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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Sixty-first Meeting
Montreal, 5-9 July 2010

PROJECT PROPOSAL: GHANA

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

Phase-out

- HCFC phase-out management plan (phase I, first tranche) Italy/UNDP

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

COUNTRY: REPUBLIC OF GHANA
PROJECT TITLE: HCFC Phase-out Management Plan (HPMP)
IMPLEMENTING AGENCY: Italy/UNDP
NATIONAL CO-ORDINATING AGENCY: Environmental Protection Agency

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

A. ARTICLE-7 DATA 2008 AS OF MAY 2010

Annex C, Group I:	77.3
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B: COUNTRY PROGRAMME SECTORAL DATA 2009 AS OF MAY 2010

Substance	Consumption by sector (ODP tonnes)					Total
	Foam	Ref. manu.	Ref. serv.	Solvent	Other	
HCFC-22			52.9			52.9
HCFC-141b			24.4			24.4
HCFC-142b						0.0
Total	0.0	0.0	77.3	0.0		77.3

CONSUMPTION DATA (ODP tonnes)

2009-2010 baseline:	To be determined	Starting point for sustained aggregate reductions:	49.5
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CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)

Already approved:	n/a	Remaining:	32.2 ODP tonnes
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CURRENT YEAR BUSINESS PLAN:

Total funding (US \$):	392.188	Total phase-out (ODP tonnes):	6
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THE TARGETS AND FUNDING

Total cost of the Stage I of the HPMP as originally submitted	US \$1,805,000
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	Estim. Baseline	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
1.1 Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	49.5	n/a	n/a	n/a	49.5	49.5	44.5	44.5	44.5	44.5	44.5	32.2	n/a
1.2 Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	49.5	n/a	n/a	n/a	49.5	49.5	44.5	44.5	44.5	44.5	44.5	32.2	n/a
2.1 Lead IA (UNDP) agreed funding (US \$)*		282,500		233,811		206,000		156,000		101,500	51,500		1,031,311
2.2 Support costs for Lead IA (US \$)		21,188		17,536		15,450		11,700		7,613	3,863		77,348
2.3 Cooperating IA (Italy) agreed funding (US \$)*		89,250		73,250		65,000		50,000		31,250	16,250		325,000
2.4 Support costs for Cooperating IA (US \$)		11,603		9,523		8,450		6,500		4,063	2,113		42,250
2.5 Total agreed funding (US \$)		371,750		307,061		271,000		206,000		132,750	67,750		1,356,311
2.6 Total support costs (US \$)		32,790		27,058		23,900		18,200		11,675	5,975		119,598
2.7 Total agreed costs (US \$)		404,540		334,119		294,900		224,200		144,425	73,725		1,475,909
3.1 Total phase-out of HCFC-22 and HCFC-142b (used in R-406a) under this agreement (ODP tonnes)													17.3
3.2 Phase-out of HCFC-22 and HCFC-142b (used in R-406a) in previously approved projects (ODP tonnes)													0.0
3.3 Remaining eligible consumption for HCFCs													32.2

*The funding amounts would be considered for approval as per the above table, irrespective of a possible adjustment in the HCFC baseline for compliance. In 2011, the "estimated baseline" would be adjusted based on reported Article 7 data. The amounts of HCFCs to be phased-out in the period 2010-2010 would be adjusted accordingly.

FUNDING REQUEST: Approval of funding for the first tranche (2010-2011) as indicated above.

SECRETARIAT'S RECOMMENDATION:	For individual consideration
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PROJECT DESCRIPTION

1. On behalf of the Government of Ghana, UNDP, as the lead implementing agency, has submitted to the 61st Meeting of the Executive Committee an HCFC phase-out management plan (HPMP) at a total cost of US \$4,600,000 (excluding agencies support costs), as originally submitted. Of this amount, the Government of Ghana is requesting US \$1,805,000 plus agency support costs of US \$107,500 for UNDP as the lead implementing agency, and US \$48,230 for the Government of Italy as the cooperating agency, for the implementation of stage I of the HPMP. The Government of Ghana is proposing to completely phase out its HCFC consumption by 2030 (or earlier depending on the availability of mature phase-out technologies and funding availability).

Background

ODS regulations

2. ODS are regulated by the Management of ODS and Products Regulations issued in 2005. As of 1 January 2010 import of all CFCs and products containing CFCs are banned. In addition, other controls from the standpoint of energy efficiency are being used to regulate some ODS-based equipment. For example, a law has recently been passed under the Energy Efficiency Programme of the Ghana Energy Commission banning the import of all used refrigerators. Also, under the Ghana Appliance Energy Efficiency Standards and Labelling Programme, appliance manufacturers who export to Ghana and retailers who sell in Ghana are obliged to display a label on the product indicating the energy efficiency rating of the product before it is sold.

3. A draft Harmonised Regulation for the Economic Commission of West African States (ECOWAS) Member States has been developed by the Commission and is expected to be adopted by the Council of Ministers in April 2010. With the adoption of the ECOWAS Harmonised Regulation (which will be binding on all Member States), the Ozone Unit will be responsible for monitoring ODS transit transactions.

HCFC consumption

4. All HCFCs imported into Ghana are used for servicing refrigeration and air conditioning equipment. Historically, HCFC-22 was used for servicing commercial and industrial refrigeration equipment, air conditioners and chillers. Over the last few years, consumption of HCFC-based refrigerant blends, in particular R-406a (a mixture of 55 per cent of HCFC-22 (by weight), 41 per cent of HCFC-142b and 4 per cent of isobutane) has resulted in the phase-in of increasing amounts of HCFC-22, HCFC-142b and possibly HCFC-124.

5. The annual consumption of HCFCs during the 1995 to 2005 period was roughly estimated at 85 metric tonnes/year. Since 2006, a more comprehensive reporting system has been in place for imports of ODS-based refrigerants, included HCFC-based blends. From 2007, when consumption of CFC-12 was almost completely phased out in the country, the main refrigerants imported were HCFC-22, HFC-134a and R-406a. Since then, with the increasing scarcity of CFC-12 and the large stock of CFC-12-based refrigeration equipment in operation, consumption of R-406a, as a low-cost drop-in refrigerant (US \$4.27/kg), has sharply increased. Table 1 shows the 2005-2009 level of HCFC consumption in Ghana.

Table 1. HCFC level of consumption in Ghana

Year	HCFC consumption (ODP tonnes)			HCFC consumption (metric tonnes)		
	All HCFCs	HCFC-22*	HCFC-142b**	All HCFCs	HCFC-22*	HCFC-142b**
2005	7.7	7.7		140.0	140.0	
2006	21.1	21.1		197.3	197.3	
2007	19.4	18.0	1.6	350.9	326.4	24.5
2008	21.6	18.4	3.2	384.6	335.4	49.2
2009***	77.3	52.9	24.4	1,337.6	961.9	375.7

*Including the portion of HCFC-22 contained in R-406a refrigerant. In 2009, this amounted to 504 metric tonnes (27.7 ODP tonnes).

**HCFC-142b contained in R-406a refrigerant.

***Already reported under Article 7 of the Montreal Protocol.

6. The installed capacity of refrigeration and air conditioning units in the country, excluding domestic refrigeration units, was almost 1.86 million units in 2008, as shown in Table 2.

Table 2. Distribution of HCFC-22 in refrigeration systems

Type	Total units	Total charge (tonnes)		Servicing (tonnes)	
		Metric	ODP	Metric	ODP
Residential air conditioning	645,256	901.1	49.6	88.9	4.9
Commercial/air conditioning	1,210,400	1,171.1	64.4	239.2	13.2
Others*	3,726	42.2	2.3	16.3	0.9
Total	1,859,382	2,114.4	116.3	344.4	19.0

*Including cold stores, industrial refrigeration systems, chillers, road transport refrigeration and marine refrigeration units.

7. HCFC consumption in Ghana is expected to grow by 10 per cent annually until the freeze in 2013. Table 3 provides the forecast HCFC consumption up to 2012 and the estimated HCFC baseline for compliance, which has taken into consideration the expected impact of public awareness programmes proposed in the HPMP, a project on improvement of energy efficiency in the domestic refrigeration sub-sector funded by the Global Environment Facility (GEF), and the potential introduction of quotas from 2011 to restrict the annual rate of growth of HCFC imports.

Table 3. HCFC forecasted consumption and estimated baseline for compliance

Substance	2009 base year*	2012 forecast consumption	Baseline forecast
Metric tonnes			
HCFC-22 (pure)	457.9	609.5	480.8
HCFC-22 from R-406a	504.0	670.8	529.2
HCFC-142b from R-406a	375.7	500.1	394.5
Total HCFC consumption (metric)	1,337.6	1,780.4	1,404.5
ODP tonnes			
HCFC-22 (pure)	25.2	33.5	26.4
HCFC-22 from R406a	27.7	36.9	29.1
HCFC-142b from R406a	24.4	32.5	25.6
Total HCFC consumption (ODP)	77.3	102.9	81.1

(*) Reported under Article 7 of the Montreal Protocol.

HCFC phase-out strategy

8. The Government of Ghana is proposing the adoption of a staged approach to achieve the complete phase-out of HCFCs by 2030 or earlier (depending on availability of alternative technologies and funding), as shown in Table 4.

Table 4. Staged approach for the implementation of the HPMP in Ghana

HPMP	Programme description	Duration
Overarching strategy	HPMP activities integrated with a pilot project on ODS waste destruction to be undertaken in synergy with GEF-funded Energy Efficiency improvement programme in the domestic refrigeration subsector.	2010-2030 or earlier*
First stage	Implementation programme focusing on establishment of safe hydrocarbon and natural refrigerant use culture to enable their safe general long term use; activities to curb growing phase-in of HCFC-based refrigerant blends; and an incentive programme to retrofit HCFC-based equipment to environmentally sound alternatives.	2010-2014
Second stage	Implementation programme to phase-out remaining HCFC consumption based to the extent possible on the use of natural refrigerants.	2015-2030 or earlier*

* Earlier completion of the HPMP implementation programmes will be dependent upon availability of mature phase-out technologies and funds.

9. The specific activities and their proposed period of implementation are listed in Table 5. The infrastructure established during the implementation of the RMP/TPMP and the lessons learned and experience gained will be fully utilized during the implementation of the HPMP.

Table 5. Specific activities of the HPMP and proposed period of implementation

Activity	Implementation stage
Enhancement of institutional and regulatory measures	Stage 1
Public awareness	Overall plan
Norms/procedures for safe use of hydrocarbon-based refrigerants (code of good practice)	Stage 1
Training of customs officers	Overall plan
Training and certification of refrigeration technicians	Overall plan
Training for factories inspectorate and fire service (hydrocarbon safety)	Stage 1
Upgrade of refrigeration and air conditioning training centres	Stage 1
Workshops on safe/environmentally sound use of HFCs and hydrocarbon in refrigeration and air conditioning equipment	Overall plan
Establishment of recovery and hydrocarbon-conversion facilities	Stage 1 of plan
Implementation of recovery and hydrocarbon-conversion programme	Overall plan
End-users incentive programme (retrofit refrigeration and air conditioning equipment)	Overall plan
Incentives for sustainable supply of hydrocarbon-refrigerants (support to local production of refrigerant grade hydrocarbons and hydrocarbon blends)	Overall plan (following Stage 1)
Monitoring and management of the HPMP	Overall plan

10. The Government of Ghana has developed an overarching strategy to provide climate and ozone benefits through the integrated plan for energy efficiency, climate mitigation and ODS reductions for the refrigeration sector. This strategy is based on the phasing out of HCFC-22-based appliances (through the Fund); the promotion of energy efficient refrigerators through market transformation (through GEF); and a pilot project for the recovery and destruction of ODS to be funded (through the Multilateral Fund). The ODS destruction project seeks to reduce potential ODS and carbon emissions from the ODS bank.

Cost of the HPMP

11. The total overall cost of the HPMP for Ghana has been estimated at US \$4,600,000 to achieve the complete phase-out of 1,789.3 metric tonnes of HCFCs. The cost for the implementation of Stage 1 of the HPMP has been estimated at US \$1,805,000 to phase out 516.4 metric tonnes (30 ODP tonnes) of HCFCs by the end of 2014 (Table 6). Stage 1 of the HPMP is crucial to the success and cost-effective

implementation of the HPMP. It will provide the enabling environment, the legal and institutional framework, the resources and know-how for the implementation of the phase-out activities.

Table 6. Total cost of stage I of the HPMP for Ghana (US \$)

Description	UNDP (US\$)	Italy (US\$)	Total (US\$)
Establishment of the regulatory environment		60,000	60,000
Focused awareness of target groups		25,000	25,000
Training and certification for servicing technicians	245,000	198,500	443,500
Recovery/retrofit programme	573,370		573,370
End-user incentive programme	300,000		300,000
Monitoring and technical support	315,630	87,500	403,130
Total	1,434,000	371,000	1,805,000

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

12. The Secretariat reviewed the HPMP for Ghana in the context of the guidelines for the preparation of HPMPs (decision 54/39) and the criteria for funding HCFC phase-out in the consumption sector agreed at the 60th Meeting (decision 60/44).

Issues related to HCFC consumption

13. Supporting evidence for the sharp increase in consumption between 2008 and 2009 (from 384.6 metric tonnes (21.6 ODP tonnes) to 1,337.6 metric tonnes (77.3 ODP tonnes)) was provided by UNDP. This included the availability of low-cost used refrigeration and air-conditioning equipment in the market; the replacement of central air-conditioning facilities by numerous split air-conditioning units in several buildings; and better systems available for reporting HCFC consumption.

14. The substantial recent increase in HCFC consumption in the country was further discussed with the Government. UNDP confirmed that the amounts of HCFCs that were imported in 2009 were based on permits issued by the Government and verified against import records at the Chemicals Management Centre. In order to constrain the HCFC growth rate in Ghana, particularly that of R406a, the Government has decided not to issue an import permit for R406a in 2010 (and possibly in 2011 without a clear justification) to the company that imported 75 per cent of the total amount imported in 2009. The Government also intends to establish, from 1 January 2011, a quota system that would control all imports of HCFCs (including HCFC-based blends) more tightly. Public information material on this matter has already been prepared and will be disseminated through relevant communication channels. Implementation of the above-mentioned activities would result in lower levels of HCFC consumption as originally forecasted, e.g., the HCFC consumption in 2012 could be 1,042 metric tonnes (59.9 ODP tonnes), instead of 1,708.4 metric tonnes (102.9 ODP tonnes).

Starting point for aggregate reduction in HCFC consumption

15. The starting point for sustained aggregate reduction in HCFC consumption selected by the Government in the HPMP proposal was the 2009 consumption of 77.3 ODP tonnes. Given the sharp increase in consumption of HCFCs over a one-year period, and following further consultations, the Government of Ghana agreed to establish its starting point based on the average consumption forecast for 2009 and 2010. For this calculation, the Government considered 1,337.6 metric tonnes (77.3 ODP tonnes) of HCFCs as the amount reported under Article 7 for 2009, and 384.7 metric tonnes (21.7 ODP tonnes) representing the HCFC consumption in 2008. On this basis, the starting point for sustained aggregate reduction in HCFC consumption is 49.5 ODP tonnes (861.15 metric tonnes).

Technical and cost issues

16. Issues related to the establishment of a legal framework for the management of HCFCs, and the proposed activities for upgrading the refrigeration demonstration centres, were addressed satisfactorily. UNDP and the Government of Italy indicated that the purpose of the legal framework is to institute an enabling environment for the safe use of hydrocarbon and other natural refrigerants and to provide legal support for the phase-out of HCFCs. The HPMP also includes on-site training of local technicians in a country where the use of hydrocarbon-based refrigerants is well established, in order to assist in establishing and enforcing the norms, regulations, and code of practice. The current training centre focuses mainly on servicing domestic refrigerators and freezers. However, with the expansion into the air conditioning and larger HCFC-22 refrigeration units, there is a need to expand the training to cover these sub-sectors.

17. The total level of funding for the implementation of the HPMP has been agreed at US \$3,875,175 excluding agencies support costs (Table 7), which is based on the adjusted starting point for sustained aggregate reduction in HCFC consumption (861.15 metric tonnes) and a cost effectiveness of US \$4.50/metric kg (as per decision 60/44). This level of funding would not be adjusted once the HCFC baseline for compliance is calculated on the basis of the HCFC consumption levels reported under Article 7 in 2010.

Table 7. Agreed level of funding of Stage 1 of the HPMP for Ghana (US \$)

Description	UNDP (US\$)	Italy (US\$)	Total (US\$)
Establishment of the regulatory environment		60,000	60,000
Focused awareness of target groups		25,000	25,000
Training and certification for servicing technicians	240,000	160,000	400,000
Recovery/retrofit programme	450,000		450,000
End-user incentive programme	220,000		220,000
Monitoring and technical support	121,311	80,000	201,311
Total	1,031,311	325,000	1,356,311

18. After further consultations, UNDP reported that the Government of Ghana had agreed to extend the implementation of Stage 1 of the HPMP up to 2019 instead of 2015 as originally submitted, to meet the 35 per cent HCFC reduction step in 2020, to distribute the total level of funding over a longer period of time, and to allow for the implementation of technical assistance activities, such as retrofits or HCFC recovery/recycling operations, over a longer period of time. The distribution of the HCFC phase-out targets and the funding levels over the 2010-2019 period is shown in the project evaluation sheet. In 2018-2019, the Government will submit a request for funding Stage 2 of the HPMP.

Impact on the climate

19. The two potential refrigerants to be used for retrofitting the existing HCFC-22-based equipment in Ghana are HFC-134a and hydrocarbon-based refrigerants. Based only on the global warming potential (GWP) of these refrigerants, the phase-out of 482.2 metric tonnes (27.7 ODP tonnes) of HCFCs to meet the 2020 control target in Ghana (Stage 1 of the HPMP), would have a positive impact on the climate as shown in Table 8. The magnitude of the impact would depend on the amounts of each refrigerant that will be used to replace HCFCs.

Table 8. Potential impact on the climate associated with Stage 1 of the HPMP

Parameter	HCFC-22	HCFC-142b	HFC-134a	Hydrocarbon
Amount of refrigerant (tonnes)	363.2	119.0	482.2	482.2
GWP	1,780.0	2,270.0	1,300.0	25.0
CO ₂ -eq (tonnes/year)	646,496	270,130	626,860	12,055
CO ₂ -eq reductions compared to HCFCs (tonnes/year)			(289,766)*	(904,571)**

(**) Assuming that all HCFCs are replaced by HFC-134a.

(***) Assuming that all HCFCs are replaced by hydrocarbon-based refrigerant.

20. Reduction in leakage rates due to better practices or reductions in the amount of alternative refrigerant used during servicing have not been taken into consideration. Once Stage 1 of the HPMP for Ghana is implemented, the estimated amount of CO₂ that would be emitted into the atmosphere would be lower than that of the baseline (i.e., HCFC-based refrigeration equipment). Further reductions in CO₂ emissions could be achieved through the introduction of good refrigeration service practices resulting in lower amounts of refrigerant being vented into the atmosphere during equipment operation and maintenance.

Adjusted 2010-2014 business plans

21. Table 9 shows the level of funding and amounts of HCFCs to be phased out according to the adjusted 2010-2014 business plan of the Multilateral Fund. The level of funding requested for the implementation of the Stage 1 of the HPMP is lower than in the adjusted business plan (i.e., US \$733,441 lower), since the Government agreed to extend the implementation until 2020.

Table 9. Adjusted 2010-2014 business plan of the Multilateral Fund

Agency	2010	2011	2012	2013	2014	Total
Funding (US\$)						
UNDP	392,000	331,000	334,000	416,000	68,000	1,541,000
Italy	226,000	-	-	-	-	226,000
Total	618,000	331,000	334,000	416,000	68,000	1,767,000
Phase-out (ODP tonnes)						
UNDP	6.0	5.1	5.1	6.4	1.0	23.6
Italy	2.3					2.3
Total	8.3	5.1	5.1	6.4	1.0	25.9

22. Through UNDP-GEF, the Government of Ghana submitted a project proposal to promote appliance energy efficiency and transformation of refrigeration equipment which is at the end of life (early-retirement schemes) at a cost of US \$1,722,727. The project aims to improve the energy efficiency of appliances marketed and used in the country through the introduction of a combination of regulatory and innovative economic tools, and is part of the overarching strategy proposed in the HPMP. The Chief Executive Officer of the GEF has already cleared the project identification form, as the first step for approval of the project. UNDP has indicated that it is considering sending the project to the GEF Secretariat in June 2010 for its endorsement by the Chief Executive Officer, as the second approval step. In this particular case, the GEF proposal could be considered as co-financing the climate-related aspects of the HPMP of Ghana. UNDP however pointed out that it may be very difficult to replicate this approach in other Article 5 countries.

Draft agreement

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

RECOMMENDATION

24. The HPMP for Ghana is submitted for individual consideration. The Executive Committee may wish:

- (a) To note with appreciation the submission of the HCFC management plan (HPMP) for Ghana to achieve the complete phase-out of HCFCs at an estimated total cost of US \$3,875,175 (excluding agency support costs);
- (a) To note that the Government of Ghana agreed at the 61st Meeting to establish as its starting point for sustained aggregate reduction in HCFC consumption the consumption based on the average consumption forecast for 2009 and 2010 (49.5 ODP tonnes);
- (b) To approve, in principle, Stage 1 of the HPMP for Ghana for the period 2010-2019, at the amount of US \$1,031,311 plus agency support costs of US \$77,348 for UNDP, and US \$325,000 plus agency support costs of US \$42,250 for Italy;
- (c) To approve the Agreement between the Government of Ghana and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document;
- (d) To request the Secretariat, once the baseline data is known, to update Appendix 2-A to the Agreement with the figures for maximum allowable consumption, and to notify the Executive Committee of the resulting levels of maximum allowable consumption accordingly;
- (e) To approve the first implementation plan for 2010-2011, and the first tranche of Stage 1 of the HPMP for Ghana at the amount of US \$282,500 plus agency support costs of US \$21,188 for UNDP, and US \$ 89,250 plus agency support costs of US \$11,603 for Italy.

Annex I

DRAFT AGREEMENT BETWEEN GHANA 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 Ghana (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 a sustained level as set out in Appendix 2-A (the “Targets and Funding”). This would correspond to 32.2 ODP tonnes prior to 1 January 2020 in compliance with Montreal Protocol schedules, with the understanding that this figure is to be revised one single time in 2011, when the HCFC baseline consumption for compliance would be established based on Article 7 data.

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. 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 as corresponding to the reduction step under this agreement for all ODS specified in Appendix 1-A, and in respect to any consumption of the substances which exceeds the level defined in row 3.1.

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 2.5 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 implementing agency (IA) 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 hydrochloroflurocarbons phase-out management plan (HPMP) was approved when an 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 has substantially completed all actions set out in the previous tranche implementation plan and submitted a tranche implementation report in the form of Appendix 4-A (the “Format of Tranche Implementation Report and Plan”) for each previous calendar year; and

- (d) That the Country has submitted and received endorsement from the Executive Committee for a tranche implementation plan in the form of Appendix 4-A (the “Format of Tranche Implementation Report and Plan”) for 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 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 sub-paragraph 5(b).

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 have the flexibility to reallocate the approved funds, or part of the funds, according to the evolving circumstances to achieve the goals prescribed under this Agreement. Reallocations categorized as major changes must be documented in advance in the next tranche implementation plan and endorsed by the Executive Committee as described in sub-paragraph 5(d). 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 that the:

- (a) Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and
- (b) Country and the implementing agencies 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 Italy 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 being responsible for carrying out the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA will enter 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 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.

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), 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	35.7
HCFC-142b	C	I	13.8
Total	C	I	49.5

APPENDIX 2-A: THE TARGETS, AND FUNDING

		Estim. Baseline	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	49.5	n/a	n/a	n/a	49.5	49.5	44.5	44.5	44.5	44.5	44.5	32.2	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	49.5	n/a	n/a	n/a	49.5	49.5	44.5	44.5	44.5	44.5	44.5	32.2	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)*		282,500		233,811		206,000		156,000		101,500	51,500		1,031,311
2.2	Support costs for Lead IA (US \$)		21,188		17,536		15,450		11,700		7,613	3,863		77,348
2.3	Cooperating IA (Italy) agreed funding (US \$)*		89,250		73,250		65,000		50,000		31,250	16,250		325,000
2.4	Support costs for Cooperating IA (US \$)		11,603		9,523		8,450		6,500		4,063	2,113		42,250
2.5	Total agreed funding (US \$)		371,750		307,061		271,000		206,000		132,750	67,750	371,750	1,356,311
2.6	Total support costs (US \$)		32,790		27,058		23,900		18,200		11,675	5,975	32,790	119,598
2.7	Total agreed costs (US \$)		404,540		334,119		294,900		224,200		144,425	73,725	404,540	1,681,311
3.1	Total phase-out of HCFC-22 and HCFC-142b (used in R-406a) under this agreement (ODP tonnes)													17.3
3.2	Phase-out of HCFC-22 and HCFC-142b (used in R-406a) in previously approved projects (ODP tonnes)													0.0
3.3	Remaining eligible consumption for HCFCs													32.2

*The funding amounts would be considered for approval as per the above table, irrespective of a possible adjustment in the HCFC baseline for compliance. In 2011, the "estimated baseline" would be adjusted based on reported Article 7 data. The amounts of HCFCs to be phased-out in the period 2010-2010 would be adjusted accordingly.

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

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

APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORT AND PLAN

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 year 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 online into a database, as per the relevant decisions of the Executive Committee in respect to the format required. This quantitative information, to be submitted by calendar year, 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 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, which is included within this HPMP.
2. The Lead IA will have a particularly prominent role in the monitoring arrangements because of its mandate to monitor ODS imports, whose records will be used as a crosschecking reference in all the monitoring programmes for the different projects within the HPMP. This organization, along with the cooperating IA will also undertake the challenging task of monitoring illegal ODS imports and exports with advisements made to the appropriate national agencies through the National Ozone Office.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for a range of activities to be 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) Assisting the Country in preparation of the tranche Implementation Plan and subsequent report 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; this responsibility includes the reporting about activities undertaken by the Cooperating IA.
- (f) Ensuring that appropriate independent technical experts carry out the technical reviews undertaken by the Lead IA;
- (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) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (k) 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:
- (a) Provide policy development assistance when required;
 - (b) Assist the Country in the implementation and assessment of the activities funded for by the Cooperating IA, and refer to the Lead IA to ensure a co-ordinated sequence in the activities; and
 - (c) Provide 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 \$50,000 per ODP tonne of reductions in consumption not achieved in the year.