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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Sixty-second Meeting  
Montreal, 29 November - 3 December 2010

**PROJECT PROPOSAL: ARMENIA**

Phase-out

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

- HCFC phase-out management plan (stage I, first tranche) UNDP and UNEP

**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS**

**Armenia**

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC phase-out management plan (stage I)	UNDP (lead), UNEP

<b>(II) LATEST ARTICLE 7 DATA</b>	Year: 2009	6.8 (ODP tonnes)
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<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>							<b>Year: 2009</b>			
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption	
				Manufacturing	Serviceing					
HCFC-123										
HCFC-124										
HCFC-141b				0.8						0.8
HCFC-142b										
HCFC-22				1.4	5.4					6.8

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009 - 2010 baseline (estimate):	7.8	Starting point for sustained aggregate reductions:	7.8
<b>CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)</b>			
Already approved:	0.0	Remaining:	5.6

<b>(V) BUSINESS PLAN</b>		<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total</b>
UNDP	ODS phase-out (ODP tonnes)	0.3	0.0	0.3	0.0	0.0	0.5
	Funding (US \$)	79,163	0	93,922	0	0	173,085
UNEP	ODS phase-out (ODP tonnes)	0.5					0.5
	Funding (US \$)	173,085					173,085

<b>(VI) PROJECT DATA</b>		<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>Total</b>
Montreal Protocol consumption limits (estimate)		n/a	n/a	n/a	7.8	7.8	7.0	
Maximum allowable consumption (ODP tonnes)		n/a	n/a	n/a	7.8	7.8	7.0	
Project costs requested in principle(US \$)	UNDP	Project costs	285,359	285,358		12,121	11,515	594,353
		Support costs	21,402	21,402		909	864	44,577
	UNEP	Project costs	11,818	11,818		7,879	7,485	39,000
		Support costs	1,536	1,536		1,024	973	5,069
Total project costs requested in principle (US \$)		297,177	297,176	0	20,000	19,000	0	633,353
Total support costs requested in principle (US \$)		22,938	22,938	0	1,933	1,837	0	49,646
Total funds requested in principle (US \$)		320,115	320,114	0	21,933	20,837	0	682,999

<b>(VII) Request for funding for the first tranche (2010)</b>			
<b>Agency</b>	<b>Funds requested (US \$)</b>	<b>Support costs (US \$)</b>	<b>ODS phase-out (ODP tonnes)</b>
UNDP	285,359	21,402	0.2
UNEP	11,818	1,536	0

<b>Funding request:</b>	Approval of funding for the first tranche (2010) as indicated above
<b>Secretariat's recommendation:</b>	For individual consideration

## PROJECT DESCRIPTION

1. On behalf of the Government of Armenia UNDP, as the lead implementing agency, has submitted to the 62<sup>nd</sup> Meeting of the Executive Committee an HCFC phase-out management plan (HPMP) at a total funding level of US \$633,353 plus support costs of US \$49,646 (UNDP US \$594,353 and UNEP US \$39,000). Two stages of HCFC phase out are foreseen: Stage I for the period 2010-2015, that is covered by the current HPMP and Stage II for the period 2015-2030. The tranche being requested for approval at this meeting amounts to US \$297,177. Armenia consumes both HCFC-22 and HCFC-141b in imported pre-blended polyol.

2. The HPMP for Armenia is aimed at enabling the Government to meet its Montreal Protocol obligations for HCFC phase-out. The long-term strategy is directed to meeting the 2020 (35 per cent baseline reduction) and 2025 (67.5 per cent baseline reduction) targets. The HPMP is specifically focused on Stage I that foresees actions required to achieve the 2013 freeze at the baseline level, and the 10 per cent baseline reduction by 2015. Armenia is categorized as a low-volume-consuming country (LVCC) and historically HCFC consumption has occurred almost entirely in the refrigeration servicing sector with the exception of some consumption existing in the commercial refrigeration manufacturing sector.

### Background information

3. Armenia is a former republic of the Soviet Union that declared its sovereignty on 23 August 1990, and became an independent state a year later, on 23 September 1991. Armenia is located in the southern Transcaucasia, southwest of the Russian Federation and has a population of 3,437,000 (2007). Since 1994 Armenia has experienced uninterrupted economic growth, which over the period 2004-2008 has averaged over 10 per cent annually. However, the impact of the global recession has been reflected by a lower growth in 2008 (6.8 per cent), a negative growth in 2009 (-14.4 per cent) and an expected negative growth in 2010.

4. Armenia has ratified both the Vienna Convention and the Montreal Protocol in October 1999. The country also ratified the London and the Copenhagen Amendments in 2003 and the Montreal and the Beijing Amendments in 2008. Upon becoming a Party, the country was initially classified as a non-Article 5 country eligible to receive support from the Global Environmental Facility (GEF), but in 2002 this was changed and Armenia now operates under Article 5 of the Montreal Protocol and qualifies for assistance under the Multilateral Fund.

5. The major legal instrument that provides the basis for ODS regulation in the country is the Law on Substances that Deplete the Ozone Layer enacted in 2006, that applies restrictions on the production, import, export, and transit movement of ODS controlled under the Montreal Protocol. The law was complemented by a number of resolutions, one of which specifically established a quota system currently for Annex A and B substances. The HPMP contains a detailed description of a quota system and a licensing system, according to which permits for ODS import are issued based on the annual quotas established. Although the quota system is not currently applicable for HCFCs, their import can take place with a permit only.

6. Armenia has not received support from the Multilateral Fund for the replacement of CFCs, instead, the GEF provided the related support. Under the overall ODS phase-out programme GEF provided funding for the implementation of six sub-projects during the period of 2005-2009 that foresaw transition from CFCs to HCFCs. Armenia, however, has received support from the Multilateral Fund for the implementation of institutional strengthening and capacity building as well as the preparation of an HPMP. A number of activities were implemented in Armenia to comply with the Montreal Protocol's

control schedule for CFCs: The National Ozone Unit (NOU) was established in 2005 within the Ministry of Nature Protection; a licensing system was introduced; 112 customs officers were trained and refrigerant detection equipment supplied; 712 refrigeration technicians were trained and two training centres established; 35 enterprises in the food industry sector received incentives to undertake retrofit or replacement of their ODS-based equipment; recovery and recycling equipment was delivered<sup>1</sup>; and a number of awareness raising activities took place. The use of CFC-11 and CFC-12 was phased out at SAGA Ltd., the country's only manufacturer of refrigeration equipment through a GEF financed project, reducing the country's CFC consumption by 6.5 ODP tonnes per year; finally, the Yerevan Household Chemistry Plant's aerosol production was converted to hydrocarbon propellants, resulting in the elimination of 14.3 ODP tonnes of consumption.

### HCFC Consumption

7. Armenia neither produces nor exports ODS, and its consumption is therefore based on imports. The HPMP contains detailed information on the methodology used for estimated HCFC consumption and describes the different approaches taken. An import permit system has been recently implemented in the country. At this point in time, however, the official customs data might still be incomplete; therefore a survey based on the "bottom-up" approach was used to verify the consumption figure. As a large part of the HCFC consumption is related to servicing, the survey collected data from end-users and service providers as well as from SAGA Ltd., that also manufactures sandwich insulation panels using 141b. The survey also identified another recently established enterprise in the foam sector that manufactures sandwich panels in negligible quantities. The consumption for 2009 appears to be based predominantly on the survey and only partly on import data. However, this consumption data of 6.81 ODP tonnes (123.9 metric tonnes (mt)) of HCFC-22 has been accepted by the Government as the actual consumption, and the same data was reported in the country programme and under Article 7. The country programme also refers to the consumption of 0.83 ODP tonnes (or 7.55 mt) of HCFC-141b in pre-mixed polyols in 2009, not reported under the Article 7.

Table 1 - Consumption as reported under Article 7

HCFC-22	2005		2006		2007		2008		2009	
	ODP	MT	ODP	MT	ODP	MT	ODP	MT	ODP	MT
	3	55	3.8	69.5	4.4	80	4.8	88	6.8	123.9

8. The forecast for the use of HCFCs in the future assumes a growth by 5 per cent in 2010 and 2011, and by 8 per cent in 2012. Further growth is foreseen if no measures are taken to address both the manufacturing and servicing sectors. The baseline estimate used by Armenia has been based on this assumption, and Table 2 below shows the forecast of HCFC consumption for 2009 to 2012 as a business-as-usual scenario:

Table 2 - Forecast of HCFC consumption for the years 2009 to 2012

	2009	2010	2011	2012	Baseline
Consumption forecast incl. HCFC-141b in pre-blended polyol (ODP tonnes)	7.64	8.02	8.43	9.10	7.83
HCFC-22 (metric tonnes)	123.8	130.7	138.2	150.4	127.3
HCFC-141b in pre-blended polyol (metric tonnes)	7.5	7.5	7.5	7.5	7.5

<sup>1</sup> Seventy recovery units and 100 manual recovery pump sets were delivered to the refrigeration technicians, four sets of recycling equipment were distributed to the four recycling centres, two MAC recovery/recycling/evacuation/charging units were delivered to air conditioning service centres

### Strategy and plan for the implementation HCFC phase-out

9. The HPMP briefly presents the overall phase-out strategy for Stages I and II and provides detailed information on the activities to be implemented under Stage I, that will consist of three main components: investment, legal and regulatory action and technical capacity strengthening.

10. The investment component consists of the elimination of HCFC consumption in the manufacturing sector and development of the refrigerant management system, i.e. upgrading the country's refrigeration servicing capability. In the manufacturing sector HCFC-22 is used for the manufacture of commercial refrigerator appliances and cold rooms and HCFC-141b for the manufacture of sandwich panels, used primarily for the fabrication of commercial refrigeration equipment and general construction uses. The HCFC-22 consumption for manufacturing is 25.5 mt per year and the HCFC-141b consumption by 7.5 mt per year. Essentially all of this consumption is within a single enterprise (SAGA Ltd.) and at plant facilities located in Yerevan. The proposed project will convert the refrigeration part to HC-290 and the use of imported HCFC-141b pre-blended polyol to cyclopentane.

11. Activities in the servicing sector will start during Stage I, but also continue into the next stage of the HPMP. The primary focus of this component is to ensure that qualified technicians are equipped with adequate recovery equipment along with supporting tools and leak detection equipment. At present it is estimated that only approximately 15 per cent of the technicians are adequately equipped and have some access to only basic recovery equipment. Servicing equipment such as vacuum pumps, mani folds, gages and hoses, portable leak detectors, re-usable refrigerant charging cylinders and portable recovery machines capable of handling HCFC and HFC will be provided.

12. As a part of the legal actions to be taken the country plans to establish the quota system for HCFCs to specifically regulate their import to comply with the control measures in 2013 and 2015; strengthen the customs control and monitoring of import of HCFC and products containing HCFC, and ban the import and/or use of HCFC-141b contained in the pre-blended polyol systems after the conversion at SAGA Ltd. is completed; regarding the latter point, a letter of commitment by the Government was submitted. Additional measures such as a surcharge on HCFC imports and restriction on import of large refrigeration and air conditioning equipment using HCFC-22 might also be considered. The strengthening of technical capacity foresees a number of activities: customs training for 40 officers and development and implementation of curriculum modules for customs; training of 40 refrigeration technicians; awareness raising activities such as regular stakeholder consultation and information products dissemination; and monitoring activities.

13. The original budget submitted requested funding of US \$878,160 in one tranche. Subsequently, further discussions were undertaken, leading to a revised budget and funding schedule. The budget for the conversion at SAGA Ltd. is presented in Table 3, the overall budget in Table 4. Armenia decided to request funding for compliance with the 2013 and 2015 reduction targets.

Table 3 - Budget for the investment project

<b>Foam part</b>	
Storage and blending	107,500
Foam equipment	187,525
Training, safety audits, etc	40,000
Contingencies	33,503
Sub-total	368,528
<b>Refrigeration part</b>	
Storage and feeding	28,400
Safety-related equipment	62,850
Evacuation, leak detection	14,500
Safety audits, training, etc.	45,000
Contingencies	15,075
Sub-total	165,825
<b>Total (US \$)</b>	<b>534,353</b>
Phase-out [HCFC, mt]	33.0
Cost effectiveness [US \$/kg HCFC]	16.2

Table 4 - Overall budget

Sector	Component	Agency	Funding (US \$)
Investment activities	Manufacturing sector phase out: conversion of enterprise SAGA Ltd.	UNDP	534,353
	Development of refrigerant management system	UNDP	60,000
Legal and regulatory action, and technical capacity strengthening	Development of the legislation system	UNEP	10,000
	Customs training	UNEP	14,000
	Training in the refrigeration sector	UNEP	10,000
	Monitoring	UNEP	5,000
Total			633,353
Support costs		UNDP	44,577
		UNEP	5,069
Grand total			682,999

14. The annual implementation plan for the year 2011 foresees further improvements in the legislation system and the related funding for an expert to support the drafting, training of 40 customs officers as well as technical assistance in related information exchange, labelling standards and others, the training of 40 technicians in the refrigeration sector and the initiation of a monitoring system with related costs for monitoring experts.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

15. The Secretariat reviewed the submission of UNDP and UNEP on behalf of the Government of Armenia and undertook discussions regarding the accuracy of data, the issue of pre-blended polyol, the forecast of growth, the costs within the HPMP and investigated the climate impact.

16. At the present point in time, a licensing system for bulk HCFC imports exists, as well as a quota system for Annex A and B ODS, but not yet for HCFCs. A further legislative act, e.g. in the form of a new government resolution or an amendment to an existing one will be required to allow application of a

similar quota mechanism for HCFCs once a baseline has been established, as well as any extension of licensing and import restrictions on HCFC containing products.

17. The reported consumption data for HCFC-22 has increased in the last four years prior to 2009 by rates between 26 per cent (earlier years) and 10 per cent; in 2009 the increase as compared to 2008 was more than 40 per cent. The figures underlying this increase are not only based on customs data, but predominantly rely on a detailed bottom-up survey of the consumption in the country. While the effect on Article 7 consumption in 2009 is very significant, it is only moderate in terms of funding eligibility due to the combination of the situation of an LVC, a dominant service sector and about 20 per cent consumption in manufacturing. The methodology of determining the data is well explained, and the issues raised with the completeness of customs data are plausible. In this context, it needs to be taken into account that Armenia has a different support history for ODS phase-out, since the requirements and conditions of GEF projects and MLF projects, in particular related to government activities, differ despite similar approaches regarding eligibility.

18. The country imports HCFC-141b contained in pre-blended polyols, which has not been counted as consumption under Article 7. Decision 61/47 establishes four criteria for such cases in order to receive funding; these criteria have been addressed in the HPMP as follows:

- (a) The country included an indicative list of all foam enterprises established prior to September 2007 that used imported polyol assistance, including the amount of HCFC-141b contained therein; these were only two companies;
- (b) The country included in the starting point for aggregate reduction the amount of HCFC-141b contained in imported polyol systems; however due to the fact that the country is a low-volume-consuming country, the starting point has little effect on the future eligibility of the country;
- (c) The country has identified, as requested in the decision, all companies using HCFC-141b in pre-blended polyols. The vast majority of the pre-blended polyol is used by one company, the negligible part of the consumption by a second enterprise. The plan includes a phase-out project for the large enterprise, and the minor amounts consumed by the small enterprise will be converted without cost to the Multilateral Fund. Armenia agreed that the country's eligibility for support for the phase out of HCFC-141b would be exhausted with the funding requested under stage I of the HPMP; and
- (d) The country included in the HPMP a plan to put in place by the time that the only significant manufacturer has been converted away from pre-blended polyols, regulations banning the import of HCFC-141b pre-blended polyol systems. In addition, the country has agreed to submit a letter of commitment to that effect.

Based on the above information, the criteria in decision 61/47 on funding HCFC-141b contained in imported polyols appear to be met.

#### Climate impact

19. The Secretariat has applied the climate impact indicator to the refrigeration conversion project of SAGA Ltd.

Table 5 – Climate impact of the conversion of SAGA Ltd.

<b>Input</b>	<b>Generic</b>	
	Country	[-] Armenia
	Company data (name, location)	[-] SAGA
	Select system type	[list] Commercial refrigeration / cooling / factory assembly
	<b>General refrigeration information</b>	
	HCFC to be replaced	[-] HCFC-22
	Amount of refrigerant per unit	[kg] between 0.5 and 1.2
	No. of units	[-] 7,690
	Refrigeration capacity	[kW] between 0.455 and 1.218
	<b>Selection of alternative with minimum environmental impact</b>	
	Share of exports (all countries)	[%] 0
	<b>Calculation of the climate impact</b>	
	Alternative refrigerant (more than one possible)	[list] HC-290

**NOTE**

All data displayed is specific to the case investigated and is not generic information about the performance of one alternative; performance can differ significantly depending on the case.

<b>Output</b>	<i>Note: The output is calculated as the climate impact of the refrigerant systems in their life time as compared to HCFC-22, on the basis of the amount produced within one year. Additional/different outputs are possible</i>	
	Country	Armenia
	<b>Identification of the alternative technology with minimum climate impact</b>	
	List of alternatives for identification of the one with minimum climate impact	[Sorted list, best = top (% deviation from HCFC)] HC-600a (-14.2%) HC-290 (-10.3%) HFC-134a (-3.5%) <b>HCFC-22</b> HFC-407C (2.4%) HFC-410A (5.7%) HFC-404A (15.2%)
	<b>Calculation of the climate impact of the conversion</b>	
	<b>Alternative refrigerant 1</b>	<b>HC-290</b>
	Total direct impact (post conversion – baseline)*	[t CO2 equiv] -23,996
	Indirect impact (country)**	[t CO2 equiv] 272
	Indirect impact (outside country)**	[t CO2 equiv] 0
	Total indirect impact	[t CO2 equiv] 272
	<b>Total impact</b>	<b>[t CO2 equiv] -23,724</b>
	<b>Alternative refrigerant 2</b>	
	<b>Alternative refrigerant 2</b>	<b>HFC-134a</b>
	Total direct impact (post conversion – baseline)*	[t CO2 equiv] -5,696
	Total indirect impact (country)**	[t CO2 equiv] -2,957
	Total indirect impact (outside country)**	[t CO2 equiv] 0
	Total indirect impact**	[t CO2 equiv] -2,957
<b>Total impact</b>	<b>[t CO2 equiv] -8,653</b>	

\*Direct impact: Different impact between alternative technology and HCFC technology for the substance-related emissions.

\*\*Indirect impact: Difference in impact between alternative technology and HCFC technology for the energy-consumption-related emissions of CO2 when generating electricity.



20. The conversion of the foam sector leads to an annual reduction in the use of HCFC-141b of mt, which represents another 5,329 t of CO<sub>2</sub> equivalent emissions saved.

21. The technical assistance activities in the HPMP addressing the servicing sector, supported by the introduction of better service practices (through training of refrigeration technicians) will reduce the current amount of HCFC-22 used in the servicing sector (each kg of HCFC-22 not emitted due to better refrigeration practices results in about 1.8 CO<sub>2</sub>-equivalent tonnes saved). Additional CO<sub>2</sub>-equivalent tonnes could be avoided through retrofitting HCFC-22 based equipment to HFC-407C refrigerant which represents the most technically viable option currently available (i.e., each kg of HCFC-22 retrofitted to HFC-407C results in about 0.11 CO<sub>2</sub>-equivalent tonnes saved). If 10 per cent of the current service need of 98.4 mt of HCFC-22 is replaced with HFC-407C, the potential CO<sub>2</sub> equivalent saved could be 1,082 tonnes.

22. It is important to note that these reductions are associated with the activities being proposed in the HPMP (which are known). However, it does not take into consideration the new non-HCFC-based equipment that could be imported into the country (which is not known). In general, it can be assumed that the new refrigeration systems have been designed using more up-to-date technology (i.e., lower refrigerant charge, more robust construction, and stricter brazing procedures) than those being replaced, substantially reducing leakage rates and servicing needs.

#### Adjusted 2010-2014 business plans

23. UNDP and UNEP are requesting US \$633,353 plus support costs for meeting the 10 per cent reduction in HCFCs by 2015. The total value requested for the period 2010-2014 of US \$682,999 including support cost is US \$336,829 above the total amount in the adjusted business plan. The difference in the figures is related to the low business plan figure for the phase-out in the investment part of the HPMP, at the enterprise SAGA Ltd.; the phase-out associated with the conversion of SAGA Ltd. for HCFC-22 is about three times higher than the business plan value, and was further enlarged by the conversion of the use of imported, pre-blended polyol for manufacturing of insulation foam to pentane technology.

#### Draft agreement

24. A draft agreement between the Government of Armenia and the Executive Committee for the phase-out of consumption of HCFCs is contained in Annex I to the present document.

### **RECOMMENDATION**

25. The HPMP for Armenia is submitted for individual consideration. The Executive Committee may wish to consider:

- (a) Noting with appreciation the submission of Stage I of the HCFC phase-out management plan (HPMP) for Armenia to achieve the complete phase-out of HCFCs at an estimated total cost of US \$633,353;

- (b) Noting that the Government of Armenia agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the estimated baseline of 7.83 ODP tonnes calculated using actual consumption reported in 2009 and estimated 2010 consumption;
- (c) Approving, in principle, the HPMP for Armenia for the period 2010-2015, at the amount of US \$633,353 plus agency support costs of US \$44,577 for UNDP and US \$5,069 for UNEP;
- (d) Approving the Agreement between the Government of Armenia and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document;
- (e) Requesting the Secretariat, once the baseline data is known, to update Appendix 2-A to the Agreement to include the figures for maximum allowable consumption, to notify the Executive Committee of the resulting levels of maximum allowable consumption, and of a potential related impact on the eligible funding level with any adjustments needed being made at the submission of the next tranche; and
- (f) Approving the first implementation plan for 2010-2011, and the first tranche of the Stage I of the HPMP for Armenia at the amount of US \$285,359 plus agency support costs of US \$21,402 for UNDP and US \$11,818 plus agency support costs of US \$1,536 for UNEP.

## Annex I

### **DRAFT AGREEMENT BETWEEN ARMENIA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUROCARBONS**

1. This Agreement represents the understanding of the Government of Armenia (the “Country”) and the Executive Committee with respect to the reduction of controlled use of the ozone depleting substances (ODS) set out in Appendix 1-A (“The Substances”) to the maximum consumption allowed for 2015 under the Montreal Protocol reduction schedule with the understanding that this figure is to be revised one single time in 2011, when the baseline consumption for compliance would be established based on Article 7 data, with the funding to be adjusted accordingly, as per decision 60/44.
2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A (“The Targets and Funding”) in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A . 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 any consumption of the Substances which exceeds the level defined in row 1.2 of Appendix 2-A (maximum allowable total consumption of Annex C, Group I substances) as the final reduction step under this agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances which exceeds the level defined in rows 4.1.3 and 4.2.3 (remaining eligible consumption).
3. Subject to compliance 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 3.1 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 (the “Funding Approval Schedule”).
4. The Country will meet the consumption limits for each of the Substances as indicated in Appendix 2-A. It will also accept independent verification, to be commissioned by the relevant bilateral or implementing agency, of achievement of these consumption limits as described in sub-paragraph 5(b) 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 Targets for all relevant years. Relevant years are all years since the year in which the hydrochlorofluorocarbons phase-out management plan (HPMP) was approved. Exempt are years for which no obligation for reporting of country programme data exists at the date of the Executive Committee Meeting at which the funding request is being presented;
  - (b) That the meeting of these Targets has been independently verified, except if the Executive Committee decided that such verification would not be required;
  - (c) That the Country had submitted tranche implementation reports in the form of Appendix 4-A (the “Format of Tranche Implementation Report and Plan”) covering each previous calendar year, that it had achieved a significant level of implementation of activities initiated with previously approved tranches, and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

- (d) That the Country has submitted and received approval from the Executive Committee for a tranche implementation plan in the form of Appendix 4-A (the “Format of Tranche Implementation Reports and Plans”) covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

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

7. The Executive Committee agrees that the Country may have the flexibility to reallocate the approved funds, or part of the funds, according to the evolving circumstances to achieve the smoothest phase-down and phase-out of the Substances specified in Appendix 1-A. Reallocations categorized as major changes must be documented in advance in a Tranche Implementation Plan and approved by the Executive Committee as described in sub-paragraph 5(d). Major changes would relate to reallocations affecting in total 30 per cent or more of the funding of the last approved tranche, issues potentially concerning the rules and policies of the Multilateral Fund, or changes which would modify any clause of this Agreement. Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the Tranche Implementation Report. Any remaining funds will be returned to the Multilateral Fund upon closure of the last tranche of the plan.

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sub-sector, in particular:

- (a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and
- (b) The Country and the bilateral and implementing agencies involved will take full account of the requirements of decisions 41/100 and 49/6 during the implementation of the plan.

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. UNDP has agreed to be the lead implementing agency (the “Lead IA”) and UNEP has agreed to be cooperating implementing agency (the “Cooperating IA”) under the lead of the Lead IA in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of any of the IA taking part in this Agreement.

10. The Lead IA will be responsible for carrying out the activities of the plan as detailed in the first submission of the HPMP with the changes approved as part of the subsequent tranche submissions, including but not limited to independent verification as per sub-paragraph 5(b). This responsibility includes the necessity to co-ordinate with the Cooperating IA to ensure appropriate timing and sequence of activities in the implementation. The Cooperating IA will support the Lead IA by implementing the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA have entered into a formal agreement regarding planning, reporting and responsibilities under this Agreement to facilitate a co-ordinated implementation of the Plan, including regular co-ordination meetings. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

11. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-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. At 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 tranche 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 reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the country did not comply with this Agreement, and take related decisions. Once these decisions are taken, this specific case will not be an impediment for future tranches as per paragraph 5.

12. The Funding 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.

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

14. The completion of the HPMP and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption has been specified in Appendix 2-A. Should at that time activities be still outstanding which were foreseen in the Plan and its subsequent revisions as per sub-paragraph 5(d) and paragraph 7, the completion will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per Appendix 4-A (a), (b), (d) and (e) continue until the time of the completion if not specified by the Executive Committee otherwise.

15. 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 Montreal Protocol unless otherwise defined herein.

## APPENDICES

### APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	7
HCFC-141b	C	I	0.83

## APPENDIX 2-A: THE TARGETS, AND FUNDING

		2010	2011	2012	2013	2014	2015	Total	
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	n/a	7.83	7.83	7.05	n/a	
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	n/a	7.83	7.83	7.05	n/a	
2.1	Lead IA UNDP agreed funding (US \$)	285,359	285,358	-	12,121	11,515	-	594,353	
2.2	Support costs for Lead IA(US \$) 7.5%	21,402	21,402	-	909	864	-	44,577	
2.3	Cooperating IA UNEP agreed funding(US \$)	11,818	11,818	-	7,879	7,485	-	39,000	
2.4	Support costs for Cooperating IA(US \$) 13%	1,536	1,536	-	1,024	973	-	5,069	
3.1	Total agreed funding (US \$)	297,177	297,176	-	20,000	19,000	-	633,353	
3.2	Total support cost (US \$)	22,938	22,938	-	1,933	1,837	-	49,646	
3.3	Total agreed costs (US \$)	320,115	320,114	-	21,933	20,837	-	682,999	
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)								1.40
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)								0
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)								5.60
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this agreement (ODP tonnes)								0.83
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)								0
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)								0

## APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval not earlier than the last meeting of the year specified in Appendix 2-A.

## APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plan will consist of five parts:
  - (a) A narrative report regarding the progress in the previous tranche, reflecting on the situation of the Country in regard to phase-out of the Substances, how the different activities contribute to it and how they relate to each other. The report should further highlight successes, experiences and challenges related to the different activities included in the Plan, reflecting on changes in the circumstances in the country, and providing other relevant information. The report should also include information about and justification for any changes vis-à-vis the previously submitted tranche plan, such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes. The narrative report will cover all relevant years specified in sub-paragraph 5(a) of the Agreement and can in addition also include information about activities in the current year;
  - (b) A verification report of the HPMP results and the consumption of the substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in sub-paragraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;

- (c) A written description of the activities to be undertaken in the next tranche, highlighting their interdependence, and taking into account experiences made and progress achieved in the implementation of earlier tranches. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall plan foreseen. The description should cover the years specified in sub-paragraph 5(d) of the Agreement. The description should also specify and explain any revisions to the overall plan which were found to be necessary;
- (d) A set of quantitative information for the report and plan, submitted into a database. As per the relevant decisions of the Executive Committee in respect to the format required, the data should be submitted online. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(a) above) and the plan (see sub-paragraph 1(c) above), and will cover the same time periods and activities; it will also capture the quantitative information regarding any necessary revisions of the overall plan as per sub-paragraph 1(c) above. While the quantitative information is required only for previous and future years, the format will include the option to submit in addition information regarding the current year if desired by the country and lead implementing agency; and
- (e) An Executive Summary of about five paragraphs, summarizing the information of above sub-paragraphs 1(a) to 1(d).

#### **APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES**

1. All the monitoring activities will be coordinated and managed through the National Ozone Unit (NOU).
2. The Lead IA will have a prominent role in liaising with the NOU, the monitoring arrangements because of its mandate to monitor ODS imports, the records of which will be used as a crosschecking reference in all the monitoring programmes for the different projects within the HPMP. The Lead IA, along with the cooperating IA will also liaise with the NOU the monitoring of illegal ODS imports and exports with advisements made to the appropriate national agencies.

#### **Verification and reporting**

3. In accordance to decision 45/54 (d), the Executive Committee reserves the right for independent verification in case the Executive Committee selects Armenia for related auditing. Based on discussion with Armenia, the Lead IA should select the independent organization (auditing) to carry out the verification of the HPMP results and this independent monitoring programme.
4. The monitoring reports will be produced and verified each year, previous to the third meeting of the Executive Committee. These reports will produce the input for the yearly implementation reports required by the Executive Committee.

## **APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY**

1. The Lead IA will be responsible for a range of activities. These can be specified in the project document further, but include at least the following:

- (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) Assisting the Country in preparation of the Tranche Implementation Plans and subsequent reports as per Appendix 4-A;
- (c) Providing verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;
- (d) Ensuring that the experiences and progress is reflected in updates of the overall Plan and in future Tranche Implementation Plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;
- (e) Fulfilling the reporting requirements for the tranches and the overall Plan as specified in Appendix 4-A as well as project completion reports for submission to the Executive Committee. The reporting requirements include the reporting about activities undertaken by the Cooperating IA;
- (f) Ensuring that appropriate independent technical experts carry out the technical reviews;
- (g) Carrying out required supervision missions;
- (h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;
- (i) Co-ordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
- (j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the co-ordinating implementing agencies, the allocation of the reductions to the different budget items and to the funding of each implementing or bilateral agency involved;
- (k) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (l) Providing assistance with policy, management and technical support when required.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent organization to carry out the verification of the HPMP results and the consumption of the substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement and sub-paragraph 1(b) of Appendix 4-A.



#### **APPENDIX 6-B: ROLE OF COOPERATING IMPLEMENTING AGENCY**

1. The Cooperating IA will be responsible for a range of activities. These activities can be specified in the respective project document further, but include at least the following:

- (a) Providing policy development assistance when required;
- (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a co-ordinated sequence in the activities; and
- (c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A.

#### **APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY**

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$2,500 per metric tonne of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met.

#### **APPENDIX 8-A: SECTOR SPECIFIC ARRANGEMENTS**

None.

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