIDO

NATIONAL CO-ORDINATING AGENCY:	

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

A: ARTICLE-7 DATA (ODP tonnes, 2004, as of 12 May 2005)

Annex A Group I, CFCs	1047.6	Annex B, Group II, CTC	12.1

B: PROGRAMME SECTORAL DATA (ODP tonnes, 2004, as of 13 February 2005

ODS	Foam	Ref.	MDI	ODS	Solvents	Process agent*	Total
CFC-11	28	69	44	CFC-11			141
CFC-12	-	739	104	CFC-12		40	883
CFC-113		0	4.8	CFC-113	11.2		16
CFC-115		7.62		CFC-115			7.62
TOTAL	28	815.62	152.81		11.2	40	1,047.62

*Sterilisation application

CFC consumption remaining eligible for funding (ODP tonnes)	754.5

CURRENT YEAR BUSINESS PLAN: Total funding US $1,075,000 Total phase-out 193.8 ODP tonnes

PROJECT DATA		2004	2005	2006	2007	2008	2009	2010	Total
	Montreal Protocol limits	1,668	834	834	250	250	250	0	n.a.
CFCs	Annual consumption limits	1047	822	595	240	113	49	0	n.a.
(ODP	Annual phase-out from ongoing projects	-	35	19	27	23	25	0	129
tonnes)	Annual phase-out newly addressed	40	150	182	100	41	24	0	537
	Annual reduction through institutional measures	185	42	0	0	0	0	0	227
	Annual unfunded phase-out (MDI)	-	0	154	0	0	0	0	154
TOTAL ODS CONSUMPTION TO BE PHASED-OUT		225	227	355	127	64	49	0	1,047
Total ODS consumption to be phased in (HCFCs)									
Project cost as originally submitted (US $)			992,000	1,290,850	1,149,600	183,000	183,000	0	3,798,450
Final Project costs (US$)									
	Funding for UNIDO		1,000,000	1,200,000	600,000	200,000	100,000	0	**3,100,000**
Total project funding			1,000,000	1,200,000	600,000	200,000	100,000	0	**3,100,000**
Final Support cost (US$)									
	Funding for UNIDO		75,000	90,000	45,000	15,000	7,500	0	232,500
Total support costs			75,000	90,000	45,000	15,000	7,500	0	232,500
TOTAL COST TO MULTILATERAL FUND (US$)			1,075,000	1,290,000	645,000	215,000	107,500	0	**3,332,500**
Final Project cost effectiveness (US$/kg)									5.16

FUNDING REQUEST: Approval in principle of total ODS phase-out, total project funding and total support costs, and approval of funding for first tranche (2005) as indicated above.

SECRETARIAT'S RECOMMENDATION	Individual consideration

PROJECT DESCRIPTION

1. The Government of Egypt, through UNIDO, has submitted for consideration by the Executive Committee at its 45th Meeting a National CFC Phase-out Plan (Plan). The implementation of the plan will lead to the phase-out of the remaining consumption of Annex A, Group I substances (CFCs), except for consumption in the metered dose inhaler (MDI) sector. Total CFC consumption reported under Article 7 for 2004 was 1,047.6 ODP tonnes, with consumption in the MDI sector amounting to 154 ODP tonnes. The requested cost of the plan is US $3,798,450 (excluding agency support costs). The phase-out of CFC consumption in the MDI sector is not targeted in this Plan. The phase-out strategy in the MDI sector will be developed and submitted to the Executive Committee at a later stage.

2. The historical record of CFC consumption in Egypt is presented in the following table:

CFC consumption 1993 – 2004 (ODP tonnes)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Base line	CFCs net
Annex A CFC	1,746	1,780	1,640	1,732	1,632	1,540	1,374	1,267	1,335	1,294	1,102	1,047	1,668	754

3. In accordance with Decision 35/57, taken at the 35th Meeting of the Executive Committee, the Government of Egypt accepted 784.6 ODP tonnes as the starting point to determine the remaining CFC consumption eligible for funding. Since then, a number of phase-out projects have been approved for Egypt. Currently, the maximum CFC consumption eligible for funding for Egypt stands at 754.5 ODP tonnes, as reflected in the last column of the above table.

4. According to the Montreal Protocol, the CFC reduction schedule for Egypt for compliance purposes is as follows:

Montreal Protocol reduction schedule

	2004	2005	2006	2007	2008	2009	2010
Allowable consumption (ODP tonnes)	1,668	834	834	270	270	270	0

5. Egypt has phased out all use of CFCs in the production of domestic refrigerators and freezers through the implementation of conversion projects. As at the end of 2004, the use of CFCs in the manufacturing sector is very limited. A small amount is used in the foam and solvent sector, which is currently being phased out by ongoing projects. CFCs are still used in the manufacture of commercial refrigeration systems, refrigeration servicing and in the MDI sector. The largest use of CFCs is in the refrigeration servicing sector, amounting to 797.7 tonnes in 2004.

6. The breakdown of remaining CFC consumption in Egypt is presented in the following table:

CFC consumption in Egypt in 2004

	Actual Consumption 2004				
Sector	**CFC-11**	**CFC-12**	**CF-113**	**CFC-115**	**TOTAL**
Refrigeration Servicing Sector	CFC-11	CFC-12		CFC-115	All CFCs
commercial refrigeration in service shops		203.0		12.7	215.7
domestic refrigeration in service shops		221.1			221.1
refrigerated transportation		45.0			45.0
industrial refrigeration		49.9			49.9
Chillers	30.0	180.0			210.0
MAC		56.0			56.0
subtotal	**30.0**	**755.0**		**12.7**	**797.7**
Other Sectors					
Commercial Refrigeration manufacturing	39.0	68.0			107.0
Pharmaceutical (MDI)	-	124.0	-		124.0
Foam	28.0				28.0
Solvent			-		-
Process Agent		-			-
subtotal	**67.0**	**192.0**	**-**		**259.0**
TOTAL ALL SECTORS	**97.0**	**947.0**	**-**	**12.7**	**1,056.7**
domestic refrigeration		221.1		12.7	233.8
commercial refrigeration		119.0			119.0
refrigerated transportation		45.0			45.0
industrial refrigeration		49.9			49.9
chillers	30.0	180.0			210.0
MAC		56.0			56.0
subtotal	**30.0**	**670.9**		**12.7**	**713.6**
Other Sectors					
Commercial Refrigeration manufacturing	39.0	68.0			107.0
Pharmaceutical (MDIs)	44.0	104.0	6.0		154.0
Foam	28.0				28.0
Solvent			14.0		14.0
Process Agent		40.0			40.0
subtotal	**111.0**	**212.0**	**20.0**		**343.0**
TOTAL	**141.0**	**882.9**	**20.0**	**12.7**	**1,056.6**

Refrigeration servicing subsector

7. The refrigeration servicing subsector remains the most significant CFC-consuming subsector. CFCs are used for maintenance and servicing of domestic refrigeration, commercial refrigeration, industrial refrigeration, mobile air-conditioners and chillers. The survey and

analysis performed for the Plan preparation concluded that approximately 798 tonnes of CFCs were used in servicing refrigeration equipment and systems, including industrial process cooling and large-scale chillers, with the following breakdown:

Subsector	Total Consumption 2004
commercial refrigeration in service shops	215.7
domestic refrigeration in service shops	221.1
refrigerated transportation	45.0
industrial refrigeration	49.9
chillers	210.0
MAC	56.0
Total Refrigeration Servicing Sector	**797.7**

8. In the domestic refrigeration subsector, it is estimated that in 2004 there were around 8 million CFC-based domestic refrigerators in operation. The proportion of non-CFC refrigerators is increasing rapidly due to the conversion of the manufacturing base, but approximately 800,000 to one million repairs of CFC-based units were carried out in 2004. On average, the volume of CFCs used per servicing operation is very high. The survey indicated that up to 1 kg of CFCs might be used for each servicing or repair, with the actual refrigerant charge amounting to about 120-300 g, the balance being wasted through flushing, purging and leak testing.

9. The small-scale workshops that are commonly used for these operations are poorly equipped, with very limited testing or recovery equipment, although some larger companies operate large workshops with a staff of 10-20 persons servicing various types of refrigeration equipment. It is estimated that around 24,000 people are involved on a regular basis in the servicing of domestic refrigerators involving recharging of refrigerant.

10. In commercial refrigeration servicing, CFCs are used as a refrigerant in display cabinets, food storage equipment, refrigerated transport (containers) and commercial cold storage facilities. Commercial refrigeration is crucial to Egypt, since it is primarily used for food storage and transportation. Based on a total of 2 million commercial refrigeration units in operation, about 50 percent of the total number of units is being serviced each year, giving rise to around 1 million servicing operations per annum. Typically, the refrigerant charge is between 300 g and 3 kg, although the charge varies considerably, as some units are very large. As noted above, servicing is often carried out by the same workshops and technicians that service domestic equipment, either in small workshops or on site for larger, less mobile equipment such as display cases and cold rooms. In 2004, it is estimated that about 215 tonnes of CFC-12 and CFC-115 were used in the servicing of different types of commercial refrigeration equipment.

11. Chillers are large refrigeration units used for cooling in industrial processes and for air conditioning in larger buildings, such as hospitals, hotels, commercial centres and public buildings. Most units are between 25 and 50 years old and most of them are expected to be

working beyond 2010. Maintenance levels are generally very poor and, due to frequent and significant leaks, these units are a major source of CFC demand for servicing. The survey identified around 1,000 CFC-based chillers in operation in Egypt, with overall annual consumption of 210 ODP tonnes (30 tonnes of CFC-11 and 180 tonnes of CFC-12).

12. In the mobile air-conditioning (MAC) sector, there were 325,000 licensed vehicles with CFC air-conditioning in operation in 2004, based on data provided by the transportation authorities in Egypt. The average charge for a passenger car is between 0.9 and 1.5 kg of refrigerant. The survey confirms that between 56 and 60 tonnes of CFC-12 was used in servicing MAC systems in 2004.

13. The refrigeration transportation subsector mainly includes refrigerated trucks and trains for food transportation, as well as some air-conditioned commercial vehicles. The Egyptian Railways Association consumes approximately 25 tonnes of CFC-12 a year for the servicing and maintenance of 300 air-conditioned railroad cars. In total, these operators consumed 45 tonnes of CFC-12 in 2004.

14. In the industrial refrigeration subsector, several industrial companies have been identified as using CFCs for air-conditioning and cooling fluids. In many cases, service checks are carried out at regular, often monthly, intervals to check the efficiency of cooling processes. Regular recharging is required at approximately 10% of initial charge per annum. It is estimated that 49 tonnes of CFC-12, CFC-11 and R502 were consumed in the servicing and maintenance of industrial cooling systems.

15. The survey has identified 61 small-scale commercial refrigeration manufacturers currently in operation throughout Egypt. These companies manufacture the usual range of equipment, including water coolers, freezers, display cases and cabinets. Some companies have basic foaming equipment, others mix foam by hand, and some use non-foam-based insulation, such as polystyrene. In total, 107 tonnes of CFC-11 and CFC 12 were used in the manufacture of commercial refrigerators in 2004.

16. In the foam sector, the remaining CFC consumption of 28 ODP tonnes will be phased out through the implementation of ongoing projects.

Price of refrigerants

17. The price of CFC refrigerants has been increasing in recent years. The current prices of refrigerants used in Egypt are presented in the following table:

Refrigerant	Price 13.6 kg Cylinder 13.6	Unit price US $/kg
CFC-11	70	7.2
CFC-12	80	8
HCFC-22	40	5
R-502	130	28
HFC-134a	150	10
R-404A	200	35

Refrigerant	Price 13.6 kg Cylinder 13.6	Unit price US $/kg
R407C	225	45
R-410A	250	60
R-507	120	25

Refrigeration servicing workshops

18. The number of servicing workshops is increasing rapidly and information was collected from about 189 formal and 4,541 informal shops in over 350 locations. The survey covered service shops for domestic and commercial refrigeration, mobile air-conditioners, and industrial refrigeration equipment, particularly chillers used in industry and buildings. The Plan includes the distribution of service workshops and their CFC consumption by region and city. The large majority of servicing shops operate on an informal basis. However, all data obtained through the NPP survey, including information on location, number of employees and CFC consumption pertaining to these servicing workshops have been stored in the database. The following table provides information on the total number of formal and informal workshops, with breakdown by servicing subsector.

Sub Sector	Formal	Informal
Domestic refrigeration	78	3,440
Commercial refrigeration	61	800
Mobile air- conditioners (MAC)	30	400
Industrial refrigeration	20	90
Total	**189**	**4,730**

19. A typical servicing workshop usually has 1 to 3 technicians, generally managed by the owner, with at least one of the workers having some sort of academic background or training. In general, these shops contain minimum basic servicing equipment. Approximately 65% of all workers have some type of formal skills training. The skill level is generally basic technical knowledge and practical and operational skills gained on the job. The total number of servicing technicians is estimated at about 24,000. Generally, current maintenance practice for domestic and commercial refrigeration equipment is poor, resulting in the release of significant quantities of CFCs directly into the atmosphere.

Technical institutions and training centres

20. A total of 330 institutions were identified as being able to participate in the training activities. All of the 330 institutions are currently teaching either refrigeration or air conditioning courses or both, and all of them are interested in participating in the National Training Programme for the Plan. However, there is a lack of sufficient training equipment at present.

Ongoing activities under the refrigerant management plan (RMP)

21. At its 29th Meeting, the Executive Committee approved the Refrigerant Management Plan for Egypt and allocated US $912,000 under Germany's bilateral activities. At a later stage, implementation of the RMP was taken over by UNIDO, with the agreement of the Government of Egypt. The RMP involves modifying legal provisions and the information system, establishing a national recovery and recycling network and implementing measures to address the informal refrigeration servicing sector, including training of servicing technicians.

22. The implementation of the RMP resulted in the development and introduction of legislative measures, including the establishment of the licensing system. Under the training component, 11 training centres for technicians have been established. The implementation of the refrigerant recovery and recycling component has been deferred, in line with the recommendation of the Executive Committee pending the increase in prices for CFC refrigerants. Currently, CFC prices have already increased significantly in Egypt due to import restrictions. The incentive for conserving and recycling CFCs is therefore greater than ever. UNIDO has begun implementation of the recovery and recycling programme.

General strategy for the reduction of CFC consumption

23. The objective of the Plan is to supplement ongoing activities to achieve full and final phase-out of all Annex A, Group I substances in Egypt by 2010. It gives priority to conversion of remaining enterprises in the commercial refrigeration manufacturing subsector and addressing servicing needs in domestic, commercial, industrial and transport refrigeration, mobile air-conditioning, and large chillers in hospitals, hotels, public buildings and several industrial applications.

24. The Plan provides information on CFC consumption by the remaining commercial refrigeration manufacturers and on baseline equipment. Some of them have foaming and refrigerant charging facilities, and some have only refrigerant charging equipment. The Plan proposes to assist in the conversion of these facilities to allow them to use HCFC-141b as a foam blowing agent and HFC-134a as a refrigerant, providing adequate investments for plant and process changes supported by technical assistance, trials and training. The selection of technology in foam operations was discussed between UNIDO and enterprises involved. The Plan indicates that the choice of HCFC-141b as interim technology was made following a consideration and analysis of other available alternatives (water-based and hydrocarbon-based systems) that appeared not to be suitable under the existing circumstances.

25. The phase-out in the refrigeration servicing sector will be achieved through the enhancement of ongoing activities under the RMP by:

(a) providing additional recovery and recycling equipment;

(b) establishing an incentive scheme for retrofitting industrial and commercial refrigeration systems;

(c) establishing additional training centres throughout Egypt and providing sufficient equipment for ongoing training and certification needs;

(d) additional training of trainers and provision of training of technicians; and

(e) providing supplementary technical support in the refrigeration sector as a whole.

26. Managing CFC supply and demand is an important component of the Plan, which will be implemented fully using the established licensing system and existing and future legislative measures.

27. The Plan incorporates the following CFC reduction schedule in Egypt:

	2004	2005	2006	2007	2008	2009	2010	Total
Refrigeration Servicing Sector	713.0	713.0	556.0	184.0	114.0	50.0	-	
Reduction through ongoing activities		7.0	12.0	20.0	23.0	25.0	-	87.0
Reduction through new activities		150.0	360.0	50.0	41.0	25.0		626.0
Commercial Refrigeration manufacturing	107.0	107.0	107.0	50.0	-	-	-	
Reduction through ongoing activities		-	-	-				
Reduction through new activities		-	57.0	50.0				107.0
Foam	28.0	28.0	-	-	-	-	-	
Reduction through ongoing activities		28.0	-					28.0
Reduction through new activities								-
Solvent	14.0	14.0	14.0	7.0				
Reduction through ongoing activities		-	7.0	7.0				14.0
Reduction through new activities		-	-	-				-
Process Agent	40.0							
Reduction through ongoing activities		-	-					
Reduction	40.0	-	-	-				-
MDI (not part of the NPP)*	154.0	154.0	154.0					
Reduction through ongoing activities								
Reduction through new activities**			154.0					154.0
Total reduction through ongoing activities	-	35.0	19.0	27.0	23.0	25.0	-	129.0
Total reduction through new activities	40.0	150.0	571.0	100.0	41.0	25.0	-	927.0
Total Reduction	40.0	185.0	590.0	127.0	64.0	50.0	-	1,056.0
Consumption	1,056.0	1,016.0	831.0	241.0	114.0	50.0	-	
Reduction due to Institutional activities**	185.0	50.0	-	-	-	-		235.0
Actual Consumption***	1,056.0	831.0	781.0	241.0	114.0	50.0		
Montreal Protocol limits	1,668	834	834	250	250	250	-	

*CFC phase-out in the MDI sector will be covered by a separate project
** import quota
*** including 154 ODP tonnes - MDI sector consumption

Project management

28. Overall management of the plan will be carried out by the Government of Egypt with the assistance of UNIDO. The Ozone Unit will be responsible for monitoring the implementation of the phase-out plan, for tracking the promulgation and enforcement of policy and legislation, and will assist UNIDO with the preparation of annual implementation plans and progress reports to the Executive Committee. The implementation of the phase-out plan will need to be closely aligned and coordinated with the various policy, regulatory, fiscal, awareness-raising and capacity-building actions taken by the Government of Egypt, to ensure that implementation is consistent with the Government's priorities.

Incremental costs

29. Incremental costs for the commercial refrigeration manufacturing sector plan is composed of equipment costs for the provision of new foaming machines and refrigerant charging units, vacuum pumps and leak detectors, depending on enterprises' baseline equipment. The incremental costs for CFC phase-out in the refrigeration servicing sector comprises the cost of the national refrigerant recovery and recycling scheme project enhancement and the national incentive program for retrofitting and replacement of refrigeration systems and chillers. Project management and support costs are based on the size and scale of the project required for proper coordination, and the controlling and monitoring of phase-out activities across all regions of Egypt.

30. The total requested grant is US $4,083,334, including agency support costs, to be disbursed in three funding tranches from 2005 to 2007, to make the most effective use of allocated funds. The agency support costs are 7.5% of the total project cost, i.e., US $284,884.

31. UNIDO also submitted the Draft Agreement between the Government of Egypt and the Executive Committee and the 2005-2006 annual implementation programme.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

32. The Secretariat reviewed the proposal and identified several issues associated with the presentation of information on CFC-12 consumption in the process agent sector and total remaining eligible consumption. Subsequently, UNIDO clarified that 40 ODP tonnes of CFC-12 was used in the sterilization sub-sector and made necessary corrections in the revised version of the Plan.

33. The Secretariat analysed the information on CFC consumption, production and baseline equipment presented for the 61 remaining manufacturers in the commercial refrigeration sector. This information was used in the Plan to determine eligible incremental costs to address remaining CFC consumption in this subsector. The Secretariat identified serious inconsistencies in the presented information and proposed a different approach for calculating eligible

incremental costs of the Plan, using the total remaining eligible consumption and the overall cost-effectiveness of US $5.00/kg. In the past, the Executive Committee approved nine investment projects in the domestic refrigeration sector in Egypt, including allocations for the provision of equipment to a number of servicing workshops affiliated with the nine major manufacturers of domestic refrigerators. The Executive Committee has also approved the refrigerant management plan for Egypt, which is still under implementation. The Secretariat has proposed to take into account resources provided earlier by the Multilateral Fund for the refrigeration servicing sector in Egypt, while calculating the total eligible level of grant under the proposed Plan. The total eligible incremental cost of the Plan was agreed between UNIDO and the Secretariat to be US $3,100,000, including the project management component amounting to US $300,000.

34. The Secretariat drew to UNIDO's attention the requirements of decision 27/13 of the Executive Committee in regard to HCFC-based technology to be used by some commercial refrigeration enterprises, and requested submission of a letter from the Government of Egypt indicating its commitment under Article 2E, confirming that HCFCs will be used for an interim period and further confirming the understanding that no funding would be available for the future conversion from HCFCs for these enterprises. The Secretariat was advised that the letter from the Government will be sent shortly. An addendum to this document will be issued providing the letter to the Executive Committee.

35. The Secretariat reviewed the draft agreement with the proposed reduction schedule and the 2005-2006 annual implementation programme. The Secretariat proposed several modifications to the above documents, which were accepted by UNIDO. The Draft Agreement and the 2005-2006 annual implementation programme are contained in Annexes I and II to the present document.

RECOMMENDATION

36. The Executive Committee may wish to consider:

(a) approving in principle the CFC phase-out plan for Egypt at a total level of funding of US $3,100,000 plus agency support costs of US $232,500 for UNDP;

(b) approving the Draft Agreement between the Government of Egypt and the Executive Committee contained in Annex I to the present document; and

(c) approving the funding for the first tranche of the phase-out plan at the amount of US $1,000,000, plus support costs of US $75,000 for UNIDO.

Annex I

DRAFT AGREEMENT BETWEEN EGYPT AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE PHASE-OUT OF OZONE-DEPLETING SUBSTANCES

1. This Agreement represents the understanding of Egypt (the "Country") and the Executive Committee with respect to the complete phase-out of controlled use of the ozone depleting substances set out in Appendix 1-A ("The Substances") prior to 2010, compliance with Protocol schedules.

2. The Country agrees to phase out the controlled use of the Substances in accordance with the annual phase-out targets set out in Appendix 2-A ("The Targets, and Funding") and this Agreement. The annual phase-out targets will, at a minimum, correspond to the reduction schedules mandated by the Montreal Protocol. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to the Substances.

3. Subject to compliance with the following paragraphs by the Country with its obligations set out in this Agreement, the Executive Committee agrees in principle to provide the funding set out in row 9 of Appendix 2-A ("The Targets, and Funding") to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A ("Funding Approval Schedule").

4. The Country will meet the consumption limits for each Substance as indicated in Appendix 2-A. It will also accept independent verification by the relevant Implementing Agency of achievement of these consumption limits as described in paragraph 9 of this Agreement.

5. The Executive Committee will not provide the Funding in accordance with the Funding Approval Schedule unless the Country satisfies the following conditions at least 60 days prior to the applicable Executive Committee meeting set out in the Funding Approval Schedule:

(a) That the Country has met the Target for the applicable year;

(b) That the meeting of the Target has been independently verified as described in paragraph 9; and

(c) That the Country has substantially completed all actions set out in the last Annual Implementation Programme;

(d) That the Country has submitted and received endorsement from the Executive Committee for an annual implementation programme in the form of Appendix 4-A ("Format for Annual Implementation Programmes") in respect of the year for which funding is being requested.

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A ("Monitoring Institutions and Roles") will monitor and report on that monitoring in accordance with the roles and responsibilities set out in Appendix 5-A. This monitoring will also be subject to independent verification as described in paragraph 9.

7. While the Funding was determined on the basis of estimates of the needs of the Country to carry out its obligations under this Agreement, the Executive Committee agrees that the Country may use the Funding for other purposes that can be demonstrated to facilitate the smoothest possible phase-out, consistent with this Agreement, whether or not that use of funds was contemplated in determining the amount of funding under this Agreement. Any changes in the use of the Funding must, however, be documented in advance in the Country's Annual Implementation Programme, endorsed by the Executive Committee as described in sub-paragraph 5(d) and be subject to independent verification as described in paragraph 9.

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing subsector:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation;

(b) The recovery and recycling programme for the refrigeration servicing sector will be implemented in stages so that remaining resources can be diverted to other phase-out activities, such as additional training or procurement of service tools in cases where the proposed results are not achieved, and will be closely monitored in accordance with Appendix 5-A of this Agreement.

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNIDO has agreed to be the lead implementing agency ("Lead IA"). The Lead IA will be responsible for carrying out the activities listed in Appendix 6-A including but not limited to independent verification. The country also agrees to periodic evaluations, which will be carried out under the monitoring and evaluation work programmes of the Multilateral Fund. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 10 of Appendix 2-A.

10. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in Appendix 1-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. In the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next instalment of Funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amounts set out in Appendix 7-A in respect of each ODP tonne of the amount exceeding the Maximum Allowable Total Consumption of CFCs limit (Appendix 2-A) in any one year.

11. The funding components of this Agreement will not be modified on the basis of any future Executive Committee decision that may affect the funding of any other consumption sector projects or any other related activities in the Country.

12. The Country will comply with any reasonable request of the Executive Committee and the Lead IA to facilitate implementation of this Agreement. In particular, it will provide access to the Lead IA to information necessary to verify compliance with this Agreement.

13. All of the agreements set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Protocol unless otherwise defined herein.

APPENDIX 1-A THE SUBSTANCES

1. The ozone-depleting substances to be phased out under the Agreement are as follows.

Annex	Group	Chemical
A	1	CFCs

APPENDIX 2-A THE TARGETS, AND FUNDING

	2004	2005	2006	2007	2008	2009	2010	Total
Montreal Protocol Reduction Schedule (ODP tonnes)	1,668	834	834	250	250	250	0	n.a.
1. Max allowable total consumption of CFCs (ODP tonnes)	1047	822	595	240	113	49	0	n.a.
2. Reduction from on-going projects (ODP tonnes)	-	35	19	27	23	25	0	129
3. New reduction under plan (ODP tonnes)	40	150	182	100	41	24	0	537
4. Reduction through institutional measures (ODP tonnes)	185	42	0	0	0	0	0	227
5. Unfunded phase out (MDI)	0	0	154	0	0	0	0	154
6. Total annual reduction (ODP tonnes)	225	227	355	127	64	49	0	1047
7. Lead IA agreed funding (US $)	0	1,000,000	1,200,000	600,000	200,000	100,000	0	**3,100,000**
8. Lead IA support costs (US $)	0	75,000	90,000	45,000	15,000	7,500	0	232,500
9. Total agreed funding (US $)	0	1,000,000	1,200,000	600,000	200,000	100,000	0	**3,100,000**
10. Total agency support costs (US $)	0	75,000	90,000	45,000	15,000	7,500	0	232,500
11. Total agreed grant for tranche (US$)	0	1,075,000	1,290,000	645,000	215,000	107,500	0	**3,332,500**

APPENDIX 3-A FUNDING APPROVAL SCHEDULE

1. Funding other than the payments in 2005, will be considered for approval at the last meeting of the year of the annual implementation plan.

APPENDIX 4-A FORMAT FOR ANNUAL IMPLEMENTATION PROGRAMMES

1. **Data**

Country _____

Year of plan _____

# of years completed _____

# of years remaining under the plan _____

Target ODS consumption of the preceding year _____

Target ODS consumption of the year of plan _____

Level of funding requested _____

Lead implementing agency _____

Co-operating agency(ies) _____

2. **Targets**

Target:	Reduction of			
Indicators		**Preceding Year**	**Year of Plan**	**Reduction**
Supply of ODS	Import			
	Production*			
	Total (1)			
Demand of ODS	Manufacturing			
	Servicing			
	Stockpiling			
	Total (2)			

* For ODS-producing countries

3. **Industry Action**

Sector	Consumption Preceding Year (1)	Consumption Year of Plan (2)	Reduction within Year of Plan (1)-(2)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-Out (in ODP tonnes)
Manufacturing						
Aerosol						
Foam						
Refrigeration						
Solvents						
Other						
Total						
Servicing						
Refrigeration						
Total						
GRAND TOTAL						

4. **Technical Assistance**

Proposed Activity: _____

Objective: _____

Target Group: _____

Impact: _____

5. **Government Action**

Policy/Activity Planned	Schedule of Implementation
Type of policy control on ODS import: servicing, etc.	
Public awareness	
Others	

6. **Annual Budget**

Activity	Planned Expenditures (US $)
TOTAL	

7. **Administrative Fees**

APPENDIX 5-A MONITORING INSTITUTIONS AND ROLES

1. The overall management of the plan will be carried out by the Government of Egypt with the assistance of UNIDO.

2. The Ozone Unit will be responsible for monitoring the implementation of the phase-out plan. The Ozone Unit - EEAA will be responsible for tracking the promulgation and enforcement of policy and legislation and will assist UNIDO with the preparation of annual implementation plans and progress report for the consideration of the Executive Committee.

3. The implementation of the phase-out plan will need to be closely aligned and coordinated with the various policy, regulatory, fiscal, awareness and capacity-building actions, which the Government of Egypt is taking, to ensure that the implementation is consistent with its priorities.

4. The phase-out plan for the entire refrigeration sector will be managed by a dedicated team, consisting of a coordinator to be designated by the Government and supported by the implementing agency. The policy and management support component of the phase-out plan will include the following activities for the duration of the plan:

(a) Management and co-ordination of the implementation with the various Government policy actions pertaining to the refrigeration sector;

(b) Establishment of a policy development and enforcement programme, covering various legislative, regulatory, incentive, disincentive and punitive actions to enable the Government to exercise the required mandates in order to ensure compliance by industry with the phase-out obligations;

(c) Development and implementation of training, awareness and capacity-building activities for key government departments, legislators, decision-makers and other institutional stakeholders, to ensure a high-level commitment to the objectives and obligations;

(d) Awareness creation of the phase-out plan and the Government initiatives in the refrigeration sector among consumers and public, through workshops, media publicity and other information dissemination measures;

(e) Preparation of annual implementation plans including determining the sequence of enterprise participation in planned sub-projects;

(f) Verification of ODS phase-out in completed sub-projects within the plan through plant visits and performance auditing;

(g) Establishment and operation of a reporting system of usage of ODS/substitutes by users;

(h) Reporting of implementation progress of the plan for the annual performance-based disbursement;

(i) Establishment and operation of a decentralized mechanism for monitoring and evaluation of outputs, in association with provincial regulatory environmental bodies to ensure sustainability; and

(j) Assisting in conducting an independent verification audit of ODS use in the country.

5. For the implementation of refrigeration-servicing sector activities, the Ozone Unit will be responsible for the national coordination of the entire programme and for setting up an appropriate local coordination network.

6. The following activities are envisaged and are requirements for the coordination:

(a) Reassessment and analysis of the sector after the approval of the National CFC phase-out plan (NPP);

(b) Determination of the specification of equipment to be provided by the NPP;

(c) Awareness promotion at the regional level;

(d) Ongoing monitoring of technical training including number of trainers and trainees and status of certification;

(e) Development of business criteria for refrigerant recycling centres; and

(f) Selecting service workshops for recovery and recycling equipment.

7. Non-recyclable refrigerants should be kept for further treatment at the proper site.

8. The Ozone unit under the general guidance of UNIDO will monitor the consumption data of all ODS through regional teams. Inspections at reconverted companies are foreseen to ensure that CFCs are not used after project completion. The licensing system will be a tool to monitor and ensure compliance of control measures.

9. The Government has offered and intends to provide ongoing activities and endorsement for the projects through the institutional support over the next years. This will guarantee the success of any activity approved for Egypt.

10. After the establishment of the countrywide scheme of refrigerant recovery and recycling, the monitoring activity will be initiated to know whether the project was successfully implemented and to confirm that the target CFC phase out was achieved.

11. Monitoring activity by the designated authority (e.g. Ozone Office, government agency, local environment institute) will be performed by:

(a) Establishing a system to ensure with the counterpart institute, that every recycling centre and service workshop is encouraged or obliged to report data and give information to the recovery and recycling scheme. This may be enabled through forms to be completed by recycling centres and service workshops;

(b) Setting up adequate office facilities including a computer system to collect and analyze the data;

(c) Regular communication with the counterpart institute;

(d) Occasional visits to workshops and recycling centres; and

(e) Regular communication with customs offices.

APPENDIX 6-A ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for a range of activities specified in the project document as follows:

(a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's phase-out plan;

(b) Providing independent verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the annual implementation programme;

(c) Assisting the Country in preparation of the Annual Implementation Programme;

(d) Ensuring that achievements in previous Annual Implementation Programmes are reflected in future Annual Implementation Programmes;

(e) Reporting on the implementation of the Annual Implementation Programme of the preceding year and preparing an Annual Implementation Programme for the year for submission to the Executive Committee;

(f) Ensuring that technical reviews undertaken by the Lead IA are carried out by appropriate technical experts;

(g) Carrying out required supervision missions;

(h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Annual Implementation Programme and accurate data reporting;

(i) Verification for the Executive Committee that consumption of the Substances has been eliminated in accordance with the Target;

(j) Ensuring that disbursements are made to the Country in a timely and effective manner; and

(k) Providing assistance with policy, management and technical support when required.

APPENDIX 7-A REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 10 of the Agreement, the amount of funding provided may be reduced by US $ 5,000 per ODP tonne of reductions in consumption not achieved in the year.

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Annex II

ANNUAL IMPLEMENTATION PROGRAMME

1. **Data** May 24, 2005

Country	Egypt
Year of plan	2005
# of years completed	0
# of years remaining under the plan	5
Target ODS consumption of the preceding year	1056
Target ODS consumption of the year of plan	831
Level of funding requested	US $ 1,000,000
Lead implementing agency	US $ 1,000,000
Co-operating agency(ies)	n/a

2. **Targets**

Target:	Reduction of 225 ODP MT			
Indicators		**Preceding Year**	**Year of Plan**	**Reduction**
Supply of ODS	Import	1056	831	225
	Total (1)	1056	831	225
Demand of ODS	Manufacturing	107	107	0
	Servicing	713	528	185
	Foam	28	28	0
	Solvent	14	14	0
	Process Agent	40	0	40
	MDI (not covered)	154	154	0
	Total (2)	1056	831	225

* For ODS-producing countries

3. **Industry Action**

Sector	Consumption Preceding Year (1)	Consumption Year of Plan (2)	Reduction within Year of Plan (1)-(2)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-Out (in ODP tonnes
Manufacturing						
MDI	**154**	**154**	**0**	**0**		**0**
Foam	**28**	**28**	**0**	**0**		**0**
Refrigeration	**107**	**107**	**0**	**0**		**0**
Solvents	**14**	**14**	**0**	**0**		**0**
Other	**40**	**0**	**40**	**2**		**40**
Total	**343**	**303**	**40**	**2**		**0**
Servicing						
Refrigeration	**713**	**528**	**185**	**0**	**3**	**185**
Total	**713**	**528**	**185**	**0**	**3**	**185**
GRAND TOTAL	**1056**	**831**	**225**	**2**	**3**	**225**

4. **Technical Support**

The sector phase-out plan will address the entire refrigeration sector, the industry as a whole will need to be supported through provision of a technical support component to ensure that phase-out actions and initiatives are not only technically sound but also sustainable, and consistent with Government priorities, which are to ensure industrial sustainability and, *inter alia*, prevent obsolescence. The technical support component will assist the refrigeration sector as a whole, on the following:

1. Ensuring and/or establishment of quality and performance standards for the CFC-free products and applications within the sector;
2. Interaction with the user industry to provide technology assistance for sustainability of CFC-free refrigeration applications through technical workshops and meetings;
3. Ensuring possibility for refrigeration system production equipment operators and technicians for sustaining to participate in a training program on CFC-free technologies.

This component includes possible supplementary activities for service technicians training program, which is being executed with the assistance of the RMP, by providing additional training for certified trainees.

5. **Government Action**

Policy/Activity Planned	Schedule of Implementation
Establishment of operational mechanism for management and monitoring of the phase-out plan,	Establishment of operational mechanism for management and monitoring of the phase-out plan,
Regional mechanism established	Regional mechanism established
Recovery and recycling monitoring system in place	Recovery and recycling monitoring system in place

6. **Performance Targets**

SERVICE SECTOR	Agreement with for linkage with on-going RMP projects
	Phase II of RMP underway, including selection of recipients of equipment
	Detailed plans for RMP enhancements completed
	Recovery and recycling monitoring system in place
	Detailed terms of reference for retrofit incentive programme
MANUFACTURING SECTOR	Working agreement with enterprises in the manufacturing sector
	The investment component of the plan will focus on enabling the participant enterprises to eliminate CFCs from their production activities and would comprise of the following elements:
	Assessment of the technical requirements of conversion
	Determining the scope of international and local procurement
	Technical specifications and terms of reference for procurement

7. **Annual Budget**

Activity	Planned Expenditures (US $)
Implementation of the 1st tranche (2005)	**1,000,000**
TOTAL	**1,000,000**

8. **Administrative Fees** **US$ 247,688**

9. **Milestones 2005-2010**

	Year					
Milestone	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Approval	*					
Project management						
Coordination group set up	■					
Training of national experts		■	■	■		
Monitoring	■	■	■	■	■	■
Annual reports	*	*	*	*	*	
Technical support	■	■				
Training and awareness promotion		■	■	■		
Commercial ref manufacturing programme						
Confirmation of technical requirements	■					
Grouping and Selection		■				
Tendering		■				
Implementation		■	■			
Technician Training Programme						
Train the trainer	■					
Technician training		■	■	■		
Develop CD Rom Material	■					
Recovery and recycling						
Selection of centres	■					
Determination of specification of equipment	■	■				
Equipment delivery to centres		■	■	■		
Training of centre staff		■	■	■		
Delivery of equipment to shops			■	■	■	
Incentive program for retrofitting						
Selection Criteria	■					
retrofit main users		■	■			