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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Seventy-second Meeting  
Montreal, 12-16 May 2014

**UNDP's WORK PROGRAMME FOR 2014**

## COMMENTS AND RECOMMENDATION OF THE FUND SECRETARIAT

1. UNDP is requesting approval from the Executive Committee of US \$3,142,897 for its 2014 work programme, plus agency support costs of US \$220,003 listed in Table 1. The submission is attached to this document.

**Table 1: UNDP's Work Programme for 2014**

Country	Activity/Project	Amount Requested (US \$)	Amount Recommended (US \$)
<b>SECTION A: ACTIVITIES RECOMMENDED FOR BLANKET APPROVAL</b>			
<b>A1: Renewal of institutional strengthening projects</b>			
Ghana	Institutional strengthening renewal (phase XI)	139,100	139,100
India	Institutional strengthening renewal (phase X)	373,230	373,230
Iran (Islamic Republic of)	Institutional strengthening renewal (phase X)	173,511	173,511
Sri Lanka	Institutional strengthening renewal (phase X)	134,056	134,056
Subtotal for A1		819,897	819,897
Agency support costs (7 per cent for institutional strengthening):		57,393	57,393
Total for A1		877,290	877,290
<b>A2: Project preparation</b>			
Brazil	Preparation of a HCFC phase-out management plan (stage II)	50,000	50,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	150,000	150,000
Colombia	Preparation of a HCFC phase-out management plan (stage II)	75,000	75,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	150,000	150,000
	Preparation for HCFC phase-out investment activities (stage II) (refrigeration and air-conditioning manufacturing sectors)	50,000	50,000
Dominican Republic (the)	Preparation of a HCFC phase-out management plan (stage II)	60,000	60,000
India	Preparation of a HCFC phase-out management plan (stage II)	50,000	50,000
	Preparation for HCFC phase-out investment activities (stage II) (polyurethane (PU) foam sector)	120,000	120,000
	Preparation for HCFC phase-out management plan (stage II) (extruded polystyrene (XPS) foam sector)	40,000	40,000
	Preparation for HCFC phase-out management plan (stage II) (refrigeration sector)	120,000	120,000
	Preparation for HCFC phase-out management plan (stage II) (air-conditioning sector)	120,000	120,000
Indonesia	Preparation of a HCFC phase-out management plan (stage II)	90,000	90,000
	Preparation for HCFC phase-out investment activities (stage II) (fire-fighting manufacturing sector)	50,000	50,000
Iran (Islamic Republic of)	Preparation of a HCFC phase-out management plan (stage II)	45,000	45,000
	Preparation for HCFC phase-out investment activities (stage II) (refrigeration sector)	25,000	25,000
	Preparation for HCFC phase-out investment activities (stage II) (air-conditioning sector)	25,000	25,000
Kyrgyzstan	Preparation of a HCFC phase-out management plan (stage II)	20,000	20,000

Lebanon	Preparation of a HCFC phase-out management plan (stage II)	70,000	70,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	20,000	20,000
	Preparation for HCFC phase-out investment activities (stage II) (refrigeration and air-conditioning sectors)	60,000	60,000
Malaysia	Preparation of a HCFC phase-out management plan (stage II)	65,000	65,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	150,000	150,000
	Preparation for HCFC phase-out investment activities (stage II) (refrigeration sector)	50,000	50,000
	Preparation for HCFC phase-out investment activities (stage II) (air-conditioning sector)	50,000	50,000
Nigeria	Preparation of a HCFC phase-out management plan (stage II)	90,000	90,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	80,000	80,000
Panama	Preparation of a HCFC phase-out management plan (stage II)	60,000	60,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	80,000	80,000
Republic of Moldova (the)	Preparation of a HCFC phase-out management plan (stage II)	20,000	20,000
Timor-Leste	Preparation of a HCFC phase-out management plan (stage II)	10,000	10,000
Uruguay	Preparation of a HCFC phase-out management plan (stage II)	60,000	60,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	68,000	68,000
Venezuela (Bolivarian Republic of)	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	150,000	150,000
	Subtotal for A2	2,323,000	2,323,000
Agency support costs (7 per cent for project preparation):		162,610	162,610
	Total for A2	2,485,610	2,485,610
	Grand Total (A1 and A2):	3,362,900	3,362,900

## SECTION A: ACTIVITIES RECOMMENDED FOR BLANKET APPROVAL

### A1: Institutional strengthening

#### Project description

2. UNDP submitted the requests for the renewal of the institutional strengthening (IS) projects for the countries listed in Table 1. The description for these projects is presented in Annex I to this document.

#### Secretariat's comments

3. The Secretariat reviewed the IS terminal reports and action plans submitted by UNDP on behalf of the above-mentioned Governments and noted that these countries are in compliance with the ODS phase-out targets under the Montreal Protocol. The Secretariat took into account decision 61/43<sup>1</sup> in considering these requests.

<sup>1</sup> The Executive Committee decided *inter alia* to maintain funding for IS support at current levels, and to renew IS projects for the full two-year period from the 61<sup>st</sup> meeting, taking into account decisions 59/17 and 59/47(b) that allowed Article 5 Parties to submit their IS projects as stand-alone projects or within their HCFC phase-out management plans, and to approve the revised format for IS renewals with the identified objectives and indicators, to be used for requests for renewal of IS projects submitted to the 62<sup>nd</sup> meeting and onwards (decision 61/43).

## Secretariat's recommendations

4. The Secretariat recommends blanket approval of the IS renewal requests for Ghana, India, Iran (Islamic Republic of) and Sri Lanka at the level of funding indicated in Table 1 of this document. The Executive Committee may wish to express to the aforementioned Governments the comments which appear in Annex II to this document.

## A2: Project preparation for HCFC phase-out management plans/HCFC phase-out investment projects (stage II)

### Project description

5. UNDP submitted requests for 15 countries for the preparation of stage II of HCFC phase-out management plans (HPMPs) and HCFC phase-out investment activities as lead or cooperating implementing agency as shown in Table 1. UNDP is the lead implementing agency for all of these countries, except for Timor Leste (UNEP<sup>2</sup>) and Venezuela (Bolivarian Republic of) (UNIDO<sup>3</sup>). The details of the activities that will be undertaken during the project preparation processes for the latter two countries are described in the work programmes of the lead implementing agencies.

6. In the case of Brazil, Colombia, India, Indonesia, Iran (Islamic Republic of), Kyrgyzstan, the Republic of Moldova, Nigeria, Timor Leste and Venezuela (Bolivarian Republic of), these requests are in addition to what is being sought by UNEP, UNIDO, the Government of Germany<sup>4</sup> and the World Bank<sup>5</sup> for other HCFC manufacturing sectors, as relevant. For the Dominican Republic, Lebanon, Malaysia, Panama and Uruguay, UNDP is the only agency requesting funding for stage II of the HPMP.

7. UNDP provided descriptions of the activities to support the requests for project preparation for each individual country listed above, particularly for those where it is the lead implementing agency. The submissions included a progress report on the implementation of stage I of the HPMP (where relevant, the progress of implementation was linked to tranches of the HPMP being submitted to the 72<sup>nd</sup> meeting, i.e. for Brazil and Iran (Islamic Republic of)); information and justification for the requested project preparation funding as well as a list of activities and the corresponding budgets.

8. The requests cover preparation funding as follows:

- (a) For Brazil, US \$90,000 for the overarching strategy (US \$30,000 for the Government of Germany, US \$50,000 for UNDP and US \$10,000 for UNIDO), and US \$300,000 for the investment component (US \$150,000 for the foam sector for UNDP, and US \$150,000 for the refrigeration sector for UNIDO);
- (b) For Colombia, US \$90,000 for the overarching strategy (US \$15,000 for the Government of Germany and US \$75,000 for UNDP), and US \$200,000 for the investment component (US \$150,000 for the foam and US \$50,000 for the refrigeration sectors for UNDP);
- (c) For the Dominican Republic, US \$60,000 for the overarching strategy;
- (d) For India, US \$90,000 for the overarching strategy (US \$20,000 for the Government of Germany, US \$50,000 for UNDP and US \$20,000 for UNEP) and US \$400,000 for the investment component (US \$120,000 for the PU foam, US \$40,000 for XPS foam,

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<sup>2</sup> UNEP/OzL.Pro/ExCom/72/15

<sup>3</sup> UNEP/OzL.Pro/ExCom/72/16

<sup>4</sup> UNEP/OzL.Pro/ExCom/72/13

<sup>5</sup> UNEP/OzL.Pro/ExCom/72/17

US \$120,000 for the refrigeration, and US \$120,000 for the air-conditioning sectors for UNDP);

- (e) For Indonesia, US \$90,000 for the overarching strategy for UNDP and US \$200,000 for the investment component (US \$50,000 for the firefighting sector for UNDP, and US \$150,000 for the foam sector for the World Bank);
- (f) For Iran (Islamic Republic of), US \$90,000 for the overarching strategy (US \$20,000 for the Government of Germany, US \$45,000 for UNDP and US \$25,000 for UNEP), US \$125,000 for the investment component (US \$75,000 for the foam sector for the Government of Germany, and US \$50,000 for the refrigeration and air-conditioning sector for UNDP);
- (g) For Kyrgyzstan, US \$30,000 for the overarching strategy (US \$20,000 for UNDP and US \$10,000 for UNEP);
- (h) For Lebanon, US \$70,000 for the overarching strategy, and US \$80,000 for the investment component (US \$20,000 for the foam sector and US \$60,000 for the refrigeration sector for UNDP);
- (i) For Malaysia, US \$65,000 for the overarching strategy and US \$250,000 for the investment component (US \$150,000 for the foam and US \$50,000 for the refrigeration and US \$50,000 for the air-conditioning sectors for UNDP);
- (j) For Nigeria, US \$90,000 for the overarching strategy and US \$230,000 for the investment component (US \$80,000 for the foam sector for UNDP and US \$150,000 for the refrigeration and air-conditioning sector for UNIDO);
- (k) For Panama, US \$60,000 for the overarching strategy and US \$80,000 for the foam sector for UNDP;
- (l) For the Republic of Moldova, US \$30,000 for the overarching strategy (US \$20,000 for UNDP and US \$10,000 for UNEP); and
- (m) For Uruguay, US\$60,000 for the overarching strategy and US\$68,000 for the foam sector for UNDP.

9. The total funding requested for these countries are within the limits set by decision 71/42(d), (f) and (g) based on their remaining eligible HCFC consumption.

10. UNDP also requested preparatory funding for specific components of the HPMP stage II preparation for Timor-Leste (US \$10,000 for the overarching strategy) and Venezuela (Bolivarian Republic of) (US \$150,000 for the foam sector) where it is the cooperating agency.

#### **Secretariat's comments**

11. In reviewing these requests, the Secretariat took into account the guidelines for funding the preparation of stage II of the HPMPs for Article 5 countries as contained in decision 71/42 and undertook an extensive review of the approved stage I of the HPMPs and the status of the implementation of the tranches as at the preparation of the present document. Detailed comments seeking clarification on the information submitted to support the project preparation requests were provided and substantive discussions were held to understand both the required activities for stage II and funding being requested.

12. For all countries requesting funding for project preparation for investment activities, the Secretariat required further explanation on the activities that would be undertaken for stage II in these

sectors particularly if these had already been funded in stage I of the HPMP, a clarification on the division of funding among implementing agencies and assurances that preparatory work did not overlap, and a clear demonstration that there was substantial progress in the implementation of stage I of the HPMP.

13. In the case of Brazil, the Secretariat was concerned about the lack of substantial progress in the implementation of stage I of the HPMP. This was demonstrated in the review of its tranche request submitted to the 72<sup>nd</sup> meeting but subsequently withdrawn as it appears that disbursement did not meet the 20 per cent threshold. UNDP acknowledged that disbursement for the last tranche was low and attributed this to administrative changes instituted with the direct implementation modality used in Brazil which resulted in long delays in disbursements. However, this situation has now been satisfactorily resolved and UNDP provided reassurance that no further delays will be encountered in the implementation of stage I of the HPMP. UNDP had further indicated that while disbursement for stage I was slow, substantial progress could be demonstrated by a number of activities that had been completed which included: signing contracts with 9 out of the 10 beneficiary systems houses, and 11 out of the 12 individual companies; and progress in the evaluation and development of new formulations for systems houses which would contribute to the conversion of end-users in the foam sector.

14. UNDP also emphasized that the preparation of stage II of the HPMP for Brazil is a large and complicated task and also includes the refrigeration and air-conditioning manufacturing sector to be implemented by UNIDO. This sector had limited information available from stage I and is made up of a large number of manufacturing enterprises which are scattered throughout the country. The level of funding for the project preparation was also agreed with the Secretariat. In view of these explanations, the Secretariat agreed that the project preparation for stage II of the HPMP could be submitted to the 72<sup>nd</sup> meeting.

15. With regard to India, UNDP provided a detailed breakdown of the funds associated with the project preparation funding requested and clearly delineated responsibilities among implementing agencies. UNDP also explained that costs have been rationalized among the implementing agencies by combining stakeholder consultations and finalization workshops for stage II. It also provided an explanation on the overall focus for stage II which included updating country information based on market structure changes, technology evolution and analysis of other issues that would impact the phase-out in every sector.

16. For Indonesia, the Secretariat raised the issue of why the funding requested for each manufacturing sector, in particular the foam sector (to be prepared by the World Bank) was at the maximum level allowed in decision 71/42 when this sector was fully developed in stage I. An explanation was provided which is included in the work programme of the World Bank<sup>6</sup>. In addition, the Secretariat also asked about the request for project preparation for investment projects in the firefighting sector, taking into account that in stage I, this sector was already covered and the proposed approach identified was technical assistance to those enterprises manufacturing fire-fighting equipment. UNDP clarified that stage I only covered an overview of the sector and that the document had also indicated that this will be addressed in stage II. The Government of Indonesia is keen to work with the enterprises in this sector and ensure the phase-out of HCFCs.

17. In the case of Lebanon, the Secretariat noted that the 2012 consumption of HCFC-22 had increased, and asked UNDP for an explanation, taking into account that 2013 is the freeze year. UNDP replied that the main factor influencing this increase is the high demand for air-conditioning and refrigeration equipment in the country as it has become more affordable. It confirmed however, that the Government is ensuring control of growth of HCFC-22 consumption through a constrained strategy which includes strict monitoring of imports and quotas. UNDP also indicated that while data for 2013 imports could not be provided as these were still to be collected and verified, the Government of Lebanon

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<sup>6</sup> UNEP/OzL.Pro/ExCom/72/17

confirms that the country will meet the 2013 freeze in HCFC consumption. UNDP also provided justification on the issues raised regarding the cost of the project preparation funding being requested and adjusted the costs accordingly.

18. The Secretariat provided detailed observations on the requested project preparation funding for Nigeria based on review of its stage I of the HPMP. It sought clarification on why funding is requested for sectors already identified in stage I, and a justification for this. UNIDO clarified by explaining that the situation in Nigeria with many very small consumers of HCFC requires a thorough exercise of validating data on the field, therefore justifying its request for project preparation funding.

19. In discussing the request for Panama, the Secretariat acknowledged UNDP's explanation for the request for preparation funding for investment projects in the foam manufacturing sector. While funding for this sector was already approved for stage I, these funds were returned by UNDP to the Multilateral Fund as limited work was done in stage I for this sector, and therefore, a request for funding is being sought at this meeting.

20. The Secretariat also asked UNDP to explain the request for the preparation funding for investment projects in the foam sector for Uruguay, taking into account that this was funded in stage I, that the remaining eligible consumption is predominantly HCFC-141b contained in imported pre-blended polyols and the country had indicated that projects for this sector would be submitted in stage I. UNDP provided a detailed explanation on the need to consider technology options for these enterprises which was the impediment for its submission in stage I. In doing so, UNDP also adjusted the request for project preparation for the foam sector based on the activities indicated.

21. The Secretariat also had minor observations on the other countries not listed above, and these were responded to by UNDP in a satisfactory manner.

22. After these discussions, the Secretariat concluded that these requests met the requirements of decision 71/42 and agreed on the level of funding indicated in Table 1. The amounts indicated for the countries in Table 1 are for UNDP only. Additional funding is reflected in the respective work programmes of the other implementing agencies.

### **Secretariat's recommendation**

23. The Fund Secretariat recommends blanket approval of the requests of UNDP's components for project preparation for the HCFC phase-out management plans/HCFC phase-out investment activities (stage II) for Brazil, Colombia, the Dominican Republic, India, Indonesia, Iran (Islamic Republic of), Kyrgyzstan, Lebanon, Malaysia, the Republic of Moldova, Nigeria, Panama, Timor-Leste, Uruguay and Venezuela (Bolivarian Republic of) at the level of funding shown in Table 1 of this document.

**Annex I**

**INSTITUTIONAL STRENGTHENING PROJECT PROPOSALS**

**Ghana: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		UNDP
Amounts previously approved for institutional strengthening (US \$):		
Phase I:	Oct-92	183,200
Phase II:	Oct-96	107,000
Phase III:	Nov-98	107,000
Phase IV:	Dec-00	107,000
Phase V:	Nov-02	139,100
Phase VI:	Jul-04	139,100
Phase VII:	Nov-06	139,100
Phase VIII:	Nov-08	139,100
Phase IX:	Dec-10	139,100
Phase X:	Jul-12	139,100
	<b>Total:</b>	<b>1,338,800</b>
Amount requested for renewal (phase XI) (US \$):		139,100
Amount recommended for approval for phase XI (US \$):		139,100
Agency support costs (US \$):		9,737
Total cost of institutional strengthening phase XI to the Multilateral Fund (US \$):		148,837
Date of approval of country programme:		1992
Date of approval of HCFC phase-out management plan:		2010
Baseline consumption of controlled substances (ODP tonnes):		
(a) Annex A, Group I (CFCs) (average 1995-1997)		35.8
(b) Annex A, Group II (halons) (average 1995-1997)		0.0
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)		0.4
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)		0.0
(e) Annex C, Group I (HCFCs) (average 2009-2010)		57.3
(f) Annex E (methyl bromide) (average 1995-1998)		0.0
Latest reported ODS consumption (2012) (ODP tonnes) as per Article 7:		
(a) Annex A, Group I (CFCs)		0.00
(b) Annex A, Group II (halons)		0.00
(c) Annex B, Group II (carbon tetrachloride)		0.00
(d) Annex B, Group III (methyl chloroform)		0.00
(e) Annex C, Group I (HCFCs)		27.19
(f) Annex E (methyl bromide)		0.00
	<b>Total:</b>	<b>27.19</b>
Year of reported country programme implementation data:		2012
Amount approved for projects (as at December 2013) (US \$):		4,163,463
Amount disbursed (as at December 2012) (US \$):		3,428,853
ODS to be phased out (as at December 2013) (ODP tonnes):		420.2
ODS phased out (as at December 2012) (ODP tonnes):		414.0

1. Summary of activities and funds approved by the Executive Committee:

<b>Summary of activities</b>	<b>Funds approved (US \$)</b>
(a) Investment projects:	1,149,894
(b) Institutional strengthening:	1,338,800



(c) Project preparation, technical assistance, training and other non-investment projects:	1,674,769
Total:	4,163,463

### Progress report

2. In its submission, Ghana reported on a number of important initiatives it has undertaken during phase X of the institutional strengthening (IS) project. Amongst other activities, the National Ozone Unit (NOU): (a) ensured quota system operation, import controls and customs officers' sensitisation and training; (b) collected data, double-checked and reported timely and effectively required information; (c) ensured proper consultation of key stakeholders at the national level, particularly through steering committee meetings and industry associations; (d) supervised and monitored project implementation, particularly as related to the servicing sector; (e) raised awareness at the national level, through seminars and international ozone day activities; (f) participated in regional and international meetings related to the Montreal Protocol (MP).

### Plan of action

3. Over the next two years Ghana's action plan states that it intends to continue these activities and initiatives listed above and ensure the fulfilment of the MP commitments, focusing its efforts to meet the second milestone as related to HCFC consumption, i.e. reduction of 10 per cent by 2015. Specifically, Ghana will focus on strengthening a conducive regulatory environment for the safe use and management of HCFCs and their alternatives; ensure continued ODS import controls and particularly of the licensing system; monitor closely dealers and warehouses; control brands of refrigerants to ensure availability of genuine refrigerants; cooperate with neighbouring West Africa countries to combat illegal trade; continue reporting, networking and stakeholder engagement; support monitoring of ongoing projects and ensure sustainability of completed ones; pursue awareness raising to keep ozone layer protection high on the public agenda.

### **India: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		UNDP
Amounts previously approved for institutional strengthening (US \$):		
Phase I:	Oct-92	430,600
Phase II:	Oct-96	287,100
Phase III:	Mar-99	287,100
Phase IV:	Jul-01	287,100
Phase V:	Dec-03	373,230
Phase VI:	Nov-05	373,230
Phase VII:	Apr-08	373,230
Phase VIII:	Apr-10 & Nov-11	373,230
Phase IX:	Apr-12	373,230
	Total:	3,158,050
Amount requested for renewal (phase X) (US \$):		373,230
Amount recommended for approval for phase X (US \$):		373,230
Agency support costs (US \$):		26,126
Total cost of institutional strengthening phase X to the Multilateral Fund (US \$):		399,356
Date of approval of country programme:		1993
Date of approval of HCFC phase-out management plan:		2012
Baseline consumption of controlled substances (ODP tonnes):		
(a) Annex A, Group I (CFCs) (average 1995-1997)		6,681.0
(b) Annex A, Group II (halons) (average 1995-1997)		1,249.4

(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)	11,505.3
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)	122.2
(e) Annex C, Group I (HCFCs) (average 2009-2010)	1,608.2
(f) Annex E (methyl bromide) (average 1995-1998)	0.0
Latest reported ODS consumption (2012) (ODP tonnes) as per Article 7:	
(a) Annex A, Group I (CFCs)	-15.40
(b) Annex A, Group II (halons)	0.00
(c) Annex B, Group II (carbon tetrachloride)	0.00
(d) Annex B, Group III (methyl chloroform)	0.00
(e) Annex C, Group I (HCFCs)	1,653.85
(f) Annex E (methyl bromide)	0.00
Total:	1,638.45
Year of reported country programme implementation data:	2012
Amount approved for projects (as at December 2013) (US \$):	259,729,811
Amount disbursed (as at December 2012) (US \$):	231,871,764
ODS to be phased out (as at December 2013) (ODP tonnes):	23,774.3
ODS phased out (as at December 2012) (ODP tonnes):	28,073.5

4. Summary of activities and funds approved by the Executive Committee:

Summary of activities	Funds approved (US \$)
(a) Investment projects:	245,005,961
(b) Institutional strengthening:	3,158,050
(c) Project preparation, technical assistance, training and other non-investment projects:	11,565,800
Total:	259,729,811

Progress report

5. India continued its efforts towards implementation of the MP and ODS phase-out activities. The Ozone Cell, besides implementation of the HPMP stage I in line with the MP schedule, continued monitoring production, import and export of ODS for effective control of supply and consumption. The Ozone Cell participated in and contributed significantly to the Executive Committee, Open-ended Working Group (OEWG), Meeting of the Parties (MOP) meetings and regional network meetings. India was also nominated to the Selection Panel for the selection of the Chief Officer of the MLF and has significantly contributed in the selection process. The Ozone Cell continued implementation of a fiscal incentive scheme comprising of customs and excise duty exemptions on capital goods, in case of ODS phase-out projects to promote non-ODS technology and customs and excise duty exemptions on capital goods for the establishment of industry with non-ODS technology. The Ozone Cell also conducted extensive public awareness and information dissemination activities to facilitate users and stakeholders to access information on ozone layer protection and related non-ODS technologies. The Ozone Cell, Ministry of Environment and Forests (MoEF) successfully organized the 25<sup>th</sup> Anniversary of the Montreal Protocol and 18<sup>th</sup> International Day for the Preservation of the Ozone Layer in 2012. On this occasion, a technology exhibition was also organized in which a large number of industries participated and displayed products based on non-ODS technologies. All these activities enabled smooth implementation of the ODS phase-out programme. The Ozone Cell, MoEF and Dr. A. Duraisamy, Director of the Ozone Cell, were awarded Certificate of Appreciation/Recognition by the Ozone Secretariat for the Vienna Convention and the Montreal Protocol, on the occasion of the 25<sup>th</sup> Anniversary of the MP for their vital role in protecting the ozone layer for generations to come.

Plan of action

6. The objective of the phase X of the IS project will be to: (a) continue effective management, monitoring and enforcement on ODS phase-out activities including sustainability of ODS phase-out; (b) monitor effective implementation of the HCFC phase-out management plan (HPMP) along with initiation of the development of HPMP stage II and strengthening institutional networks to achieve the compliance targets; (c) continue implementation and enforcement of the ozone depleting substances (regulation and control) rules for phase-out of HCFCs; and (d) intensify implementation of information outreach activities for active involvement of all stakeholders in sustaining ODS phase-out and HPMP implementation.

**Iran (Islamic Republic of): Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		UNDP
Amounts previously approved for institutional strengthening (US \$):		
Phase I:	Oct-92	200,200
Phase II:	Nov-97	133,470
Phase III:	Dec-00	133,470
Phase IV:	Nov-02	173,511
Phase V:	Dec-04 & Nov-05	173,511
Phase VI:	Nov-06 & Nov-07	173,511
Phase VII:	Nov-08	173,511
Phase VIII:	Jul-10	173,511
Phase IX:	Jul-12	173,511
	Total:	1,508,206
Amount requested for renewal (phase X) (US \$):		173,511
Amount recommended for approval for phase X (US \$):		173,511
Agency support costs (US \$):		12,146
Total cost of institutional strengthening phase X to the Multilateral Fund (US \$):		185,657
Date of approval of country programme:		1993
Date of approval of HCFC phase-out management plan:		2011
Baseline consumption of controlled substances (ODP tonnes):		
(a) Annex A, Group I (CFCs) (average 1995-1997)		4,571.7
(b) Annex A, Group II (halons) (average 1995-1997)		1,420.0
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)		77.0
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)		8.7
(e) Annex C, Group I (HCFCs) (average 2009-2010)		380.5
(f) Annex E (methyl bromide) (average 1995-1998)		26.7
Latest reported ODS consumption (2012) (ODP tonnes) as per Article 7:		
(a) Annex A, Group I (CFCs)		0.00
(b) Annex A, Group II (halons)		0.00
(c) Annex B, Group II (carbon tetrachloride)		0.00
(d) Annex B, Group III (methyl chloroform)		0.00
(e) Annex C, Group I (HCFCs)		376.31
(f) Annex E (methyl bromide)		0.50
	Total:	376.81
Year of reported country programme implementation data:		2012
Amount approved for projects (as at December 2013) (US \$):		62,364,858
Amount disbursed (as at December 2012) (US \$):		60,174,870
ODS to be phased out (as at December 2013) (ODP tonnes):		7,234.8
ODS phased out (as at December 2012) (ODP tonnes):		6,856.1

7. Summary of activities and funds approved by the Executive Committee:

Summary of activities	Funds approved (US \$)
(a) Investment projects:	57,165,435
(b) Institutional strengthening:	1,508,206
(c) Project preparation, technical assistance, training and other non-investment projects:	3,691,217
Total:	62,364,858

Progress report

8. Sustaining the CFC phase-out through effective monitoring has been in place and the NOU has decentralized monitoring activities to be performed through a national ozone network. The Islamic Republic of Iran's HPMP is progressing in a timely manner under its two approved tranches. The third tranche request of the HPMP is to be submitted in the first quarter of 2014. An effective licensing system has contributed to the consumption control to remain in compliance with 2013 and 2015 controlling targets. The NOU has been in close and effective cooperation with other line ministries, organizations and bodies to implement foreseen activities under the IS project. The project capacities have been an essence in the attained outputs during the years.

Plan of action

9. The country, through the phase X of the IS, will be able to continue sustaining the achieved ODS phase-out, including methyl bromide consumption. It will make use of the existing capacities to focus on defining and implementing policies and measures to systematically reduce consumption of HCFCs, controlling and monitoring consumption of all ODSs and monitoring HPMP stage II projects/activities in close coordination with all implementing agencies and relevant stakeholders. The IS project enables the NOU to cooperate nationally with the established Ozone Cells in provinces to implement policies and controlling measures and carry out other awareness raising and training activities.

**Sri Lanka: Renewal of institutional strengthening**

Summary of the project and country profile	UNDP
Implementing agency:	UNDP
Amounts previously approved for institutional strengthening (US \$):	
Phase I: Mar-94	154,680
Phase II: Nov-97	103,120
Phase III: Nov-99	103,120
Phase IV: Jul-02	134,056
Phase V: Jul-04	134,056
Phase VI: Nov-06	134,056
Phase VII: Jul-08	134,056
Phase VIII: Jul-10	134,056
Phase IX: Jul-12	134,056
Total:	1,165,256
Amount requested for renewal (phase X) (US \$):	134,056
Amount recommended for approval for phase X (US \$):	134,056
Agency support costs (US \$):	9,384
Total cost of institutional strengthening phase X to the Multilateral Fund (US \$):	143,440
Date of approval of country programme:	1994
Date of approval of HCFC phase-out management plan:	2010

Baseline consumption of controlled substances (ODP tonnes):	
(a) Annex A, Group I (CFCs) (average 1995-1997)	445.6
(b) Annex A, Group II (halons) (average 1995-1997)	0.0
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)	35.1
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)	3.0
(e) Annex C, Group I (HCFCs) (average 2009-2010)	13.9
(f) Annex E (methyl bromide) (average 1995-1998)	4.1
Latest reported ODS consumption (2012) (ODP tonnes) as per Article 7:	
(a) Annex A, Group I (CFCs)	0.00
(b) Annex A, Group II (halons)	0.00
(c) Annex B, Group II (carbon tetrachloride)	0.00
(d) Annex B, Group III (methyl chloroform)	0.00
(e) Annex C, Group I (HCFCs)	18.02
(f) Annex E (methyl bromide)	0.00
Total:	18.02
Year of reported country programme implementation data:	2012
Amount approved for projects (as at December 2013) (US \$):	5,268,503
Amount disbursed (as at December 2012) (US \$):	4,363,361
ODS to be phased out (as at December 2013) (ODP tonnes):	97.3
ODS phased out (as at December 2012) (ODP tonnes):	91.0

10. Summary of activities and funds approved by the Executive Committee:

Summary of activities	Funds approved (US \$)
(a) Investment projects:	1,052,906
(b) Institutional strengthening:	1,165,256
(c) Project preparation, technical assistance, training and other non-investment projects:	3,050,341
Total:	5,268,503

Progress report

11. Sri Lanka completed IS projects up to phase IX successfully, achieving project objectives. Major ODS (CFCs, halons) were banned in advance to the MP phase-out schedules through different programmes. Obtaining timely policy decisions on ODS phase-out, technical capacity building and awareness creation among stakeholders and adoption of legislative measures have been some of the major activities. Sri Lanka submits consumption data (Article 7 and country programme) on time annually. HPMP has been initiated in Sri Lanka and implementation activities are in progress in order to meet the HCFC phase-out targets under the MP. Raising awareness among different stakeholders, adopting legislative measures to control HCFC imports, introducing appropriate alternatives and ozone friendly technologies will be continued, monitored and assessed regularly to achieve the HCFC phase-out target.

Plan of action

12. The plan of action is prepared for the requested phase, reflecting the physical activities and estimated budget. Managing the project staff, awareness creation, addressing the global issue of stratospheric ozone depletion and its impacts, producing and distributing informative materials especially on HPMP and HCFC phase-out targets, conducting and coordinating committee meetings for HCFC policy related decisions, organizing International Ozone Day celebrations and parallel activities, and ODS data collection and reporting are the key activities indicated.

## **Annex II**

### **VIEWS EXPRESSED BY THE EXECUTIVE COMMITTEE ON RENEWAL OF INSTITUTIONAL STRENGTHENING PROJECTS SUBMITTED TO THE 72<sup>nd</sup> MEETING**

#### **Ghana**

1. The Executive Committee reviewed the information presented with the institutional strengthening renewal request for Ghana. The Executive Committee took note that Ghana's reported HCFC consumption is in conformity with its commitments under the Montreal Protocol. The Executive Committee noted with appreciation that the HCFC phase-out management plan and ODS disposal project continue to undergo smooth and coordinated implementation in Ghana, giving clear expectations that the country will meet, in particular, the HCFC 10 per cent reduction target in 2015.

#### **India**

2. The Executive Committee reviewed the report presented with the institutional strengthening renewal request (phase X) for India and noted with appreciation that the country has successfully sustained complete phase-out of CFCs, CTC and halons. The Executive Committee also noted with appreciation that India has continued close monitoring and control of production, imports and exports of ODS, in particular HCFCs, to ensure effective control of supply and consumption of ODS. It further noted that India initiated its HCFC phase-out management plan (HPMP) implementation including comprehensive regulatory measures and extensive consultations with industries and key stakeholders. The Committee expressed its expectation that India will continue effective management, monitoring and enforcement on ODS phase-out activities as well as monitoring effective implementation of its HPMP, to ensure compliance with the 2015 control target for HCFC consumption.

#### **Iran (Islamic Republic of)**

3. The Executive Committee reviewed the information presented with the institutional strengthening renewal request (phase X) for the Islamic Republic of Iran and noted with appreciation that the Islamic Republic of Iran has successfully sustained complete phase-out of CFCs, halons, CTC, and methyl chloroform. In its request for renewal, in addition to its successful coordination with implementing agencies and key stakeholders in managing and monitoring ODS phase-out activities, the Islamic Republic of Iran reported a number of initiatives, including enforcement of import/export licensing system for HCFCs, capacity building for customs officers, relevant government officers, technicians and end-users, and utilization of the integrated ODS database management system. It also noted that the Islamic Republic of Iran's HCFC phase-out management plan is progressing in a timely manner. The Executive Committee greatly appreciated the effort of the Islamic Republic of Iran to reduce ODS consumption and expressed the expectation that in the next two years, the Islamic Republic of Iran will continue to sustain its ODS phase-out and to implement policies and regulations in order to achieve the 2015 control target under the Montreal Protocol.

#### **Sri Lanka**

4. The Executive Committee reviewed the report presented with the institutional strengthening renewal request (phase X) for Sri Lanka and noted with appreciation that the country successfully sustained complete CFC phase-out. In its submission, Sri Lanka has also demonstrated effective monitoring and coordination of ODS phase-out activities and implementation of its HCFC phase-out management plan (HPMP) by closely working with industries and key stakeholders, specifically controlling imports of HCFCs and HCFC-based equipment through a licensing and quota system,

capacity building activities for customs officers and end-users of HCFC-based equipment, and extensive awareness raising among key stakeholders and general public. The Executive Committee is therefore hopeful that, in the next two years, Sri Lanka will continue with the implementation of its country programme and HPMP with outstanding success to sustain ODS phase-out activities and achieve HCFC control target, in particular 2015, as agreed under the Montreal Protocol.



Empowered lives.  
Resilient nations.

**72<sup>nd</sup> Meeting of the Executive Committee of the Multilateral Fund  
for the Implementation of the Montreal Protocol**

***(12-16 May 2014, Montreal, Canada)***

**UNDP  
2014 WORK PROGRAMME**



*72<sup>nd</sup> Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol*

**2014 WORK PROGRAMME**

**I. EXECUTIVE SUMMARY**

The present document constitutes UNDP's 2014 Work Programme and is being submitted for consideration of the ExCom at its 72<sup>nd</sup> Meeting. The list of UNDP submissions for all funding requests, including investment projects, to the 72<sup>nd</sup> ExCom Meeting tabulated in Annex 1 is provided for information. Project documentation such as MYA tranche requests, HCFC investment and demonstration projects and other individual/investment proposals are not submitted as part of this document and are submitted separately as per normal practice. Only the following (non-investment) submissions are part of the main body of this document.

**II. FUNDING REQUESTS PART OF THE WORK PROGRAMME AMENDMENT**

**Institutional Strengthening Extensions**

Requests for funding of extensions of institutional strengthening projects included in this document for submission at the 72<sup>nd</sup> ExCom Meeting are tabulated below. The documents for terminal reports and requests for extension of IS funding have been submitted separately.

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Ghana	INS	Institutional Strengthening Renewal (Phase XI)	24	139,100	9,737	148,837
India	INS	Institutional Strengthening Renewal (Phase X)	24	373,230	26,126	399,356
Iran	INS	Institutional Strengthening Renewal (Phase X)	24	173,511	12,146	185,657
Sri Lanka	INS	Institutional Strengthening Renewal (Phase X)	24	134,056	9,384	143,440
<b>Total (4 requests)</b>				<b>819,897</b>	<b>57,393</b>	<b>877,290</b>

**Preparation funding requests**

UNDP is submitting 33 funding requests for the preparation of stage II of HPMPs to 72<sup>nd</sup> ExCom meeting. The table below provides summary information of all PRPs being submitted by UNDP. The Annex 2 contains all PRP submissions.

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Brazil (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	50,000	3,500	53,500
Brazil	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Colombia (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	75,000	5,250	80,250
Colombia	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Colombia	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	24	50,000	3,500	53,500

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Dominican Republic (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	60,000	4,200	64,200
India (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	50,000	3,500	53,500
India	PRP	Stage II HPMP Preparation (polyurethane foam sector investment)	24	120,000	8,400	128,400
India	PRP	Stage II HPMP Preparation (XPS foam sector investment)	24	40,000	2,800	42,800
India	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	120,000	8,400	128,400
India	PRP	Stage II HPMP Preparation (air-conditioning sector investment)	24	120,000	8,400	128,400
Indonesia (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	90,000	6,300	96,300
Indonesia	PRP	Stage II HPMP Preparation (firefighting sector investment)	24	50,000	3,500	53,500
Iran (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	45,000	3,150	48,150
Iran	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	25,000	1,750	26,750
Iran	PRP	Stage II HPMP Preparation (air conditioning sector investment)	24	25,000	1,750	26,750
Kyrgyzstan (lead)	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	20,000	1,400	21,400
Lebanon (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	70,000	4,900	74,900
Lebanon	PRP	Stage II HPMP Preparation (foam sector investment)	24	20,000	1,400	21,400
Lebanon	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	24	60,000	4,200	64,200
Malaysia (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	65,000	4,550	69,550
Malaysia	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Malaysia	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	50,000	3,500	53,500
Malaysia	PRP	Stage II HPMP Preparation (air-conditioning manufacturing sector investment)	24	50,000	3,500	53,500
Moldova (lead)	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	20,000	1,400	21,400
Nigeria (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	90,000	6,300	96,300
Nigeria	PRP	Stage II HPMP Preparation (foam sector investment)	24	80,000	5,600	85,600
Panama (lead)	PRP	Stage II HPMP Preparation (overarching)	24	60,000	4,200	64,200
Panama	PRP	Stage II HPMP Preparation (foam sector investment)	24	80,000	5,600	85,600
Timor-Leste (cooperating)	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	10,000	700	10,700
Uruguay (lead)	PRP	Stage II HPMP Preparation (overarching strategy)	24	60,000	4,200	64,200
Uruguay	PRP	Stage II HPMP Preparation (foam sector investment)	24	68,000	4,760	72,760

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Venezuela (cooperating)	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
<b>Total (33 requests)</b>				<b>2,323,000</b>	<b>162,610</b>	<b>2,485,610</b>

### III. SUMMARY OF FUNDING REQUESTS (WORK PROGRAMME)

The table below summarizes the funding requests for non-investment activities and proposals, as part of UNDP's Work Programme for 2014, submitted to the 72<sup>nd</sup> ExCom Meeting:

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Brazil	PRP	Stage II HPMP Preparation (overarching strategy)	24	50,000	3,500	53,500
Brazil	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Colombia	PRP	Stage II HPMP Preparation (overarching strategy)	24	75,000	5,250	80,250
Colombia	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Colombia	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	24	50,000	3,500	53,500
Dominican Republic	PRP	Stage II HPMP Preparation (overarching strategy)	24	60,000	4,200	64,200
Ghana	INS	Institutional Strengthening Renewal (Phase XI)	24	139,100	9,737	148,837
India	INS	Institutional Strengthening Renewal (Phase X)	24	373,230	26,126	399,356
India	PRP	Stage II HPMP Preparation (overarching strategy)	24	50,000	3,500	53,500
India	PRP	Stage II HPMP Preparation (polyurethane foam sector investment)	24	120,000	8,400	128,400
India	PRP	Stage II HPMP Preparation (XPS foam sector investment)	24	40,000	2,800	42,800
India	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	120,000	8,400	128,400
India	PRP	Stage II HPMP Preparation (air-conditioning sector investment)	24	120,000	8,400	128,400
Indonesia	PRP	Stage II HPMP Preparation (overarching strategy)	24	90,000	6,300	96,300
Indonesia	PRP	Stage II HPMP Preparation (firefighting sector investment)	24	50,000	3,500	53,500
Iran	INS	Institutional Strengthening Renewal (Phase X)	24	173,511	12,146	185,657
Iran	PRP	Stage II HPMP Preparation (overarching strategy)	24	45,000	3,150	48,150
Iran	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	25,000	1,750	26,750
Iran	PRP	Stage II HPMP Preparation (air conditioning sector investment)	24	25,000	1,750	26,750
Kyrgyzstan	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	20,000	1,400	21,400
Lebanon	PRP	Stage II HPMP Preparation (overarching strategy)	24	70,000	4,900	74,900
Lebanon	PRP	Stage II HPMP Preparation (foam sector investment)	24	20,000	1,400	21,400
Lebanon	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	24	60,000	4,200	64,200

Country	Type	Title	Duration (months)	Amount	Agency Fee	Total
Malaysia	PRP	Stage II HPMP Preparation (overarching strategy)	24	65,000	4,550	69,550
Malaysia	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
Malaysia	PRP	Stage II HPMP Preparation (refrigeration sector investment)	24	50,000	3,500	53,500
Malaysia	PRP	Stage II HPMP Preparation (air-conditioning manufacturing sector investment)	24	50,000	3,500	53,500
Moldova	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	20,000	1,400	21,400
Nigeria	PRP	Stage II HPMP Preparation (overarching strategy)	24	90,000	6,300	96,300
Nigeria	PRP	Stage II HPMP Preparation (foam sector investment)	24	80,000	5,600	85,600
Panama	PRP	Stage II HPMP Preparation (overarching)	24	60,000	4,200	64,200
Panama	PRP	Stage II HPMP Preparation (foam sector investment)	24	80,000	5,600	85,600
Sri Lanka	INS	Institutional Strengthening Renewal (Phase X)	24	134,056	9,384	143,440
Timor-Leste	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	24	10,000	700	10,700
Uruguay	PRP	Stage II HPMP Preparation (overarching strategy)	24	60,000	4,200	64,200
Uruguay	PRP	Stage II HPMP Preparation (foam sector investment)	24	68,000	4,760	72,760
Venezuela	PRP	Stage II HPMP Preparation (foam sector investment)	24	150,000	10,500	160,500
<b>Total (37 requests)</b>				<b>3,142,897</b>	<b>220,003</b>	<b>3,362,900</b>

**ANNEX 1**

**List of all UNDP submissions for funding to the 72<sup>nd</sup> ExCom Meeting**

No	Country	Type	Description	Funding Request for the 72 <sup>nd</sup> ExCom (US\$)		
				Amount	Agency Fee	Total
1	Angola	PHA	Stage I HPMP - 2nd tranche	39,111	3,520	42,631
2	Brazil	DEM	Demo on ODS Banks Mgt and Destruction	1,578,000	110,460	1,688,460
3	Brazil	PHA	Stage I HPMP - third tranche	3,000,000	225,000	3,225,000
4	Brazil	PRP	Stage II HPMP Preparation (overarching strategy)	50,000	3,500	53,500
5	Brazil	PRP	Stage II HPMP Preparation (foam sector investment)	150,000	10,500	160,500
6	Colombia	PHA	Stage I HPMP - 3rd tranche	150,000	11,250	161,250
7	Colombia	PRP	Stage II HPMP Preparation (overarching strategy)	75,000	5,250	80,250
8	Colombia	PRP	Stage II HPMP Preparation (foam sector investment)	150,000	10,500	160,500
9	Colombia	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	50,000	3,500	53,500
10	Dominican Republic	PRP	Stage II HPMP Preparation (overarching strategy)	60,000	4,200	64,200
11	Georgia	PHA	Stage I HPMP - 2nd tranche	150,000	11,250	161,250
12	Ghana	PHA	Stage I HPMP - 3rd tranche	190,000	14,250	204,250
13	Ghana	INS	Institutional Strengthening Renewal (Phase XI)	139,100	9,737	148,837
14	India	INS	Institutional Strengthening Renewal (Phase X)	373,230	26,126	399,356
15	India	PRP	Stage II HPMP Preparation (overarching strategy)	50,000	3,500	53,500
16	India	PRP	Stage II HPMP Preparation (polyurethane foam sector investment)	120,000	8,400	128,400
17	India	PRP	Stage II HPMP Preparation (XPS foam sector investment)	40,000	2,800	42,800
18	India	PRP	Stage II HPMP Preparation (refrigeration sector investment)	120,000	8,400	128,400
19	India	PRP	Stage II HPMP Preparation (air-conditioning sector investment)	120,000	8,400	128,400
20	Indonesia	PRP	Stage II HPMP Preparation (overarching strategy)	90,000	6,300	96,300
21	Indonesia	PRP	Stage II HPMP Preparation (firefighting sector investment)	50,000	3,500	53,500
22	Iran	PHA	Stage I HPMP - third tranche	477,816	35,836	513,652
23	Iran	INS	Institutional Strengthening Renewal (Phase X)	173,511	12,146	185,657
24	Iran	PRP	Stage II HPMP Preparation (overarching strategy)	45,000	3,150	48,150
25	Iran	PRP	Stage II HPMP Preparation (refrigeration sector investment)	25,000	1,750	26,750
26	Iran	PRP	Stage II HPMP Preparation (air conditioning sector investment)	25,000	1,750	26,750
27	Kyrgyzstan	PHA	Stage I HPMP - 2nd tranche	5,280	475	5,755
28	Kyrgyzstan	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	20,000	1,400	21,400
29	Lebanon	PRP	Stage II HPMP Preparation (overarching strategy)	70,000	4,900	74,900
30	Lebanon	PRP	Stage II HPMP Preparation (foam sector investment)	20,000	1,400	21,400
31	Lebanon	PRP	Stage II HPMP Preparation (refrigeration and air-conditioning manufacturing sector investment)	60,000	4,200	64,200
32	Malaysia	PRP	Stage II HPMP Preparation (overarching strategy)	65,000	4,550	69,550
33	Malaysia	PRP	Stage II HPMP Preparation (foam sector investment)	150,000	10,500	160,500
34	Malaysia	PRP	Stage II HPMP Preparation (refrigeration sector investment)	50,000	3,500	53,500
35	Malaysia	PRP	Stage II HPMP Preparation (air-conditioning manufacturing sector investment)	50,000	3,500	53,500

**72<sup>nd</sup> ExCom Meeting**  
**UNDP - 2014 Work Programme**

No	Country	Type	Description	Funding Request for the 72nd ExCom (US\$)		
				Amount	Agency Fee	Total
36	Moldova	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	20,000	1,400	21,400
37	Nigeria	PRP	Stage II HPMP Preparation (overarching strategy)	90,000	6,300	96,300
38	Nigeria	PRP	Stage II HPMP Preparation (foam sector investment)	80,000	5,600	85,600
39	Panama	PRP	Stage II HPMP Preparation (overarching)	60,000	4,200	64,200
40	Panama	PRP	Stage II HPMP Preparation (foam sector investment)	80,000	5,600	85,600
41	Sri Lanka	INS	Institutional Strengthening Renewal (Phase X)	134,056	9,384	143,440
42	Timor-Leste	PRP	Stage II HPMP Preparation (refrigeration servicing investment)	10,000	700	10,700
43	Uruguay	PRP	Stage II HPMP Preparation (overarching strategy)	60,000	4,200	64,200
44	Uruguay	PRP	Stage II HPMP Preparation (foam sector investment)	68,000	4,760	72,760
45	Venezuela	PRP	Stage II HPMP Preparation (foam sector investment)	150,000	10,500	160,500
<b>Total (45 requests)</b>				<b>8,733,104</b>	<b>632,044</b>	<b>9,365,148</b>

**Notes:**

1. All amounts in US dollars
2. Special reports due (delays, balances, status reports, etc.) will be submitted separately as well as other projects not part of the WP and listed above.

**ANNEX 2**

**Funding requests for the preparation of stage II of HPMPs for the following countries:**

**Brazil**  
**Colombia**  
**Dominican Republic**  
**Ghana**  
**India**  
**India**  
**Indonesia**  
**Iran**  
**Iran**  
**Kyrgyzstan**  
**Lebanon**  
**Malaysia**  
**Moldova**  
**Nigeria**  
**Panama**  
**Sri Lanka**  
**Timor-Leste**  
**Uruguay**  
**Venezuela**

# PREPARATION PROJECT - STAGE II OF THE HCFCs PHASE-OUT MANAGEMENT PLAN (HPMP) OF BRAZIL

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MINISTRY OF ENVIRONMENT

*In Cooperation with*

UNITED NATIONS DEVELOPMENT PROGRAMME - UNDP  
**Lead Implementing Agency**

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION - UNIDO  
**Co-operating Implementing Agency**

DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT - GIZ  
**Co-operating Implementing Agency**

*March, 2014*



**COUNTRY:** Brazil      **LEAD IMPLEMENTING AGENCY:** UNDP

**PROJECT TITLE:** Preparation Project for the Stage II of the HPMP

**PROJECT IN CURRENT BUSINESS PLAN:** Yes

**SECTOR:** HPMP

1.                    **Sub-Sector:** Foam Manufacturing, Refrigeration and Air Conditioning Manufacturing. Refrigeration servicing.

2. **PROJECT IMPACT (ODP targeted):** n/a

**PROJECT DURATION:** 24 months

**PROJECT COSTS:** US\$ 214,000

**LOCAL OWNERSHIP:** n/a

**EXPORT COMPONENT:** n/a

**REQUESTED MLF GRANT:** US\$ 200,000 – UNDP

**IMPLEMENTING AGENCY SUPPORT COST:** US\$ 14,000 (7%) – UNDP

**TOTAL COST OF PROJECT TO MLF:** US\$ 214,000

**COST-EFFECTIVENESS:** n/a.

**PROJECT MONITORING MILESTONES:** Included

**NATIONAL COORDINATING AGENCY:** Ministry of Environment of Brazil

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### **Brief Description.**

This document describes the proposed institutional arrangements and budgets for the preparation for the Stage II of the HCFC Phase-out Management Plan (HPMP) for Brazil, which has assigned to: UNDP (as lead agency) the responsibility of preparing the HPMP over-arching strategy and the Foam sector plan; UNIDO, the responsibility of preparing the Refrigeration and Air Conditioning sector plan; and GIZ, for the refrigeration servicing action plan. Such arrangements would need:

- a) To reflect national context and priorities, national policies and country-drivenness and consequently would need the agreement of Brazil's Ministry of Environment to the proposals contained herein;
  - b) To facilitate seamless application of the proposed arrangements to the implementation stage of the HPMP to follow, once it is approved;
  - c) To draw upon the lessons learnt from functioning of institutional arrangements and operational mechanisms employed for the ongoing portfolio of projects under the Montreal Protocol and to the extent possible integrate existing infrastructures;
  - d) To be dynamic and evolving, and to be open for revisions and adaptation as necessary in response to evolving situations.
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## ACRONYMS

CFC	Chlorofluorocarbon
HCFC	Hydrochlorofluorocarbon
HPMP	HCFC Phase out Management Plan
HFC	Hydro fluorocarbon
IA	Implementing Agency
MAC	Mobile Air Conditioning (Systems)
MDI	Metered Dose Inhaler
MLF	Multilateral Fund
ODP	Ozone Depleting Potential
ODS	Ozone Depleting Substances
RMP	Refrigerant Management Plan
TPMP	Terminal Phase-Out Management Plan

## PART I: Situational analysis

### A. Introduction and Background

1. Brazil has ratified and implemented the Vienna Convention and Montreal Protocol by Decree no. 99.280 of June the 6th in 1990. All amendments of the Protocol were ratified and implemented by Brazil, according to the following table, and since 1988 Brazil has been implementing activities addressed to comply with the targets set by the Montreal Protocol through legislative measures, public policies and through investment and non-investment projects.

**Table 1. Vienna Convention, Montreal Protocol and respective Amendments**

Convention, Protocol & Amendments	Ratification	Date
Vienna Convention – 1985	19 March 1990	Decree 99.280 – 06 June 1990
Montreal Protocol – 1987	19 March 1990	Decree 99.280 – 06 June 1990
London Amendment – 1990	1 October 1992	Decree 181 – 24 July 1991
Copenhagen Amendment – 1992	25 June 1997	Decree 2.679 – 17 July 1998
Montreal Amendment – 1997	30 June 2004	Decree 5.280 – 22 November 2004
Beijing Amendment – 1999	30 June 2004	Decree 5.280 – 22 November 2004

2. To support the coordination of activities and to mainframe the actions under the Montreal Protocol, the Ozone Layer Protection Coordination (CPCO) was created, which is subordinated to the Climate Change Department of the Ministry of Environment. The CPCO works on policies related to the phase out of the Ozone-Depleting Substances and acts as National Ozone Unit for the MP, also coordinating the formulation and implementation of all projects funded by the MLF, and acts as executive secretariat for the Inter-Ministries Executive Committee for Ozone Layer Protection (Prozon).

3. In its 64<sup>th</sup> Meeting, held in Montreal, the Executive Committee for the Implementation of the Montreal Protocol has approved for Brazil the 1<sup>st</sup> Stage of its National HCFCs Phase-out Management Plan (HPMP) aiming to phase out the consumption 10% of the Annex C, Group I (HCFCs), during the period of 2011-2015, for the total value of USD 19,597,166 related to investment and non-investment activities in the PU Foam manufacturing and Refrigeration and Air Conditioning servicing sectors.

4. On December 20<sup>th</sup> 2012, Brazil has successfully established, through the Normative Instruction No. 14 (IN 14), a well-defined Licensing and Quota System for the HCFCs consumption, being applied for the years 2013, 2014 and 2015, also creating the mechanisms to enforce such System.

5. In this sense, the over-arching strategy set under the Stage 1 of the HPMP has looked at the HCFCs consumption figures, which surveys resulted in the consumption as shown in the Table 2, below. From this, it was set that Brazil had a baseline of 1,327.3 ODP tonnes.

6. The Agreement between the Government of Brazil and the ExCom has established a starting point for aggregated reductions of 1,327.3 ODP tonnes. On top of that, Table 3, below, informs a Remaining Eligible Consumption of 1,107.2 ODP tonnes, for HCFCs (breakdown by substance), which were the reference numbers used to calculate the funding levels being requested under this proposal, for the preparation of the Stage II of the HPMP.

**Table 2. HCFCs consumption as of 1<sup>st</sup> Stage Over-arching Strategy, Brazil**

Substance		2007	2008	2009	2010
HCFC-22	ODP t.	562.97	582.95	753.10	831.01
	ODS t.	10,235.79	10,599.11	13,692.67	15,109.34
HCFC-141b	ODP t.	573.85	432.61	649.31	393.76
	ODS t.	5,216.82	3,932.84	5,902.85	3,579.62
HCFC-142b	ODP t.	2.14	1.47	4.37	6.84
	ODS t.	32.98	22.69	67.23	105.28
HCFC-123	ODP t.	0.94	0.41	0.20	0.40
	ODS t.	47.05	20.57	9.99	19.84
HCFC-124	ODP t.	11.45	3.66	8.49	6.97
	ODS t.	520.29	166.54	385.72	316.90
HCFC-225	ODP t.	0.014	0.007	0.0035	0.00
	ODS t.	0.2	0.1	0.05	0.00
Total	ODP t.	1,151.32	1,021.1	1,415.47	1,239.51
	ODS t.	16,052.72	14,741.84	20,058.51	19,135.83

**Table 3. HCFCs Remaining Eligible Consumption, as of Agreed under 1<sup>st</sup> Stage Over-arching Strategy, Brazil**

Substance	Remaining Eligible Consumption ODP tonnes
HCFC-22	740.6
HCFC-141b	353.0
HCFC-142b	5.6
HCFC-123	0.3
HCFC-124	7.7
HCFC-225	0.0
Total	1,107.2

## B. Objective

7. In this proposal, funding is being requested for the implementation of preparation projects (PRP) to survey and evaluate the current consumption of HCFCs for Brazil and to design investment and non-investment activities required to support the Government of Brazil to phase-out its remaining eligible consumption through the 2<sup>nd</sup> Stage of commitments under the Montreal Protocol.

## PART II: Preparation Strategy

### C. Roles and Responsibilities

8. The PRP process will occur under close coordination and follow up from the Ministry of Environment of Brazil through the implementation of the following Agencies:

**Table 4. Implementing Agencies, 2<sup>nd</sup> Stage of the HPMP, Brazil**

Agency	Role	Responsibilities
UNDP	Lead	Over-arching strategy, PU Foam manufacturing sector projects and overall monitoring, oversight and reporting activities.
UNIDO	Cooperating	Refrigeration and Air Conditioning Manufacturing sector projects.
GIZ	Cooperating	Refrigeration and Air Conditioning servicing activities.

9. Nationally, the PRP process shall be sought by the Inter-ministerial Committee for the Ozone Layer Protection (PROZON, headed by the MMA) and with local consultation with other public, private and civil society stakeholders through the HCFCs Working Group (GT-HCFCs).

### D. HPMP Stage II Preparation Description

10. The preparation of the national HPMP would involve activities related to deepening the HCFCs national and subnational consumption survey based on the update of the sector use of HCFCs undertaken at the Stage I. In this sense, the following broad activities are envisaged:

- a. Initiation meeting for the HPMP preparation: The initial meeting between NOU, Implementing Agency, National Expert and International Experts would mark the commencement of activities involved in the preparation of the HPMP. The expected outcomes of this meeting would be to finalize the roles and responsibilities of the various stakeholders, development and finalization of the terms of reference for activities and personnel, finalization of work plans for various activities and development of formats and templates for data collection and reporting;
- b. Kick-off Seminar: The initial seminar will be led by NOU, with support of the Implementing Agency, and would mark commencement of the public process activities for the preparation of the HPMP, as following the Government of Brazil Transparency Policy. The expected outcome is that all stakeholders involved in the PRP process are aware of the activities that will be implemented under the project, as well as individual responsibilities and a public Action Plan for the survey and consultation process.
- c. Establishment of PRP team: administrative process required to hire the National Experts and International Experts. The expected outcome is that all people that will be involved in the preparation process is in place in due time;

- d. Data Collection/Update, and related surveys until 2013 (base): assessment of consumption data available by several sources, through the carefully survey process both top-down and bottom-up types. The expected outcome is that all consumption and usage data on HCFCs is obtained, so the over-arching strategy and sector plans can be designed;
- e. Limited sector consultation meetings for assessment of quantitative and qualitative data: the consultation meetings will be held by consuming sector/subsector, with targeted companies that will be affected by the HCFCs phase-out, in order to assess both quantitative and qualitative data required for designing of investment and non-investment projects. The expected outcome is that all eligible data is obtained, so the sector plan can be designed, following the requirement of ExCom Decision 54/39;
- f. Limited bilateral and multilateral meetings with HCFCs alternative technologies providers: the assessment meetings will be held with targeted companies that are involved in the development and supply of HCFCs alternatives to the country, in order to evaluate the supply chain, challenges and benefits of each replacement technology that can impact the sector plan design and implementation. The expected outcome is that a comprehensive market analysis for the alternatives if produced, so the sector plans can be designed;
- g. Data Analysis, consolidation and systematization; The expected outcome is that all data collected at items (d), (e) and (f) above is duly consolidated, systematized and analyzed;
- h. Draft HPMP and Sector projects document preparation; The expected outcome is that both the Over-arching Strategy and the Sector Plan is drafted;
- i. Public consultation process of the HPMP strategy for the 2<sup>nd</sup> Stage; This activity is directly linked with the Transparency Policy of the Government of Brazil and is required so all stakeholders have the same official and objective opportunity to carefully review and give inputs to the document drafts produced so far. The expected outcome is that both the Over-arching Strategy and the Sector Plan is improved and publically endorsed by the stakeholders;
- j. Finalization of the HPMP proposal and peer review of sector projects: the inputs and comments gathered at item (i) shall be peer reviewed, both technically and strategically. The expected outcome is to have the advanced draft of both the Over-arching Strategy and the Sector Plan;
- k. Presentation, discussion and approval of the HPMP within the GT-HCFCs; The expected outcome is to have the advanced draft of both the Over-arching Strategy and the Sector Plan approved by the Ozone Working Group;
- l. Presentation, discussion and approval of the HPMP within the PROZON; The expected outcome is to have the advanced draft of both the Over-arching Strategy and the Sector Plan approved by the Inter-ministerial Committee for the Ozone Layer Protection; and
- m. Clearance of all documents and submission to the ExCom: The expected outcome is to have the Final version of both the Over-arching Strategy and the Sector Plan, as approved earlier, cleared by the NOU and submitted to the ExCom.

## **E. Preparation Funding / Overall Budget**

11. Based on the HCFCs remaining eligible consumption of 1,107.2 ODP tonnes – and based on the funding guidelines contained in the ExCom Decision 71/42 - USD 90,000 is requested for the preparation of the 2<sup>nd</sup> Stage Over-arching Strategy of the HPMP for Brazil, to be implemented as follows:

- a. USD 10,000 (ten thousand), for the United Nations Industrial Development Organization – UNIDO<sup>1</sup>;
- b. USD 30,000 (thirty thousand), for the Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ<sup>2</sup>; and
- c. USD 50,000 (fifty thousand), for the United Nations Development Programme – UNDP;

12. Also, as per ExCom Decision 71/42 – and in line with ExCom Decision 56/16 - USD 300,000 is requested for the preparation of investment projects in the Manufacturing Sector of the HPMP for Brazil, to be implemented as follows:

- a. USD 150,000 (one hundred and fifty thousands), for the United Nations Industrial Development Organization – UNIDO, for the preparation of investment projects in the Refrigeration and Air Conditioning Manufacturing Sector, based on an estimated of 48 companies operating under this sector;<sup>3</sup> and
- b. USD 150,000 (one hundred and fifty thousands), for the United Nations Development Programme – UNDP, for the preparation of investment projects in the Polyurethane Foam Manufacturing Sector, based on an estimated of more than 460 companies operating under this sector, as detailed in Annex II.

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<sup>1</sup> Participation in the development of the overarching strategy for the stage II HPMP in Brazil.

<sup>2</sup> Participation in the development of the overarching strategy for the stage II HPMP in Brazil, as well as development of a detailed survey as well as the phase-out strategy for the servicing sector in Brazil.

<sup>3</sup> Detailed proposal to be submitted by UNIDO, in a separate document



## Implementation Schedule

Activity	2014			2015			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b><i>Project Start-up</i></b>							
Excom Project Approval	■						
Receipt of Funds		■					
Project/Grant Signature		■					
<b><i>Project Implementation</i></b>							
Initiation meeting for the HPMP preparation		■					
Kick-off Seminar		■					
Establishment of PRP team		■					
Data Collection/Update, and related surveys		■	■				
Sector consultation meetings		■	■				
HCFCs alternative technologies providers assessment		■	■				
Data Analysis, consolidation and systematization		■	■				
Draft HPMP and Sector projects document preparation			■				
Public consultation process			■				
Finalization of the HPMP proposal				■			
Presentation, discussion and approval of the HPMP within the GT-HCFCs				■			
Presentation, discussion and approval of the HPMP within the PROZON				■			
Clearance of all documents and submission to the ExCom					■		
<b><i>Project Closure</i></b>							
Operational and Financial Closure						■	

## ANNEX II

### Project Framework and Detailed Budget for the UNDP Component

MLF Outcome/Atlas Activity	Responsible Party	Implementing Agency	Source of Funds	ERP/ATLAS Budget Description		Amount 2014 (USD)	Dept. ID	Oper. Unit	Fund	Donor ID
ACTIVITY 1 HPMP Stage II Over-arching Strategy	UNDP, MINISTRY OF ENVIRONMENT	tbd	MLF	71300	National Experts	12,500	tbd	tbd	63030	10009
				71200	International Expert	8,000	tbd	tbd	63030	10009
				71600	Travel and expenses	5,000	tbd	tbd	63030	10009
				72100	Data collection, consolidation and analysis from sectors	10,000	tbd	tbd	63030	10009
				72100	Meeting arrangements including venue, etc (sub-contract)	10,000	tbd	tbd	63030	10009
				72100	Documentation and information materials (sub-contract)	4,500	tbd	tbd	63030	10009
				<b>Subtotal</b>					<b>50,000</b>	
ACTIVITY 2 Sector Plan PU Foam Investment Projects	UNDP, MINISTRY OF ENVIRONMENT	tbd	MLF	71300	National Experts	35,000	tbd	tbd	63030	10009
				71200	International Expert	25,000	tbd	tbd	63030	10009
				71600	Travel and expenses	20,000	tbd	tbd	63030	10009
				72100	Meeting arrangements including venue, etc (sub-contract):	35,000	tbd	tbd	63030	10009
				72100	Documentation (sub-contract):	25,000	tbd	tbd	63030	10009
				75400	Sundry	10,000	tbd	tbd	63030	10009
				<b>Subtotal</b>					<b>150,000</b>	
<b>GRAND TOTAL UNDP</b>						<b>200,000</b>				

**PREPARATION OF STAGE II FOR THE HCFCs PHASE OUT MANAGEMENT PLAN -  
HPMP  
COLOMBIA, FEBRUARY 28<sup>th</sup>, 2014**

**1. BACKGROUND**

The Colombian HPMP was approved by ExCom Decision 62/55 in the meeting held in December/2010 noting that in the 60<sup>th</sup> meeting an investment project for the foam domestic refrigeration sub-sector, that was required to be included in stage I of the phase-out plan, had been approved previously in April/2010 (Table 1). 2015 was defined as the end date of stage I.

<b>Table 1. Approved ODP tonnes</b>			
<b>Approved projects</b>	<b>HCFC-22 (ODP tonnes)</b>	<b>HCFC-141b (ODP tonnes)</b>	<b>Total (ODP tonnes)</b>
COL/FOA/60/INV/76	9.82	46.20	56.02
COL/PHA/62/INV/77	15.17	7.72	22.89
<b>Total</b>	<b>24.99</b>	<b>53.92</b>	<b>78.91</b>

According to document UNEP/OzL.Pro/ExCom/71/57, Annex IV, the remaining eligible consumption for each HCFC is shown in Table 2.

<b>Table 2. Remaining eligible consumption</b>				
<b>HCFC</b>	<b>Baseline</b>	<b>Starting Point</b>	<b>Approved</b>	<b>Remaining</b>
HCFC-123	2.20	2.20	0.00	2.20
HCFC-124	0.10	0.04	0.00	0.04
HCFC-141b	151.80	151.70	53.92	97.78
HCFC-142b	0.50	0.50	0.00	0.50
HCFC-22	71.10	71.10	24.99	46.11
<b>TOTAL COLOMBIA</b>	<b>225.70</b>	<b>225.54</b>	<b>78.91</b>	<b>146.63</b>

Colombia is committed to fulfill its obligations under the Montreal Protocol while preventing any adverse effects to its national economy, industry and consumers alike. The government has designed a two-steps strategy to comply with the Montreal Protocol control measures for 2013 – freeze- and 2015 and to achieve a complete phase out by the year 2030. A 2.5 % HCFCs consumption will be allowed in the period 2030-2040 for maintenance in the refrigeration and air conditioning (RAC) sector. In 2015 the country would review the progress of the strategy implementation to analyze the possibility of a more drastic reduction schedule.

Colombia does not produce HCFCs. In this sense, the national consumption is based on imports and exports. Table 3 shows the official data reported for the last six years.

<b>Table 3. HCFCs Consumption, Colombia, 2007-2012</b>							
<b>Substance</b>		<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
HCFC-22	Metric tonnes	855.16	1,221.20	1,358.99	1,226.19	843.08	1,582.28
	ODP tonnes	47.03	67.17	74.74	67.44	46.37	87.03
HCFC-141b	Metric tonnes	1,431.58	1,250.36	1,203.48	1,555.44	1,558.05	1,771.63
	ODP tonnes	57.47	137.54	132.38	171.10	171.39	194.88

HCFC-142b	Metric tonnes	1,01	0.86	5.39	9.61	14.52	18.93
	ODP tonnes	0.07	0.06	0.35	0.62	0.94	1.23
HCFC-123	Metric tonnes	77.40	73.69	106.39	114.40	88.93	117.41
	ODP tonnes	1.55	1.47	2.13	2.29	1.78	2.35
HCFC-124	Metric tonnes	2.33	0.14	2.88	0.68	1.19	0.89
	ODP tonnes	0.05	0.00	0.06	0.01	0.02	0.02
<b>Total</b>	<b>Metric tonnes</b>	<b>2,367.48</b>	<b>2,546.24</b>	<b>2,677.13</b>	<b>2,903.62</b>	<b>2,505.91</b>	<b>3,491.14</b>
	<b>ODP tonnes</b>	<b>206.17</b>	<b>206.24</b>	<b>320.88</b>	<b>241.47</b>	<b>220.50</b>	<b>285.50</b>

There was an increase in HCFC-22 and HCFC-141b imports during 2012, as a result of the interest of some importers to increase their inventory levels as a precautionary measure due to the freeze of HCFCs consumption in 2013. The Government adopted the quota system for HCFCs imports within the existing control measures through Resolution 2329 of December 26, 2012.

## 2. PROGRESS IN THE IMPLEMENTATION OF STAGE I

The first stage of the HPMP is crucial to the success of the phase-out of the entire HCFCs consumption in the country. At the end of the stage I, period 2011-2015, Colombia is committed to achieve the following goals:

- HCFC-141b and HCFC-22 phase-out in the manufacture of domestic refrigerators (foam component).
- HCFC-141b and HCFC-22 phase-out in emissive uses (cleaning of electronic equipment, aerosols and silicon coating process for needles).
- HCFC-141b phase out in flushing activities for pipes (installation and maintenance of RAC equipment).
- Reduction of HCFC-22 consumption for the maintenance of the RAC equipment (compared to the average between 2009 and 2010 and required to comply with 2015 target).

These goals will ensure that by 2015 Colombia will reduce 10% of the total HCFCs consumption.

The strategy for the first stage of the HPMP consists of five programs with their corresponding projects, according to the sector or specific use each one is intended to address. Specifically for the first stage of HPMP, the different tranches have been approved as follows:

3. <b>Table 4. Approved tranches (USD\$)</b>		
4. <b>Activity</b>	5. <b>I Tranche</b> 6. <b>Approved by Decision 62/55 December 2010</b>	7. <b>II Tranche</b> 8. <b>Approved by Decision 66/30 December 2012</b>
9. PROGRAMME FOR THE ELIMINATION OF HCFCs CONSUMPTION IN THE POLYURETHANE FOAM MANUFACTURING SECTOR		
10. Elimination of HCFCs consumption as blowing agents in the manufacture of domestic refrigerators*	5,621,483	
<b>11. Subtotal</b>	<b>12. 5,621,483</b>	<b>13.</b>
14. PROGRAMME FOR THE ELIMINATION OF HCFCs CONSUMPTION IN THE REFRIGERATION AND AIR CONDITIONING SECTOR		
15. Project for the consolidation of recovery, recycling and reclamation network	16. 309,700	17. 384,000
18. Project for the training and certification of refrigeration and air conditioning technicians		
19. Project for the elimination of the use of HCFC-141b in flushing activities		
20. PROGRAMME FOR THE PHASE OUT OF HCFCs CONSUMPTION IN EMISSIVE USES		
21. Technical assistance for the elimination of the use of HCFC-141b as a solvent in the manufacture of hypodermic needles	22.	23. 63,000
24. Technical assistance for the elimination of HCFC-141b consumption as a cleaning agent for electronic equipment		
25. Technical assistance for the elimination of HCFC 22 consumption in aerosols sector		
26. PROGRAMME FOR TECHNICAL ASSISTANCE IN THE FORMULATION AND IMPLEMENTATION OF POLICIES TO SUPPORT THE HCFCs PHASE OUT		
27. Technical assistance for strengthening the regulatory framework for the phase out of HCFCs	28. 112,300	29. 125,000
30. Technical assistance for enhanced control of HCFCs trade (substances and HCFCs-based equipment)		
31. Technical assistance for environmental education, dissemination and awareness-raising for the elimination of HCFCs		
32. PROGRAMME FOR THE IMPLEMENTATION AND MONITORING		
33. Annual operational plans implemented and evaluated	34. 28,000	35. 28,000
<b>36. Subtotal</b>	<b>37. 450,000</b>	<b>38. 600,000</b>

\*This value includes the budget approved for the conversion project for the domestic refrigeration subsector at the 60<sup>th</sup> ExCom meeting.

Colombia will submit the 3<sup>rd</sup> tranche of the HPMP request at the 72<sup>nd</sup> Meeting of the Executive Committee of the Multilateral Fund. As February 28 2014, Colombia has spent and committed 70 % of HPMP approved funds (first and second tranche, not including fund approved at the 60<sup>th</sup> meeting for the investment project in the domestic refrigeration sector).

## **2.1 Foam sector**

The Executive Committee of the Multilateral Fund (MLF) of the Montreal Protocol approved in its meeting held in Montreal in April 2010 the project for the conversion from HCFCs (HCFC-141b and HCFC-22) to hydrocarbons (cyclo-pentane) in the domestic refrigeration sector (foam component) in Colombia at a total cost of US\$7,195,933 without the cost adjustment due to the foreign ownership of the largest producer (Decision 60/30). Implementation of the project resulted in the phase-out of 56.02 ODP tonnes of HCFC-141b and HCFC-22 and the estimated reduction in emissions of 607,000 CO<sub>2</sub> equivalent tonnes.

The local industry, in a coordinating effort with the National Ozone Unit and UNDP, successfully converted the manufacturing facilities in the expected period of time. Since January 1<sup>st</sup> 2013 there is no production of domestic refrigerators based on HCFCs in the country. The government regulation (Resolution # 0171) banning the production and import of HCFCs based domestic refrigerators was issued on February 22, 2013.

### **1. 2.2 Refrigeration and Air Conditioning sector**

By Decision 62/55 the Executive Committee approved in its 62<sup>nd</sup> meeting the project HCFCs Phase Out Management Plan, Stage I, Tranche I, at a total cost of US\$400,000. The 2<sup>nd</sup> tranche was approved in the 66<sup>th</sup> meeting at a total cost of US\$550,000.

The first stage of the HPMP in the RAC sector has been focused in the phase down of HCFCs consumption in servicing subsector considering that is the main user of HCFC-22 in Colombia. The following activities were considered: consolidation and expansion of the recovery, recycling and reclaiming network (18 new collection center installed); training and certification of refrigeration and air conditioning technicians (1,280 technicians trained and certified); technical assistance for the refrigeration and air conditioning maintenance sector (3 national and 16 regional workshops on alternatives to HCFCs, participation of 1,023 end-users); technical assistance for end users and elimination of HCFC-141b use in flushing activities (165 filter kits for Nitrogen-based flushing, 23 training workshops).

## **2.3 Emissive uses sector**

Colombia is implementing a project to phase out HCFCs consumption in emissive uses for 2015. In this project it is considered to phase out the use of HCFC-22 as a propellant in aerosols manufacturing, HCFC-141b as a cleaning agent in electronic equipment and HCFC-141b as a solvent in the manufacture of hypodermic needles. The following activities are being considered: technical and financial assistance, workshops for the dissemination of the new alternatives and strengthening of legal framework; Database updated with HCFCs consumption in those applications were carried out and the technical report for alternatives were prepared.

## **2.4 Technical assistance**

Related to regulatory framework, the first stage of the HPMP has reported advances in the establishment of a quota system for HCFCs imports and the establishment of restrictions for importing HCFCs-based domestic refrigerators.

The technical assistance for enhance control of trade of HCFC-based substances and equipment included training for ODS trade control (19 workshops with control authorities), monitoring the local and international ODS trade (172 visits to refrigerant distributors around the country), prevention of illegal trade of ODS and technological updating of the equipment used for ODS inspections at customs (5 new refrigerant identifiers with blends identification capabilities).

Also, first stage of the HPMP included activities for environmental education, dissemination and awareness-raising for HCFCs phase out, with special focus on environmental education oriented to protect the human health through the preservation of the ozone layer.

### 3. ACTIVITIES TO BE UNDERTAKEN ON THE PREPARATION PROJECT FOR HPMP STAGE II

Table 5, included in the original HPMP Stage I document as Table 5.1, describes the different market sub-sectors consuming HCFCs in the country.

<b>Table 5. HCFCs consumption by market segment (average 2009-2010)</b>				
<b>Market Sector</b>	<b>HCFC</b>	<b>MT</b>	<b>ODP Tons</b>	<b>%</b>
<b>Polyurethane Foam</b>				
Domestic Refrigeration	141b	451.92	49.71	22.26
	22	211.27	11.62	5.20
Commercial Refrigeration	141b	72.50	7.97	3.57
Continuous Panels	141b	128.42	14.13	6.32
Industrial Refrigeration & Construction (Discontinuous panels & Blocks)	141b	231.99	25.52	11.43
Spray foam	141b	21.75	2.39	1.07
Integral Skin	141b	19.68	2.16	0.97
Polyol formulation	141b	313.80	34.52	15.45
<b>TOTAL</b>		<b>1,451.32</b>	<b>148.03</b>	<b>66.27</b>
<b>Refrigeration and Air Conditioning</b>				
Cold rooms manufacture	22	94.02	5.17	2.32
Maintenance	22	1,111.93	61.16	27.38
Maintenance	123	27.27	0.55	0.24
Maintenance	142b	5.69	0.37	0.17
Maintenance	124	3.08	0.07	0.03
<b>TOTAL</b>		<b>1,242.00</b>	<b>67.31</b>	<b>30.14</b>
<b>Solvents and aerosols</b>				
Flushing	141b	46.64	5.13	2.30
Cleaning of electronic equipment	141b	4.11	0.45	0.20
Silicon coating process of needles	141b	4.14	0.46	0.20
Aerosols	22	4.58	0.25	0.11
<b>TOTAL</b>		<b>59.47</b>	<b>6.29</b>	<b>2.82</b>
<b>Fire Extinguishing</b>				
Fire extinguishing	123	86.34	1.73	0.77
<b>TOTAL CONSUMPTION</b>		<b>2,839.13</b>	<b>223.35</b>	<b>100.00</b>

Based on Table 5 and the progress in the implementation of stage I, the activities to be undertaken on the preparation project for HPMPs Stage II are described below, by sector.

### 3.1 Foam sector

The following polyurethane (PU) foam segments were not considered in stage I of HPMP. These applications still use HCFC-141b as blowing agent and should be addressed to ensure a complete phase-out of this ODS in foam sector:

- **Commercial refrigeration.** There are 6 relevant enterprises (Inducol, Industrial, Fogel Andina, Embera Cooling, Coldline-Bepensa, Industrias Wonder).

Some individual investment projects were considered during the preparation of the first stage but they were not submitted, taking into account at that time the significant reduction that could be obtained with the domestic refrigeration project. At this point the information should be updated to identify and prepare the required projects.

- **Industrial refrigeration and construction.** This subsector includes the manufacture of continuous and discontinuous panels and blocks. It is estimated that, additional to Metecno –non eligible company (Article 2 ownership) - there are around 12 large and medium size enterprises in this subsector (Panelmet, Weston, Friotérmica, Rojas Hermanos, Espumlatex, Olaflex, Microcel, Refrigeración Electricidad y Automatismos, Grivan Ingeniería S. A, Industrias Falcon S.A., Thermocold, Arneg Andina).

In addition, there are several small end-users, more than 500, covered by eight system houses with presence in the country: four local (Espumlatex, Olaflex, GMP, Química Industrial y Comercial) and four multinational (Dow Chemical, Huntsman, Orica and Synthesia).

- **Spray.** A limited number of enterprises, such as ABC Poliuretanos y Montajes, Microcel, Espumlatex and Superpolo, apply spray foam serving the construction and refrigerated transport markets.
- **Integral Skin.** It is estimated that there are more than 50 small end users in this market. They are supplied by the local system houses mentioned above.

## 2. 3.2 Refrigeration and Air Conditioning (RAC) Sector

The following subsectors were not considered in HPMPs first stage, because the country gave priority to the elimination of HCFC-141b and the scarcity of available alternatives for these sectors in particular for medium and small businesses. These subsectors still use HCFC-22 as refrigerant, and should be addressed to ensure a phase-down of this ODS in this sector:

- **Industrial and Commercial refrigeration manufacture.** These are companies that manufacture new self-contained equipment for display refrigerated and frozen food, as well as equipment for large kitchens and dairy industry. In this subsector, HCFC-22 is used to load new equipments. It is estimated that there are around 11 relevant enterprises



(Climatec, Frostec, Wespofrio, Termofrio, Refrigeración Vanegas, Rojas Hermanos, Weston, Ingecold, Friomak, Tecnilac Wilgo and Inverfrio).

- **Commercial and Industrial Air Conditioning manufacture:** This subsector includes enterprises that produce packaged cooling units, air and water cooled packaged units, air handling units, condensing units, fan coils and heat exchangers. They are still consuming HCFC-22 mainly for the production of packaged cooling units, air and water cooled packaged units and condensing units. The most relevant enterprises are Thermotar, Paramo and Tecam.
- **RAC assembly, installation and charging.** This subsector refers to companies dedicated to consulting, design and installation of new remote refrigeration systems, for example for food industry and supermarkets, and air conditioning systems for institutional buildings, hospitals, hotels, banks, data centers and buildings in general. In this subsector, refrigerants are used to load *in situ* the refrigeration and air conditioning systems installed. HCFC-22 is still used mainly in cold rooms, supermarket refrigeration systems and air conditioning systems because of its lower price and its thermal efficiency. It is estimated that there are around 8 enterprises and the most relevant are Rojas Hermanos, Almacenes Refrigeración, Grivan and Arneg Andina.
- **RAC servicing sector.** This subsector was approached in the first stage of the HPMP, however, because it is still the main user of HCFC-22 in Colombia, it is necessary to continue working in this subsector. It includes technical service for refrigeration and air conditioning equipment, in domestic, commercial and industrial systems.
- **RAC end users sector.** This subsector includes companies that use large refrigeration systems of medium and low temperature, the mainly users are supermarkets, food industry, dairy industry, and pharmaceutical companies. It also includes users of large air conditioning systems mainly for human comfort and industrial processes.

### **3.3 Technical assistance for the formulation and implementation of policies to support the HCFCs phase out**

This component will strengthen the capacities of national institutions involved in the phase out of the HCFCs consumption.

For stage II, it will be necessary to continue the process of the reorganization of national legislation regarding ODS, the expedition of new restrictions on imports of HCFC-based equipment and adjusting the schedule import of ODS.

Also, is necessary to provide continuity to the activities carried out in coordination with the Directorate of National Taxes and Customs (DIAN) and the Ministry of Commerce, Industry and Tourism with reference to mechanisms for controlling international and local trade of ODS, with emphasis on HCFCs, involving a working group with the importers in this second stage.

Finally, it will be necessary to continue with the different dissemination and environmental education activities to support HCFCs phase out.

### **3.4 Preparation project activities**

Table 6 shows the activities that should be undertaken for the preparation of the second stage of the HPMP in the sectors described above. Also, this Table includes estimated costs for each activity.

<b>Table 6. Activities to be undertaken</b>		
<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
<b>1</b>	<b>Workshop with stakeholders to present the progress in the implementation of stage I of the HPMP and the action plan to ensure an appropriate second stage preparation.</b>	<b>5,000</b>
<b>2</b>	<b>Conduct a survey to update the HCFCs use in Colombia</b>	<b>40,000</b>
	<i>Review of official data on HCFCs imports by substance and by sector.</i>	5,000
	<i>Meetings with importers/ system houses to understand the logistic of the current product chain, to identify possible barriers for the introduction of replacement options and to update the list of distributors, suppliers and large end-users.</i>	5,000
	<i>Visits to main end-users by sector to collect information on specific applications and build the baseline on related equipment (capacity, acquisition date, etc), on HCFCs consumption and on expectations about HCFCs replacement (new alternatives, timeline, etc.).</i>	10,000
	<i>Visits to relevant enterprises of industrial and commercial refrigeration and air conditioning manufacture and assembly, to find out the real HCFCs consumption distribution of each subsector for the preparation of the investment projects.</i>	15,000
	<i>Preparation of the document related to the market survey update</i>	5,000
<b>3</b>	<b>Assessment of current situation and needs of stakeholders</b>	<b>35,000</b>
	<i>Assessment of current situation and definition of needs improvement for the projects implemented in the first stage of the HPMP for servicing subsector. (training and certification of refrigeration and air conditioning technicians, technical assistance for the refrigeration and air conditioning maintenance, technical assistance for end users and elimination of HCFC-141b use in flushing activities)</i>	10,000
	<i>Five regional workshops with the recovery, recycling and reclaiming network stakeholders to present and discuss the new aims to improve the capacity of the network .</i>	10,000
	<i>Workshops with the market stakeholders (importers, system-houses, product and equipment suppliers and end users) to present and discuss the world wide available alternatives to replace HCFCs.</i>	10,000
	<i>Workshop with the National Directorate of Taxes and Customs (DIAN), the Ministry of Commerce, Industry and Tourism, the National Authority for Environmental Permits (ANLA) and Prosecutors, Environmental Lawyers and Judges to discuss the results of the activities implemented to control ODS trade and prevent illegal commerce.</i>	5,000
<b>4</b>	<b>Priorities and objectives definition</b>	<b>200,000</b>
	<i>Definition of the country strategy for the second stage of the HPMP, including the definition of required individual and group investment projects and non-investment projects to be implemented to ensure the complete HCFCs phase-out in foam sector and phase down in RAC sector.</i>	5,000
	<i>Conduct the required meetings with individual enterprises to prepare the investment projects for the foam sector. Prepare the individual and group projects for the foam sector.</i>	150,000
	<i>Conduct the required meetings with individual enterprises to prepare the investment projects in RAC sector. Prepare the individual and group projects for the industrial and commercial refrigeration and air conditioning manufacture subsector (refrigerant component).</i>	20,000
	<i>Conduct the required meetings with RAC equipment suppliers and main assembly, installation and charging enterprises. Prepare investment project for this subsector.</i>	15,000

<b>Table 6. Activities to be undertaken</b>		
<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
	<i>Conduct the final meeting with the recovery, recycling and reclaiming network stakeholders. Prepare the non-investment project.</i>	5,000
	<i>Conduct the final meeting with the National Directorate of Taxes and Customs (DIAN), the Ministry of Commerce, Industry and Tourism, the National Authority for Environmental Permits (ANLA) and Prosecutors, Environmental Lawyers and Judges Prepare the non-investment project for technical assistance to enhance the control of ODS trade that will support the HCFCs phase out.</i>	5,000
<b>5</b>	<b>Presentation of the second stage of the HPMP strategy to stakeholders</b>	<b>5,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	5,000
<b>6</b>	<b>Preparation of the final document (second stage of HPMP)</b>	<b>5,000</b>
<b>TOTAL</b>		<b>290,000</b>

#### 4. EXPECTED RESULTS

With the activities described above, the NOU (UTO) will obtain detailed information to comply with the following specific requirements (Decision 71/42):

- A description of how the HPMP strategy will consider the range of non-ODS, technically proven, and commercially available alternatives, including climate-friendly alternatives to HCFCs.
- A qualitative description of how the strategy had taken into account climate aspects.
- If there exist, the proportion of foreign ownership and exports to non-Article 5 countries in the manufacturing sector.
- Date of establishment of enterprises, taking into account Decision 60/44(a) on the cut-off date, including enterprise names and consumption data, where available.
- Definition of the overarching strategy and its project documents, together with the investment projects for the foam and RAC manufacturing sectors.

#### 5. FUNDS REQUESTED

Considering Decision 71/42, on guidelines for funding the preparation of stage II of HCFCs phase-out management plans, the requested funding for the second stage of Colombian HPMP project preparation is shown in Table 7.

<b>Table 7. Funding for the second stage of the HPMP project preparation</b>	
<b>Item</b>	<b>Funds (US\$)</b>
Project Preparation - Global strategy for stage II of HPMP Non investment project	90,000 (remaining eligible consumption of 146.63 ODP tonnes)
Conversion of foam manufacturing sector (investment projects)	150,000 (more than 15 enterprises)
Conversion of commercial refrigeration manufacturing sector (investment projects for refrigerant component)	25,000 (between 3 and 14 enterprises)
Conversion of commercial and industrial air conditioning manufacturing sector (investment	25,000 (between 3 and 14 enterprises)

<b>Table 7. Funding for the second stage of the HPMP project preparation</b>	
<b>Item</b>	<b>Funds (US\$)</b>
projects)	
<b>TOTAL</b>	<b>290,000</b>

## 6. IMPLEMENTATION AGENCIES

The Government of Colombia is interested in designing and implementing the country's strategy for the second stage of the HPMP with three implementation agencies, as shown in Table 8.

<b>Table 8. Implementation agencies for the second stage of the HPMP</b>	
<b>Agency</b>	<b>Component</b>
UNDP (lead agency)	<ul style="list-style-type: none"> <li>• RAC and foam sectors (investment projects)</li> <li>• RAC servicing sector <ul style="list-style-type: none"> <li>- Certification of RAC sector technicians.</li> <li>- Technical assistance to the recovery, recycling and reclaiming network.</li> <li>- Technical assistance to RAC assembly, installation and charging subsector.</li> </ul> </li> <li>• Technical assistance to RAC end users</li> <li>• Technical assistance for the formulation and implementation of policies to support the HCFCs phase out.</li> <li>• Tools and equipment supply for hydrocarbons use)</li> </ul>
GIZ (cooperating agency)	<ul style="list-style-type: none"> <li>• RAC servicing sector (training and register)</li> </ul>
UNEP (cooperating agency)	<ul style="list-style-type: none"> <li>• Technical assistance for strengthening the control of ODS trade and prevent illegal commerce.</li> </ul>

**PREPARATION OF STAGE II FOR  
THE HCFCs PHASE OUT MANAGEMENT PLAN - HPMP  
DOMINICAN REPUBLIC, March 10, 2014**

**1. BACKGROUND**

The HCFC phase out plan (in foam manufacturing) and HCFC phase out plan (in refrigeration servicing) for the Dominican Republic were approved at the 65th Meeting of the Executive Committee of the Multilateral Fund, held in Bali, Indonesia in November 2011. The total amount was US\$ 1,696,225, including US\$ 332,775 approved at the 61<sup>st</sup> ExCom meeting for the phase out of HCFC-141b in the manufacture of commercial refrigerator at FARCO.

All funds were approved in principle by the MLF Executive Committee to assist the Dominican Republic in complying with the 2013 and 2015 control measures for HCFCs under the Montreal Protocol, subject to the provisions of the performance-based agreement between the MLF Executive Committee and the Dominican Republic, comprising of annual/biennial HCFC consumption and phase-out targets.

UNDP is the lead agency for the implementation of the HPMP, focused on all conversion, technical assistance and monitoring activities, while UNEP is the cooperating agency, focused on strengthening the legal and institutional framework.

First tranche progress report and second tranche request were presented and approved at the 69<sup>th</sup> ExCom meeting held in Montreal on April 15<sup>th</sup> to 19<sup>th</sup>, 2013. It is expected to request the HPMP Stage I third, and last, tranche on the first meeting of 2015.

**2. HPMP STAGE I IMPLEMENTATION PROGRESS**

Dominican Republic's PRONAOZ (Programa Nacional de Ozono in Spanish) is part of the Ministry of Environment and Natural Resources (Ministerio de Ambiente y Recursos Naturales – MARN) who has been in charge of implementing the HPMP's activities in the country, implementing the project in a coordinated and participative way with all stakeholders, including governmental institutions and private sector.

HPMP Stage I activities have been aimed to phase out the consumption of HCFCs in the foam sector and to decrease their demand in the refrigeration service subsector.

In the foam sector, several advances were achieved: the main producer of commercial refrigerators (Farco) adopted hydrocarbons as foam agent; memorandum of agreement has been signed with all beneficiary companies, injection equipment were bought and installed in the main doors producers, TOR and bidding process was carried out in the main producer of panels, trials with HCFC-free blowing agent conducted in spray and panels applications.

In the refrigeration sector, the national inventory on the status of the equipment handed to technicians in previous programs was conducted, 10 training sessions on good practice in refrigeration and safely use of hydrocarbons were carried out with support of the Dominican Association of Refrigeration Technician (ADOMTRA) in different regions nationwide; The

process to establish a National Certification System for the refrigeration and air conditioning sector is underway. A Memorandum of Understanding was prepared, discussed and signed by representatives of the National Institute for Technical and Professional Formation (INFOTEP), UNDP and MARN; Aimed to strength the national R&R network, a procurement process for refrigeration equipment was carried out, equipment purchased will be distributed during April 2014.

### 3. HCFC CONSUMPTION AND REMAINING ELIGIBLE CONSUMPTION

The Dominican Republic does not produce any substances that deplete the ozone layer, so consumption is entirely dependent on imports. Nowadays, consumption of HCFC is composed especially on HCFC-22 in refrigeration and air conditioning sector, HCFC-141b as blowing agent in pre-blended polyols for the manufacture of foams and cleaning agent in maintenance activities and HCFC-123 in air conditioning maintenance.

Overall HCFC consumption in the country is decreasing, especially HCFC-22 as a large part of new equipment for the tourist sector and refrigeration industry is now based in R-410A and R-404A. Consumption of HCFC-141b in pre-blended polyols is expected to be eliminated during 2014 as the foam component of the HPMP is being finished. In table 1 the latest consumption reported is shown and in table 2 the remaining eligible consumption as per agreement between the country and the MLFS.

**Table 1. Dominican Republic HCFC consumption.**

<b>Substance</b>	<b>2010 MT</b>	<b>2011 MT</b>	<b>2012 MT</b>	<b>2013 MT</b>
HCFC-22	978.85	890.6	720.2	600
HCFC-123	4	0.23		1.14
HCFC-141B		10.2	11.47	16

**Table 2. Remaining eligible consumption.**

<b>HCFC</b>	<b>Baseline</b>	<b>Starting Point</b>	<b>Approved</b>	<b>Remaining</b>
HCFC-22	50.41	50.41	7.03	43.38
HCFC-141b	0.6	0.6	0.6	0
HCFC-123	0.19	0.19		0.19
<i>Subtotal</i>	<i>51.2</i>	<i>51.2</i>	<i>7.63</i>	<i>43.57</i>
HCFC-141b in pre-blended polyols.	19.51	19.51	19.51	0
<b>TOTAL</b>	<b>70.71</b>	<b>70.71</b>	<b>27.14</b>	<b>43.57</b>

### 4. STAGE II PROJECT PREPARATION ACTIVITIES

Dominican Republic looked to work together with the different stakeholders in the preparation and implementation of Stage I of its HPMP and its part of its overall strategy to keep involving the stakeholders, both from governmental and private sectors, in the preparation of the Stage II. The activities of the Stage II project preparation can be divided in 6 steps: a) Launch of Stage II preparation, b) survey for updating of HCFC use profile in the country, c) Assessment of current situation and stakeholders' needs, d) Definition of priorities and objectives, e) Presentation of Stage II of HPMP strategy to stakeholders, and f) Preparation of the final document; In table 3 a brief description and cost of these activities are presented.

**Table 3. Activities to be undertaken during Stage II preparation.**

<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
<b>1</b>	<b>Workshop with stakeholders to present the progress in the implementation of stage I of the HPMP and the action plan to ensure an appropriate Stage II preparation.</b>	<b>5,000</b>
<b>2</b>	<b>Conduct a survey to update the HCFCs use in Dominican Republic</b>	<b>15,000</b>
	<i>Review of official data on HCFCs imports by substance and by sector.</i>	2,000
	<i>Meetings with importers to understand the logistic of the current product chain, to identify possible barriers for the introduction of replacement options and to update the list of distributors, suppliers and large end-users.</i>	3,000
	<i>Visits to main end-users by sector to collect information on specific applications and build the baseline on related equipment (capacity, procurement date, etc.), on HCFCs consumption and on expectations about HCFCs replacement (new alternatives, time-line, etc.).</i>	5,000
	<i>Preparation of the document related to the market survey update</i>	5,000
<b>3</b>	<b>Assessment of current situation and needs of stakeholders</b>	<b>14,000</b>
	<i>Assessment of current situation and definition of required improvement for the projects implemented in the first stage of the HPMP for servicing subsector. (training and certification of refrigeration and air conditioning technicians, technical assistance for the refrigeration and air conditioning maintenance and technical assistance for end users)</i>	5,000
	<i>Two regional workshops with the recovery and recycling network stakeholders to present and discuss the current state and new objectives to improve the capacity of the network.</i>	6,000
	<i>Workshop with the Customs Office, the Ministry of Industry and Commerce and Prosecutors, Environmental Lawyers and Judges to discuss the results of the activities implemented to control ODS trade and prevent illegal commerce.</i>	3,000
<b>4</b>	<b>Priorities and objectives definition</b>	<b>11,000</b>
	<i>Definition of the country strategy for the second stage of the HPMP, including the definition of non-investment projects to be implemented to ensure the HCFCs consumption reduction in the RAC sector. Conduct the required meetings with RAC equipment suppliers and main installing and charging enterprises.</i>	5,000
	<i>Conduct the final meeting with the recovery and recycling network stakeholders. Prepare the non-investment project.</i>	3,000
	<i>Conduct the final meeting with the Customs Office, the Ministry of Industry and Commerce and Prosecutors, Environmental Lawyers and Judges Prepare the non-investment project for technical assistance to enhance the control of ODS trade that will support the HCFCs phase out.</i>	3,000
<b>5</b>	<b>Presentation of the HPMP Stage II strategy to stakeholders</b>	<b>5,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	5,000
<b>6</b>	<b>Preparation of the final document (second stage of HPMP)</b>	<b>10,000</b>
<b>TOTAL</b>		<b>60,000</b>

## Country – India

The information requested for funding for overarching strategy and investment components are given below.

### Overarching Strategy

India HPMP Stage-I was approved in the 66<sup>th</sup> meeting of the Executive Committee of the MLF. HPMP Stage-I included polyurethane sector plan, project management component, enabling activities and refrigeration servicing sectors. Total funding that was approved was US \$ 21,294,490 plus implementing agency support cost.

The following table presents the consumption trends by sector and substance for priority end-use sectors.

	2011				2012			
	Ref. mfg.	Ref. serv.	Foam	Others	Ref. mfg.	Ref. serv.	Foam	Others
HCFC 22	5292	4575	290	110	8342	7041	264	0
HCFC 141b	500	0	7064	360	345	0	5742	239
HCFC 142b	70	330	245	0	0	912	396	0
HCFC 123	0	0	0	0	0	100	0	36
HCFC 124	110	109	70	0	0	69	0	0
<b>Total</b>	<b>5972</b>	<b>5014</b>	<b>7669</b>	<b>470</b>	<b>8687</b>	<b>8122</b>	<b>6402</b>	<b>275</b>

Through a combination of awareness and information outreach on HCFCs, regulations to control consumption of HCFCs through quota system as well as controls on consumption growth in end-use sectors, HCFC consumption growth has been curtailed. Some of the key factors that have influenced growth are given below:

- Implementation of comprehensive regulatory measures
  - Prohibition on creating new capacities to manufacture products with HCFCs from 2013.
  - Prohibition on import of blends containing ODSs including HCFCs.
  - Prohibition on import of pre-blended polyols containing HCFCs from 1<sup>st</sup> January, 2013.
  - Introduction of quota system for production and supply to the domestic market of HCFC-22 for non-feedstock applications.
  
- Creating awareness among the stakeholders through consultative meetings about the challenges faced in the phase-out of HCFCs and emphasizing need for curtail of growth in end-use sectors.

### Data collection need

Data collection activity that needs to be undertaken mainly relates to trends in consumption of HCFCs as of 2013 and expected growth along with drivers of growth. Stakeholder consultative meetings are also required for (a) understanding the growth patterns and trends along with status of adoption of alternatives by the industry, (b) understanding impact of regulations and need for additional interventions required for achieving future HPMP targets keeping in mind emerging market, technology trends, increased demand due to national policy on promotion of cold chain and penetration of RAC equipment in semi urban areas. During Stage-I HPMP preparation, data was collected on an overall assessment of the market trends and growth patterns of HCFCs. This needs to be supplemented with this data collection to prepare strategy and action plan for Stage-II. Further, over the last 4-5 years, industry structure and consumption patterns of HCFCs along with availability of alternatives have changed and these changes need to be understood and reflected while preparing Stage-II HPMP.

A summary table containing the activities that would be undertaken as a part of HPMP preparation along with costs for the same is given below:



Activity	Particulars	Value in USD
Field survey and data collection	<ul style="list-style-type: none"> <li>Recruitment of consultancy organization for field survey</li> <li>Field survey and data collection</li> <li>Report preparation and finalization</li> </ul>	30,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>Inception workshop</li> <li>Consultative workshops with stakeholders (sub-regional)</li> <li>Finalisation workshop</li> </ul>	20,000
<b>Total</b>		<b>50,000</b>

UNEP and GIZ would submit funding request aggregating to US \$ 40,000 (total) relating to service sector and other non-investment activities relating to training and information outreach in their respective work programs.

### Investment project proposal

The following table presents summary of investment projects proposed to be submitted after survey and data analysis of HCFC consumption and national strategy for HCFC phase-out to achieve targets for Stage II and beyond.

Sector	Sub-sector	Estimated no. of enterprises (Nos.)	Substance	Estimated consumption (MT)	Estimated no. of enterprises to be considered for HCFC phase-out in Stage-II
<b>Aerosol</b>		15	HCFC-141b	80	0
<b>Air-Conditioning</b>	Light commercial	200	HCFC-22 HCFC-123	6580	20
<b>Fire Fighting</b>		15	HCFC-123 HCFC-124	260	0
<b>Polyurethane Foam</b>	Rigid Polyurethane Foam – Domestic Refrigeration, Continuous Sandwich Panels, Discontinuous Sandwich Panels, Thermoware, Water Heaters, General Insulation, Spray/In-situ	450	HCFC-141b HCFC-142b HCFC-22	5820	250

Sector	Sub-sector	Estimated no. of enterprises	Substance	Estimated consumption	Estimated no. of enterprises to be considered for HCFC phase-out in Stage-II
	<i>insulation</i>				
<b>Integral Skin Polyurethane Foams</b>	Automotive and Furniture applications	40	HCFC-141b	400	20
<b>XPS</b>	XPS	3	HCFC-142b HCFC-22	150 150	3
<b>Refrigeration</b>	Commercial / industrial applications (mainly)	60	HCFC-22	1400	30
<b>Servicing sector</b>			HCFC-22 HCFC-123	6720	

Note:

1. The number of enterprises is based on estimates available during HPMP Stage-I preparation.
2. Details of enterprise-wise consumption is not available. However, for sub-sectors to be addressed, estimated consumption reduction proposed to be achieved is given based on best estimates.

Estimated total quantity of HCFCs that is expected to be phased-out (i.e., baseline consumption) for individual sectors and subsectors is given in the table below.

Sector	Sub-sector	Estimated quantity of HCFC consumption to be phased-out	
		MT	ODP tons
Polyurethane Foam	Rigid Polyurethane Foam : - <i>Discontinuous Sandwich Panels, Thermoware, Water Heaters etc..</i>	2800	308
Integral Skin Polyurethane Foams	Automotive and Furniture applications	250	28
XPS Foam		300	18
Refrigeration	Commercial refrigeration	500	28
Air-Conditioning	Light commercial	700	39
Service Sector		800	44

The above sectors have been identified based on assessment of consumption levels that could be addressed in Stage II, technology options that are expected to be available and need to curtail growth in consumption in these sectors/sub-sectors.

A summary table containing the activities that would be undertaken as a part of HPMP investment component preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection (for five sub-sectors)	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	320,000
Stakeholder consultations (for five sub-sectors)	<ul style="list-style-type: none"> <li>• Consultative workshops with stakeholders (sub-regional for different sectors)</li> </ul>	60,000
Communications and miscellaneous (for five sub-sectors)	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey for investment component</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	20,000
<b>Total</b>		<b>400,000</b>

## Country – Indonesia

The information requested for funding for overarching strategy and investment components are given below.

### **Overall progress of Stage-I**

Indonesia HPMP was approved in the 64<sup>th</sup> Meeting of the Executive Committee. HPMP included investment activities in RAC sector as well as foam sector and project management component. Total funding that was approved was US \$ 12.69 million.

Over the last three years, Indonesia has implemented a range of activities including investment projects, awareness and information outreach activities and regulations for facilitating HCFC phase-out. Agreements with enterprises covering 54% and 60% of HCFC consumption to be phased-out in refrigeration sector and air-conditioning sector, respectively, have been signed and the enterprises are procuring and installing equipment in their manufacturing facilities. For the remaining enterprises, signature of agreement and subsequent project implementation steps would be undertaken HY1-2014. In case of foam sector, agreements have been concluded with enterprises covering 62% of total consumption to be phased-out, by end of December 2013 and these enterprises are at different stages of procuring and installing equipment for conversion of their manufacturing facilities.

In addition, the Government is implementing several policies and regulations for controlling HCFC consumption and facilitating adoption of alternatives. The details of the same have been submitted in the progress report submitted to the 71<sup>st</sup> Meeting of the Executive Committee where second tranche of HPMP was approved. As required under Decision 63/17, the Government of Indonesia has an enforceable national system of licensing and quotas for HCFC imports and, where applicable, production and exports is in place and that the system is capable of ensuring the country's compliance with the Montreal Protocol HCFC phase-out schedule for the duration of the agreement between Indonesia and the Executive Committee. To facilitate adoption of R-32 by the industry, the Government has also put in place a regulation that removes R-32 from list of highly flammable substance. Ministry of Industry is currently working on development of standards for safe use of R-32 in refrigeration and air-conditioning equipment in Indonesian market.

**It must also be noted that the progress on implementation of HPMP activities has been submitted for the consideration of the 71<sup>st</sup> Meeting of the Executive Committee and the funds for the second tranche have been approved in that meeting.**

### **Overarching Strategy for Stage-II**

The following table presents the consumption trends by sector and substance for priority end-use sectors.

	2011				2012			
	Ref. mfg.	Ref. serv.	Foam	Others	Ref. mfg.	Ref. serv.	Foam	Others
HCFC 22	664.64	3245.00			622.61	3039.78		
HCFC 141b	353.47		656.44		383.74		712.66	
HCFC 142b		64.12			24.86			
HCFC 123		162.07		149.60*		99.28		91.65*
HCFC 225				13.96**				27.29**
<b>Total</b>	<b>1018.11</b>	<b>3371.19</b>	<b>656.44</b>	<b>163.56</b>	<b>1031.21</b>	<b>3139.06</b>	<b>712.66</b>	<b>118.94</b>

\*This relates to consumption of HCFC-123 in fire-fighting applications.

\*\*This relates to consumption of HCFC-225 in solvent applications.

HCFC-22 demand has been growing due to robust economic growth experienced by Indonesia, and the resultant rapid increase in demand for air conditioning and refrigeration appliances and equipment. As mentioned in the HPMP, the equipment serves the upstream and downstream cold chain as well as the demand for comfort air conditioning systems for homes and offices. HCFC-22 demand has also grown in servicing of appliances. The increase in HCFC-141b demand is directly dependent on the growth of demand for foam manufacturing in the country. HCFC-142b is consumed mainly in commercial refrigeration equipment and HCFC-225 is used in small quantities as a solvent. The demand for HCFC-123 is mainly due to servicing of HCFC-123-based chillers and fire-fighting equipment (which includes both manufacturing and servicing). The consumption in servicing is mainly of HCFC-22 and HCFC-123.

The decrease in consumption of HCFCs from the year 2011 to 2012 was primarily driven by controls on HCFC imports through quotas in 2012 coupled with higher levels of awareness on HCFC phase-out.

#### **Data collection need**

Data collection activity that needs to be undertaken mainly relates to trends in consumption of HCFCs as of 2013 and expected growth along with drivers of growth. Stakeholder consultative meetings are also required for (a) understanding the growth patterns and trends along with status of adoption of alternatives by the industry, (b) understanding impact of regulations and need for additional interventions required for achieving future HPMP targets keeping in mind emerging HCFC consumption trends and technology trends in adoption of HCFC free alternatives.

During Stage-I HPMP preparation, data was collected on an overall assessment of the market trends and growth patterns of HCFCs and this data was mainly collected in the year 2009. This needs to be reviewed and latest trends on consumption of HCFCs need to be collected to prepare strategy and action plan for Stage-II. Further, over the last 4-5 years, industry structure and consumption patterns of HCFCs along with availability of alternatives to HCFCs have changed and these changes need to be understood and reflected while preparing Stage-II HPMP.

Servicing sector needs special attention during Stage-II of HPMP. Current market trends show that a range of alternatives to HCFCs are being adopted in Indonesia in RAC sector. Strengthening service sector technical capacity and understanding for servicing equipment using these alternatives is very important to ensure sustainable HCFC phase-out in the country. Stage-II preparation activities will address this on priority and identify interventions needed for assisting service establishments to achieve HCFC phase-out. It must be noted here that the field survey activities will be primarily relating to service sector focusing on identification of changes in the industry structure and trends, technology adoption challenges and project interventions for reducing HCFC consumption in service sector.

A summary table containing the activities that would be undertaken as a part of HPMP preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	70,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Inception workshop</li> <li>• Consultative workshops with stakeholders (including technical working groups)</li> <li>• Finalisation workshop</li> </ul>	15,000
Communications and	<ul style="list-style-type: none"> <li>• Communication costs for organization of</li> </ul>	5,000

miscellaneous	HPMP survey <ul style="list-style-type: none"> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	
<b>Total (UNDP component)</b>		<b>90,000</b>

### Investment project proposal

Investment component under Stage II of HPMP would be primarily relating to two sectors, namely foam manufacturing and fire-fighting applications, besides investment activities to assist service sector in achieving HCFC phaseout/

The following table presents summary of investment projects for foam and fire-fighting sectors proposed to be submitted after survey and data analysis of HCFC consumption and national strategy for HCFC phase-out to achieve targets for 2020 and beyond.

Sector	Sub-sector	Total no. of enterprises	Substance	Total consumption (2009)	Estimated no. of enterprises to be considered for HCFC phase-out in Stage-II
		nos.		MT	
Foam	Several	80+	HCFC-141b	773	42
Fire-fighting	Fire-fighting extinguisher manufacturing / installation	4*	HCFC-123	240	4

Note:

- The number of enterprises is based on estimates available during HPMP Stage-I preparation. "\*" indicates number of enterprises engaged in manufacturing fire-fighting equipment.
- Details of enterprise-wise consumption are not available. However, for sub-sectors to be addressed, estimated consumption reduction proposed to be achieved is given based on best estimates.

A detailed proposal for activities that would be undertaken in the foam sector for investment project preparation with USD 150,000 funding will be provided by The World Bank as a part of their work plan.

Data collection for the foam sector plan was done based on a top down approach. While all foam enterprises were identified under Stage I, a detailed technical assessment was done only for enterprises covered under Stage I. Hence, the proposed preparation will involve an update of the overall HCFC consumption in the foam sector and detailed technical assessment of enterprises that are not part of Stage I. Preparation activities will include a survey via questionnaire and follow up by site visits as well as technical assessment to determine proper choices of alternatives, and stakeholder consultations since companies with different level of consumption may be eligible for different alternatives due to limited funding from the Executive Committee.

A summary table containing the activities that would be undertaken as a part of project preparation for HPMP investment component for fire-fighting applications along with costs for the same is given below:

Activity	Particulars	Value in USD
Field survey and data	• Recruitment of consultancy organization for field	35,000

collection	survey <ul style="list-style-type: none"> <li>• Field survey and data collection</li> <li>• Report preparation including technology options review and selection for phase-out projects and finalization</li> </ul>	
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Consultative workshops with stakeholders (sub-regional for different sectors)</li> </ul>	10,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey for investment component</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	5,000
<b>Total</b>		<b>50,000</b>

The total value of investment component project preparation is USD 200,000 (i.e., USD 50,000 for fire-fighting and USD 150,000 for foam sector).

## Country – Iran

The information requested for funding for overarching strategy and investment components are given below.

### **Overall progress of Stage-I**

Iran HPMP was approved in the 63<sup>rd</sup> Meeting of the Executive Committee. HPMP included investment activities in RAC sector as well as foam sector and project management component. Total funding that was approved was US \$ 10.39 million.

Over the last three years, Iran has implemented a range of activities including investment projects, awareness and information outreach activities and regulations for facilitating HCFC phase out. Agreements were signed with the manufacturing companies covered under HPMP in RAC applications and foam sector including continuous and discontinuous sandwich panels and domestic refrigerators. In addition to the above, Government has enacted policies and regulations to control growth of HCFC consumption in manufacturing, implemented licensing and quota system to restrict import of HCFCs to limits specified in the agreement and carried out training program for service technicians and enforcement officials. The above measures have helped the country in constraining the growth of HCFC-22 and HCFC-141b consumption in the country. **More details of the progress of activities under HPMP are provided in the progress report that is submitted to this Executive Committee meeting.**

### **Overarching Strategy for Stage-II**

The following table presents the consumption trends by sector and substance for priority end-use sectors.

	2011				2012			
	Ref. mfg.	Ref. serv.	Foam	Others	Ref. mfg.	Ref. serv.	Foam	Others
HCFC 22	1439.08	1560.53	26.60	0	1441.58	1563.24	26.65	0
HCFC 141b	861.20	0	1053.29	0	858.31	0	1049.75	0
<b>Total</b>	<b>2300.28</b>	<b>1560.53</b>	<b>1079.89</b>	<b>0</b>	<b>2299.89</b>	<b>1563.24</b>	<b>1076.4</b>	<b>0</b>

As the country plans to diversify its economy and considering that the implementation of Iran's Five- Years Social –Economic Plan targeted at 2015, an industry growth is expected during 2013-2015 and the average growth rate of Gross National Product (GNP) has been projected to be 8% at the end of 2015. The growth in consumer demand for RAC equipment and growth in construction sector are primary drivers of growth in consumption of HCFC-22 and HCFC-141b. It must also be noted that all imports of raw materials are strongly delayed due to payment requirements and export licence award. All payments have to be done in advance by TT and this means higher costs for the companies. Secondly, all exports to Iran are subject to award of an export licence which takes considerable time. This makes the consumption situation constrained for HCFCs in the country.

Noting the above and as a result of expected economical growth and subsequently increase in the HCFCs consumption trends, the challenge of controlling HCFC consumption and achieving HCFC consumption targets for 2013 was achieved through a sound mechanism of licensing system to imports HCFCs coupled with fast-track implementation of HCFC consumption phase-out project. The situation was brought under control through a strict quota system.

### **Data collection need**

Data collection activity that needs to be undertaken mainly relates to trends in consumption of HCFCs as of 2013 and expected growth along with drivers of growth. Stakeholder consultative



meetings are also required for (a) understanding the growth patterns and trends along with status of adoption of alternatives by the industry, (b) understanding impact of regulations and need for additional interventions required for achieving future HPMP targets keeping in mind emerging HCFC consumption trends and technology trends in adoption of HCFC free alternatives.

During Stage-I HPMP preparation, data was collected on an overall assessment of the market trends and growth patterns of HCFCs and this data was mainly collected in the year 2009. This needs to be reviewed and latest trends on consumption of HCFCs need to be collected to prepare strategy and action plan for Stage-II. Further, over the last 4-5 years, industry structure and consumption patterns of HCFCs along with availability of alternatives to HCFCs have changed and these changes need to be understood and reflected while preparing Stage-II HPMP.

Servicing sector needs special attention during Stage-II of HPMP. Current market trends show that a range of alternatives to HCFCs are being adopted in Iran in RAC sector. Strengthening service sector technical capacity and understanding for servicing equipment using these alternatives is very important to ensure sustainable HCFC phase-out in the country. Stage-II preparation activities will address this on priority and identify interventions needed for assisting service establishments to achieve HCFC phaseout.

A summary table containing the activities that would be undertaken as a part of HPMP preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	30,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Inception workshop</li> <li>• Consultative workshops with stakeholders (including technical working groups)</li> <li>• Finalisation workshop</li> </ul>	10,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	5,000
<b>Total (UNDP component)</b>		<b>45,000</b>

Overarching strategy funding for a cumulative amount of US \$ 45,000 for addressing service sector and other non-investment enabling components would be utilized by UNEP (US \$ 25,000) and Government of Germany (US \$ 20,000) and this would be separately presented in their Work Program (to be submitted to the 72<sup>nd</sup> Meeting of the Executive Committee by the respective agencies).

## Investment project proposal

The following table presents summary of investment projects proposed to be submitted after survey and data analysis of HCFC consumption and national strategy for HCFC phaseout to achieve targets for Stage II and beyond.

Sector/sub-sector	No. of enterprises	Substance	Consumption	No. of enterprises to be addressed in Stage 2
<b>Foam</b>				
Rigid PU Foam (sandwich panel)	25	HCFC-141b	79.08	12
Rigid PU Foam (others)	13	HCFC-141b	24.47	10
Rigid PU Foam (spray)		HCFC-141b	-	
Integral Skin	10	HCFC-141b	15.25	10
XPS	3	HCFC-22	2.31	-
<b>Air-conditioning</b>				
Residential Air-conditioners	33	HCFC-22	40.35	
Commercial Air-conditioning	(incl. in above)	HCFC-22	1.74	
Industrial Air-conditioning (Chillers)	20-25	HCFC-22	19.43	25
<b>Refrigeration</b>				
Domestic Refrigeration Equipment	35	HCFC-141b	63.24	
Commercial Refrigeration Equipment	21	HCFC-22/141b	39.24	21
Industrial Refrigeration Equipment	40	HCFC-22	9.95	40
Transport Refrigeration Equipment	More than 5	HCFC-22	0.58	5
<b>Servicing</b>		HCFC-22	85.19	
<b>Total</b>			380.83	

*Note:*

5. *The number of enterprises is based on estimates available during HPMP Stage-I preparation.*
6. *Details of enterprise-wise consumption is not available. However, for sub-sectors to be addressed, estimated consumption reduction proposed to be achieved is given based on best estimates.*

The strategy which would be developed during Stage-II would delineate how many enterprises would be finally addressed under each sector for achieving the HCFC phase-out targets. Given the focus on manufacturing activities, the Government proposes to address most of the manufacturing activities including foam sector and refrigeration & air-conditioning sector by 2020.

A summary table containing the activities that would be undertaken as a part of HPMP investment component preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	40,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Consultative workshops with stakeholders (sub-regional for different sectors)</li> </ul>	5,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey for investment component</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	5,000
<b>Total</b>		<b>50.000</b>

*Note: This relates to only UNDP component. Government of Germany's investment component preparation request would be submitted separately as a part of their work plan.*

**KYRGYZSTAN**

**PREPARATION OF  
HCFC PHASE-OUT MANAGEMENT PLAN  
(HPMP) -  
Second (2<sup>nd</sup>) Stage – For compliance with 2020 targets**

**PROPOSED INSTITUTIONAL ARRANGEMENTS AND BUDGETS**

PREPARED BY

National Ozone Center - Kyrgyzstan  
United Nations Development Programme (UNDP)  
United Nations Environment Programme (UNEP)

**March 2014**

## **PREPARATION OF HPMP-Stage II**

### **Proposed Institutional Arrangements and Budget**

#### **1. INTRODUCTION**

This document describes the proposed institutional arrangements and budgets for preparation of HPMP-Stage II for Kyrgyzstan, which has assigned to UNDP, as a lead, and UNEP, as a cooperating implementing agency, the responsibility of preparing the related documentation. Such arrangements would need:

- f) To reflect national context and priorities, national policies and country-drivenness and consequently would need the agreement of the State Agency for Environmental Protection and Forestry of the Government of Kyrgyzstan (SAEPF) and the National Ozone Center (NOC) to the proposals contained herein;
- g) To facilitate seamless application of the proposed arrangements to the next implementation stage of the HPMP to follow, once it is approved – HPMP-Stage II (2015-2020);
- h) To draw upon the lessons learnt from functioning of institutional arrangements and operational mechanisms employed in the implementation of HPMP-Stage I and to the extent possible ensure coordinated implementation existing MLF-funded initiatives;
- i) To be dynamic and evolving, and to be open for revisions and adaptation as necessary in response to evolving situations.

#### **2. BACKGROUND**

The XIXth Meeting of the Parties to the Montreal Protocol in September 2007, through its Decision XIX/6, adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs would be from 01 January 2013, at the Baseline Levels (average of 2009 and 2010). The second control step is the reduction of 10% from the Baseline Levels in 2015. The decision also directed the Executive Committee (ExCom) of the Multilateral Fund to assist the Parties in preparation of HCFC phase-out Management Plans.

The 54<sup>th</sup> Meeting of ExCom in April 2008, through Decision 54/39, adopted guidelines for preparation of HCFC phase-out management plans. These guidelines provided indicative outline and contents of the HCFC phase-out management plans, which are essentially based on earlier guidelines developed and followed for the Terminal Phase-out Management Plan (TPMP) (RMPs/TPMPs/SPPs/NPPs). The decision featured the following key elements:

- a) Adoption of a staged approach to implementation of the HCFC phase-out management plans within the context of an overall national strategy. The first stage would focus on compliance with the 2013 freeze and 2015 reduction targets. The second stage would focus on HCFC phase-out in compliance with the future reduction control targets;
- b) Commitments to achieving the 2013 (freeze at the 2009/2010 baseline level) and 2015 (10% reduction) control milestones through performance-based agreements;

- c) In countries where there are multiple implementing agencies, a lead agency should be designated to coordinate the overall development of the HCFC phase-out management plans.

Acting through UNDP as HPMP formulation agency, Kyrgyzstan approached the MLF and the Executive Committee for a preparatory funding of US\$ 85,000 and at the 55<sup>th</sup> meeting of ExCom in July 2008, this request was approved.

While initial HPMP-Stage I formulation works were ongoing in that time, the 60<sup>th</sup> ExCom in April 2010 reviewed and approved HCFC phase-out funding criteria (decision 60/44). A year after, at the 63<sup>rd</sup> ExCom meeting in April 2011, the HPMP-Stage I for Kyrgyzstan was approved for implementation.

At the coming 72<sup>nd</sup> meeting of ExCom, Kyrgyzstan expects that it's second and last tranche of HPMP-Stage I will receive approval, and that the national level activities to finalize implementation of this initial stage will be completed during 2014 to prepare the country to meet 2015 reporting obligations – 10% reduction in HCFC consumption from baseline situation.

With respect to preparation for HPMP-Stage II, the 71<sup>st</sup> ExCom agreed to related funding guidelines for Article 5 countries (decision 71/42). The current request has been prepared based on recommendations contained in this guidance document.

### **3. PROGRESS IN HPMP-STAGE I IMPLEMENTATION**

*(a) A description of the current progress in implementation of the overall stage I of the HPMP to demonstrate that substantial progress had been made, supported with both quantitative and qualitative data (two to three paragraphs)*

HPMP-Stage I, outlining an action plan for meeting “freeze” and 10% reduction requirements by 2013 and 2015 respectively, for Kyrgyzstan was jointly prepared by UNDP/UNEP, as lead and cooperating agencies, and submitted to the 63<sup>rd</sup> meeting of the Executive Committee in 2011.

The project document was prepared to define the Government of the Republic of Kyrgyzstan's commitment, plan and resource requirements to meet the obligations that it had assumed as a Party to the Montreal Protocol under Decision XIX/6<sup>4</sup> of the Meeting of Parties (MOP). HPMP-Stage I was developed in accordance with the guidance issued by Executive Committee (ExCom), specifically the document UNEP/OzL.Pro/ExCom/54/53<sup>5</sup> and ExCom Decision 54/39<sup>6</sup>.

HPMP-Stage I for Kyrgyzstan was approved in April 2011 at the 63<sup>rd</sup> meeting of the Executive Committee with two implementing agencies designated to support the Government of Kyrgyzstan in its implementation: UNDP, as lead, and UNEP, as cooperating.

The overall incremental cost as capped by decision 60/44 for this HPMP was US\$ 88,000, not counting agency fees associated. The details of this funding are summarized as follows. It should

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<sup>4</sup> [http://ozone.unep.org/Meeting\\_Documents/mop/19mop/MOP-19-7E.pdf](http://ozone.unep.org/Meeting_Documents/mop/19mop/MOP-19-7E.pdf), Page 33

<sup>5</sup> <http://www.multilateralfund.org/files/54/5453.pdf>,

<sup>6</sup> <http://www.multilateralfund.org/files/54/5459.pdf>, Page 43, Annex XIX

be noted that the Government had decided that the Institutional Strengthening programme would be funded and implanted outside of HPMP programme.

	IA	Project	Total	Tranche 1	Tranche 2
1 & 2. Non-investment Components	UNEP	<b>1. Legal and Regulatory Action</b>	\$ 5,200	\$ 5,200	
	UNEP	<b>2. Technical Capacity Strengthening</b>			
		2.1. Customs/environmental training	\$ 12,500	\$ 12,500	
		2.2. Technician Training	\$ 12,500	\$ 12,500	
		2.3. Monitoring	\$ 5,000	\$ 1,480	\$ 3,520
		Sub-Total for UNEP	\$ 35,200	\$ 31,680	\$ 3,520
3. Investment Component	UNDP	<b>3.1 Initial development of HCFC Refrigerant Management Plan</b>	\$ 52,800	\$ 47,520	\$ 5,280
		Sub-Total for UNDP	\$ 52,800	\$ 47,520	\$ 5,280
		Sub-Total UNEP	\$ 35,200		
		Sub-Total UNDP	\$ 52,800		
		Support cost UNEP (13%)	\$ 4,576		
		Support cost UNDP (9%)	\$ 4,752		
		Grand Total UNEP	\$ 39,776		
		Grand Total UNDP	\$ 57,552		

At the 63<sup>rd</sup> meeting, the Executive Committee approved the initial, first HPMP tranche “at the amount of US \$87,595 comprising US \$47,520, plus agency support costs of US \$4,277 for UNDP, and US \$31,680, plus agency support costs of US \$4,118 for UNEP”<sup>7</sup> by Decision 63/35.

Based on the scheduled submission of the 2<sup>nd</sup> and last tranche of HPMP-Stage I in 2014, Kyrgyzstan has made preparation of a progress report and request for the last tranche to the 72<sup>nd</sup> ExCom meeting.

Among main achievements under Tranche 1 of HPMP-Stage I are the following important elements:

Legislation (UNEP):

- The licensing system with the quota-based HCFC control has been firmly in place and fully in operation in Kyrgyzstan.
- A new edition of the State Programme on Phase-out of HCFC substances for 2012-2025 was prepared (Phase 3), and will be endorsed by a relevant draft governmental regulation/decre. The draft decree was reviewed and approved by concerned line ministries and state agencies as per established legal act clearance procedures, and then submitted to the Government for final adoption.
- A draft technical regulation on "Safety requirements for the operation of refrigeration equipment" has been formulated with current EU provisions concerning the training and certification of personnel directly built into the regulation.
- The draft technical regulation was discussed with leading refrigeration experts at a national workshop on HCFC alternatives. It was further harmonized with the principal national law “On normative legal acts” #241 dated July 20, 2009, and submitted to the Ministry of Economics for review and analysis.
- Complementary to these, NOU has drafted a specialized guidance document<sup>8</sup> describing essential elements of the HCFC quota system’s operation - a methodology for interested parties/stakeholders, and it was submitted in 2013 to Ministry of Economics, the state-assigned licensing authority, for review and comments. NOU has received

<sup>7</sup> [http://www.multilateralfund.org/63/English/1/6360\\_c1.pdf](http://www.multilateralfund.org/63/English/1/6360_c1.pdf); paragraph 114.

<sup>8</sup> A recent edition of UNEP document "Establishment of HCFC Import Quota System" served as a basis for the draft national guidance: [http://www.unep.fr/ozonaction/information/mmc/lib\\_detail.asp?r=5445](http://www.unep.fr/ozonaction/information/mmc/lib_detail.asp?r=5445)

substantive comments and suggestions regarding the proposed mechanism of assigning HCFC import quotas.

Training of Customs and Refrigeration Technicians/Association (UNEP):

- During the reporting period, twelve (12) training workshops were held: six (6) for Customs (northern and southern regions) and six (6) for refrigeration specialists with a total of 400 participants attended;
- NOU presented to participants in Customs training a range of cross-cutting and synergistic issues on applicability of other MEAs (CITES, three chemical conventions, Kyoto protocol, Chemical weapons convention, UNODC and WCO) in the country. Aspects related to the role of Customs authorities in fulfilling their requirements such as controlled product import/export licensing and monitoring, and improving line agency coordination were in focus of these trainings;
- Approximately more than 1,500 copies of various publications (500 booklets, posters and leaflets, 1,000 quick summaries on HS nomenclature, and 50 copies of guidance materials) have been distributed during reporting period. Materials included Instructions to Customs Office on national ODS regulations, 2012 HS nomenclature (a Green Customs publication), Illegal Trade Cases (mislabelling options, common trade names), and other supporting visual aids;
- As a direct result of capacity building activities and other related initiatives, three (3) cases of unauthorized imports in ODS were prevented in the beginning of 2013: two (2) national air companies attempted at import halons without licenses, and one (1) non-registered company – at import of 40 MT of HCFCs from China;
- The main purpose of training workshops for technicians (185 people trained in total) has been HCFC use reduction through competent approach to equipment/appliance maintenance, and HCFC-22 reuse. This component has been considered as direct contribution to the implementation of the national HCFC phase-out programme in line with country's obligations under the Montreal Protocol;
- With respect to certification of refrigeration specialists, the Association in partnership with the National Technical University has been training 511 mechanics and 30 A/C mechanical engineers;
- In one of the professional schools in Bishkek (# 93) in 2013, NOU/Association organized a technician certification center where required training equipment, tools and technology stands were supplied to make the center operational. Ministry of Education and Science approved the training and certification programme prepared by the Association for this center, and a special license for such activities was received.
- In line with the existing contract between NOU, national RAC Association and Moscow State University (faculty of cooling technologies), fifty-four (54) students were received for admission at the University on a state budget scholarship at expense of the Russian Federation.

Initial Development of HCFC Refrigerant Management System/Demo-projects (UNDP):

- In the light of global discussions on HCFC replacement technologies, and NOU's attendance at CCAC technology forums during recent years that marked HPMP start, NOU decided to attempt at demonstration of newer low GWP technologies of small scale in the country to back spread of information on their market availability and performance in hot climatic areas of the Southern Central Asia.



- In this respect, an ITB (tender) for a two-stage demonstration installation running on carbon dioxide (CO<sub>2</sub>) was launched. Special preparatory work on selecting specifications/application needs for such demo-equipment was completed before ITB. The idea behind local assembly of equipment based on imported components and testing of such pilot installation running on HCFC-free/low GWP R744 refrigerant was to demonstrate to refrigeration technicians the new refrigerants and facilitate gaining practical experience in applying advanced technologies on the national level.
- During ITB, three (3) offers from one local and two foreign suppliers were obtained. After analyzing the results from financial stand-point, the proposed budgets exceeded the original estimate by 2.5-3 fold, and this result in dropping further tendering as well as work on the component with such budget limitations. Later on, NOU decided to go back to the original implementation approach and procure servicing tools for the country using the available budget. NOU and UNDP launched a separate new ITB process.
- Overall sixteen (16) sets of servicing tools/equipment were purchased and then distributed to technicians/service centers in the country. As an example, in October 2013, NOU held a workshop in the south and best performing technicians from the southern part of country were rewarded with quality-made R/R tools. Each set of R/R tools consisted of the following:

- plastic tool box;
- vacuum pump;
- set of flare tools for copper tubes;
- adapters for charging vehicle air conditioners;
- gauge manifold;
- multi-meters/thermometers; and
- propane-based welding equipment.

During implementation of Stage I of the HPMP, NOU has disbursed approximately US\$ 76,879.4 subject to slight correction after reconciliation of UNDP's 2013 financial reports in April 2014. This represents 97% delivery in the 1<sup>st</sup> Tranche, and 87% total delivery of the total Stage I (US\$ 88,000).

For more details on the progress achieved under Tranche 1 of HPMP-Stage I, please refer to a separately submitted Progress Report and Request for Tranche 2.

*(b) For the overarching strategy (one page, plus a table):*

*(i) A brief overview of the current HCFC consumption by substance and distribution by sector/subsector, with a short analysis and explanation of the consumption trend (i.e. increasing or decreasing). The remaining consumption eligible for funding should also be provided (this information is available from Appendix 2-A: The Targets, and Funding, of the Agreement between the Executive Committee and the country when their stage I HPMP was approved);*

Kyrgyzstan has provided Article 7 reports to the Ozone Secretariat and the summary of that information is provided below in ODP tons:

Chemical	2007	2008	2009	2010	2011	2012	2013	Baseline
CTC	0.0	0.0	0.0	0.0	0.0	0.0		0.0

Halon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HCFC	1.6	7.4	4.4	3.7	3.0	2.9		4.1
MBR	0.0	0.0	0.6	0.6	0.0	0.0		14.2
TCA	0.0	0.0	0.0	0.0	0.0	0.0		0.0

In terms of its HCFC consumption, HCFC-22 has been the only chemical imported for use in 2011 and 2012 according to the following reports:

**2011 - Raw Data Reported : Date of Reporting - 27/06/2012**

**Kyrgyzstan**

Imported	Exported	Produced	Destroyed	Trade with Non-Parties	Annex/Group Reported in Full?									Remark
					AI	AII	BI	BII	BIII	CI	CII	CIII	EI	
Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

**2011 Kyrgyzstan - Imports (Metric Tonnes)**

Substance Name	Annex Group	New Imports for all uses	Recovered Imports	New Imports for Feedstock Applications	New Imports for Process Agent Appl	New Imports for Approved Essential or Critical Uses	New Imports for Quarantine Applications	Remark
HCFC-22	CI	53.800						
Methyl Bromide	EI	1.000					1.000	

**2012 - Raw Data Reported : Date of Reporting - 03/06/2013**

**Kyrgyzstan**

Imported	Exported	Produced	Destroyed	Trade with Non-Parties	Annex/Group Reported in Full?									Remark
					AI	AII	BI	BII	BIII	CI	CII	CIII	EI	
Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

**2012 Kyrgyzstan - Imports (Metric Tonnes)**

Substance Name	Annex Group	Exporting Party	New Imports for all uses	Recovered Imports	New Imports for Internal Feedstock Appl	New Imports for Process Agent Appl	New Imports for Essential or Critical Uses	New Imports for Internal QPS Appl	Remark
HCFC-22	CI	Unspecified	52.900						
Methyl Bromide	EI	Unspecified	1.100					1.100	

Based on this information, it can be assumed that the HCFC import has been demonstrating a slow downward trend on a yearly basis. Methyl Bromide is used solely for QPS applications.

Remaining eligible HCFC-22 consumption is found in the servicing and equipment assembly sectors, and is contained imported appliances/refrigerated packages.

*(ii) A description of the information that needs to be gathered and updated, as well as an explanation of why this had not been undertaken during the preparation of stage I; and*

HCFC data collection and verification will follow those survey procedures developed and applied in the preparation of HPMP Stage-I, and will be directed to updating information in the field by deployment of a local expert team on in-country travel to principal territorial administrative units (regions, or oblasts), and main cities.

Direct discussions will be held with HCFC/HCFC equipment importers and distribution centers (companies), and assessments will be made on the future needs in HCFCs in servicing equipment fleet that has been already imported and installed in the country.

Appropriate consultations in the industry/private/public sectors will be arranged in regions on the Stage-II preparatory processes, expected information inputs, timeframes proposed for finalization

of formulation works and future design of the Government's backed interventions on the national level to prepare the country to meet 2020 HCFC phase-out obligations.

NOC will make sure that stakeholders are well informed on future legislative measures that may cover selective bans on import of HCFC-based equipment and appliances.

*(iii) An indication of the activities that need to be undertaken for PRP. Each activity (e.g., surveys, consultation meetings) has to be described briefly, taking into account what had been completed in stage I, and why a new or similar activity is required to develop the strategy for stage II. The costs for undertaking such activities should also be provided in a table;*

As mentioned in the HPMP overarching strategy/Stage I document, it was recognized at the outset that a strictly "top down" approach of relying on reported import data may have limitations. As in any country, the accuracy and comprehensiveness of this type of data will be a function of the capacity of the responsible institutions to identify imported HCFCs and potentially HCFC containing equipment/products through the licensing system, Customs data, and its level of physical enforcement. It will also be a function of the degree to which importers, distributors and end users of such equipment voluntarily comply with reporting and control measures and what economic and structural factors may exist to discourage such compliance.

In view of the above limitations, a more comprehensive "bottom up" approach to estimating HCFC consumption was adopted during preparation of HPMP-Stage I. It relied on direct survey and supplemented by the use of statistically based data to estimate the bank of HCFC containing equipment in service. The survey based methodology involved data collected directly at the enterprise level, including import/distribution enterprises, end users of HCFCs and HCFC containing equipment, and refrigeration servicing organizations, along with statistical data related to the amount of HCFC containing equipment in the country.

This approach was facilitated by the extensive network of contacts maintained by the NOC generally and particularly in the refrigeration sector, including involvement of the developing refrigeration association. Additional contacts among end-users generally were obtained through relevant national and local government agencies, as was the statistical data related to estimated total inventory of operating HCFC containing equipment.

In the current proposed work to formulate HPMP-Stage II, the NOC with support from UNDP and UNEP will follow the same format of work and update required baseline information, backed by the outreach to the HCFC importers and end-users in commercial sector as well as industry (agriculture, product supply chain), and identify the priority next steps to be taken to meet 2020/35% HCFC reduction step. Approaches to implement this phase-out will be designed in discussions with stakeholders and presented in a format for HPMP-Stage II acceptable for the review by the MLF and ExCom.

The following presents the joint budget for UNDP and UNEP:

<b>Implementing agency</b>	<b>Budget in US\$</b>
UNDP (lead)	20,000
UNEP (cooperating)	10,000

And, activities planned by each implementing agency are described in detail below:

## 1. HPMP-Stage II formulation and proposal for investment components formulation (UNDP)

UNDP will provide support to overall coordination HPMP-Stage II preparation activities and interact with partner UNEP agency during data collection and HPMP formulation.

On the national level, UNDP will help with recruitment of local expertise to enable local travel, stakeholder consultation on HCFC data collection and validation, assessment of HCFC consumption scenarios and development of draft action plan. Priority activities for investment components to meet next HCFC reduction milestone in 2020 will be presented to key stakeholders, consulted on and included in the action plan of HPMP-Stage II document.

The budget of US\$ 20,000 will cover national experts, local travel (DSA, tickets) and costs of national workshops in partnership with UNEP.

UNDP Budget Lines	US\$
National experts	7,000
Local travel (for experts, NOC staff)	5,000
Stakeholder workshops (co-shared with UNEP: total for workshops US\$ 10,000)	5,000
Printing/operational expense/translation	3,000
<b>Sub-total</b>	<b>20,000</b>

## 2. Non-investment component proposal (UNEP)

UNEP will support information collection and analysis for the non-investment components, and cover the policy and legislation aspects and capacity building activities in HCFC import/export monitoring function and the servicing sector for technicians.

The specific details of plan of action for phase-out would be set-out in the HPMP Stage II strategy and implementation plan document which will be developed by UNDP/UNEP for submission to the MLF Secretariat.

A summary table containing the activities that are proposed by UNEP be undertaken as a part of HPMP non-investment components preparation along with costs for the same is given below:

Activities	Details	Value in USD
National Consultants	<p><u>Local expertise will be recruited to enable the following field work:</u></p> <ul style="list-style-type: none"> <li>- Consideration of the need for additional legislative measures (selective equipment bans, etc) to support the continued HCFC phase-out process</li> <li>- Consideration of the need for additional actions for introduction of low GWP alternatives to HCFCs into the country in terms of safety/application standards, training, economic incentives;</li> <li>- Consideration of the need for additional training of customs officials and service technicians</li> <li>- Consideration of relevant Customs &amp; ODS legislation in the Customs Union and evaluation of potential needs of the country in monitoring legal and preventing illegal ODS trade</li> </ul>	5,000

	<ul style="list-style-type: none"> <li>- Support consultations with national stakeholders including servicing sector for development of implementation plan for non-investment component.</li> <li>- Prepare and finalize UNEP non-investment component for Kyrgyzstan, Rep Stage-II HPMP, primarily covering policy, training and capacity building needs of the country.</li> </ul>	
Stakeholder workshop	<ul style="list-style-type: none"> <li>- Consultative stakeholder workshop (inclusive DSA for participants, travel, printing, venue, operational expenses) to present and to obtain the endorsement of the strategy of UNEP non-investment component for Kyrgyzstan Stage-II HPMP. This will be held in an integrated manner with the workshop held under UNDP component (as a lead agency) during the Stage-II preparation phase</li> </ul>	5,000
<b>Total (UNEP component)</b>		<b>10,000</b>

#### 4. ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

This section outlines the roles and responsibilities of respective stakeholders in the implementation of activities involved in the preparation of the HPMP.

##### 3.1 State Agency for Environmental Protection and Forestry (SAEPF)

The SAEPF is the designated ministry responsible for the Montreal Protocol in Kyrgyzstan and operates through several departments, institutions and organizations. The key responsibilities of SAEPF in context of the Montreal Protocol are as below:

- ❖ Developing basic national principles on global issues; administering international cooperation and exchanges; participating in and coordinating important international activities; administering foreign economic cooperation; coordinating and implementing relevant overseas funded projects; handling international affairs; and responsible for liaison with international development as well as environmental organizations;
- ❖ Acting as focal point of managing, organizing and coordinating implementation activities;
- ❖ Formulating general and specific policies, laws and regulations, and administrative rules and regulations and organizing their implementation;
- ❖ Organizing research and development, and technical demonstration projects;
- ❖ Administering information/management systems, labeling and certification programmes
- ❖ Responsible for monitoring, statistics and information; formulating monitoring systems and norms; guiding and coordinating promotion, education, and publishing work; and promoting the participation of the public and NGOs

##### 3.2 National Ozone Center (NOC)

The NOC's operations are associated with and carried out under SAEPF's overall mandate. It carries out all tasks mentioned in the previous section when they relate specifically to the Montreal Protocol. The NOC thus functions as the country's focal point for the coordination of the ODS phase-out projects.

##### 3.3 Implementing Agencies for HPMP Preparation

UNDP has been designated as the lead Implementing Agency and UNEP as the cooperating Implementing Agency for the preparation of the HPMP (Stage-II) for Kyrgyzstan. The draft HPMP will be prepared following the guidelines approved by ExCom in related decisions and this will be done in close cooperation with SAEPF. UNDP will submit the HPMP document to ExCom upon endorsement of the final draft HPMP by Government. The role of UNDP/UNEP, respectful of assigned mandates, sectors of work and types of future assistance, during the preparation of HPMP (Stage-II) would be as follows:

*With respect to SAEPF/NOC*

- ❖ Support SAEPF/NOC in ensuring an effective and smooth process in preparation of the HPMP;
- ❖ Support SAEPF/NOC in review and endorsement process on the draft HPMP, for timely finalization and submission to the ExCom;
- ❖ Provide assistance with policy, management and technical support to SAEPF/NOC when required.

*With respect to Industries/commercial sectors*

- ❖ Assist SAEPF/NOC in the process of consultations with industries, commercial sectors and other relevant stakeholders on the technical and logistical aspects of the preparation of the sectoral and integrated HPMP;
- ❖ Assist SAEPF/NOC in discussions with industries, commercial sectors and relevant stakeholders on identification and selection of alternative technologies and technology transfer.

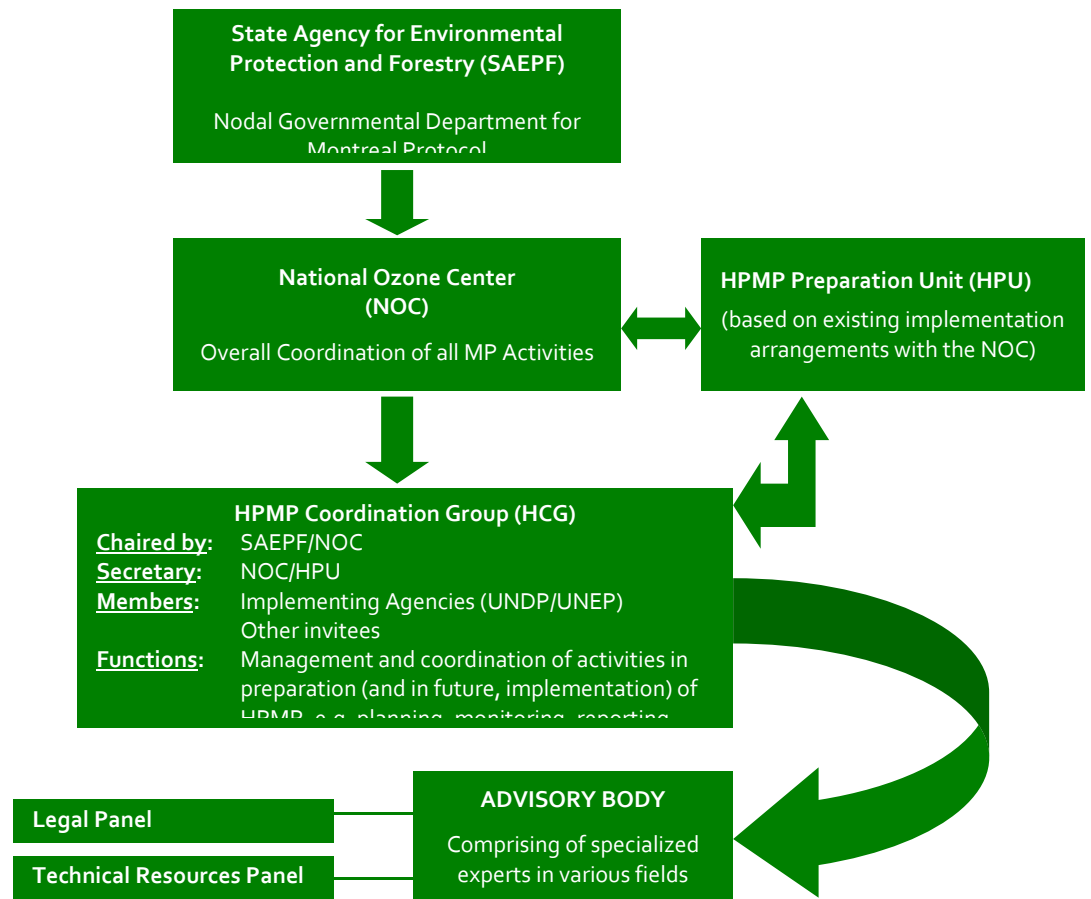
*With respect to MLF Secretariat and ExCom*

- ❖ Undertake consultations and clarifications with MLF Secretariat on HPMP guidelines and HPMP preparation process to facilitate effective preparation;
- ❖ Assist SAEPF/NOC in responding to comments on HPMP from MLF/ExCom.

#### **4. PROPOSED INSTITUTIONAL FRAMEWORK**

It is proposed to establish the following institutional framework for preparation of the HPMP, which can be subsequently adapted for implementation of the HPMP.

**Figure-1: Proposed Institutional Framework**



**a) HPMP Preparation Unit (HPU)**

The NOC is an existing infrastructure for day-to-day physical implementation of activities associated with the Montreal Protocol programmes.

The implementation structure for preparation of HPMP-Stage II will be linked to a direct supervision of the National Ozone Officer of NOC assisted by required national experts/administrative staff. This structure (HPU) would have the following key responsibilities:

- ❖ Operational responsibility for implementation of activities under the HPMP-Stage II preparation with the assistance of the implementing agencies (work plans, etc);
- ❖ Act as a focal point for prospective recipient enterprises in various HCFC-consuming sectors;
- ❖ Manage enterprise participation and enterprise-level HCFC phase-out/conversion activities (during implementation).

**b) HPMP Coordination Group (HCG)**

The HPMP Coordination Group will serve as an overall coordination body for activities related to the preparation and implementation of the HCFC phase-out management plan.

## Members

- ❖ Representatives from SAEPF/NOC, the National Committee on Ozone Depleting Substances (NOCDS) and the Implementing Agencies (UNDP/UNEP) as core members;
- ❖ Representatives from the Technical Resources Panel and other advisory panels (see below) as invitees when required
- ❖ SAEPF/NOC representative acts as Chair
- ❖ The HPU representative acts as Secretary

## Functions

- ❖ Overall coordination of implementation in collaboration with SAEPF/NOC
- ❖ Periodic review and monitoring/evaluation of progress of implementation
- ❖ Any corrective interventions as required
- ❖ Technical and policy advice to SAEPF/NOC on HCFCs as necessary

It is expected that the HCG would meet at least twice a year for review and coordination of HPMP preparation and future implementation activities.

### **c) Advisory Body**

The HCG, in consultation with the SAEPF/NOC, will establish an advisory body to provide specialized technical and other advice for implementation of various activities under the HPMP. The advisory body could cover technical, financial, legal and other aspects, pertaining to the preparation and implementation of the HCFC phase-out management plan. At a minimum, it is considered necessary to establish a technical body proposed to be named as the Technical Resources Panel (TRP) for providing technical advice upon request, to the HCG on technologies related to HCFCs and HCFC alternatives.

## **5. HPMP PREPARATION**

The preparation of the national HPMP would involve the following broad activities:

- ❖ Initial consultation meetings for stakeholders
- ❖ Constituting the national team
- ❖ Information dissemination and industry interaction
- ❖ Data Collection
- ❖ Data Analysis
- ❖ Draft document preparation
- ❖ Stakeholder interactions/consultations
- ❖ Finalization of the HPMP-Stage II proposal

### **5.1 Initiation Meetings of/for Stakeholders/Industry**

The initial meeting(s) of/for stakeholder consultation would mark the commencement of activities involved in the preparation of the HPMP-Stage II.



The expected outcomes of these meetings would be to finalize the roles and responsibilities of the various stakeholders/industry, development and finalization of the terms of reference for activities and personnel, finalization of work plans for various activities and development of formats and templates for data collection and reporting.

## **5.2 Constituting the National Team**

This would include recruitment and/or nomination of national personnel and experts for fulfilling various positions as envisaged in the proposed institutional framework. Existing arrangements of NOC coordinating/managing/supervising such work will be employed by both UNDP and UNEP as implementing agencies.

NOC will decide on the needed national expertise support.

## **5.3 Information Dissemination and Industry Interaction**

The following sub-activities are envisaged:

- ❖ Preparation of information materials on HCFC phase-out
- ❖ Industry interaction workshops for various sectors (preferably by region to improve outreach)
- ❖ Consultations on existing HCFC alternatives and GWP implications: experience from global technology forums will be shared (MLF pilot technology projects, CCAC, TEAP, CAP Network meetings etc)
- ❖ Preparation of documentation/reports on findings

## **5.4 Data Collection**

Data collection on industry profiles, baselines, consumption, etc. will be collected for various HCFC-consuming sectors, through nationally sub-contracted experts.

This would include the use of previously developed questionnaires and formats for reporting the information and data collected.

The data collected would be cross-checked and verified through NOC and Refrigeration Association in terms of legal eligibility as per local regulations.

## **5.5 Data Analysis**

The data analysis would include but not necessarily be limited to classification of data based on present and historical HCFC consumption by enterprise, sector, sub-sector and application, list of HCFC users segregated by sector/sub-sector, data on first and second conversions by sector/sub-sector, historical (production where applicable) consumption and export data by sector/sub-sector, projected growth trends beyond 2013 and until 2020, and required reductions in HCFC consumption for meeting the 2020 reduction, by sector/sub-sector.

## **5.6 Preparation of draft proposal**

Based on the data collected, sector-wise draft proposals for would be prepared in collaboration with SAEPF/NOC.

The draft HPMP-Stage II proposal will be prepared, based on data collected and stakeholder consultations, focusing on compliance with the 2020 reductions with respect to the established baseline (average of 2009 and 2010) level.

The draft HPMP-Stage II proposal would be discussed by the HCG and the final draft would be forwarded to SAEPF/NOU for further comments from national stakeholders.

## 5.7 Stakeholder Consultations

The draft HPMP (Second Stage) document will be circulated by SAEPF/NOC among the various national stakeholders for comments.

In addition, a national stakeholder consultation workshop will be arranged with participation from key national stakeholders, implementing agencies, national and international experts, key representatives of the national scientific and technical institutions and industry representatives. The comments and recommendations of the stakeholders shall be collected and collated by NOC and forwarded to the HCG.

In the view of global discussions on HCFC-free/low GWP alternatives and in light of ongoing consultations of Montreal Protocol Parties on HFCs, SAEPF/NOC will schedule national level discussions in this respect with appointed focal points for UNFCCC/Kyoto protocol, NAMAs, GEF, and CCAC for purposes of assessing opportunities for complementary programmes from GEF/bilateral resources in the servicing sector

## 5.8 Finalization of the HPMP Proposal (Second stage)

The HCG will discuss the comments received from national stakeholders and the Implementing Agencies will finalize the HPMP (Stage-II) proposal in consultation with SAEPF/NOC, after incorporating comments and recommendations of the national stakeholders. The finalized proposal will be sent to government for endorsement and thereafter submitted to MLF by UNDP/UNEP.

## 6. TIME FRAME/MONITORING MILESTONES FOR HPMP PREPARATION

The approval of HPMP-Stage II preparation funding is expected at the 72<sup>nd</sup> Executive Committee meeting in May 2014. In order to complete the project formulation works, NOC estimates that 24 months will be required to have HPMP-Stage II document drafted and prepared for submission to the MLF.

MILESTONE/TIME FRAME (In months)	M1/6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Start-up of project activities	X									
Initiation meetings of/for stakeholders	X	X								
Constituting the national team	X	X								
Information dissemination/industry interaction			X	X						
Data collection			X	X	X	X				
Data analysis					X	X	X			
Preparation of draft proposal							X	X	X	

Stakeholder consultations									X	X
Finalization and submission									X	X

## 7. PROPOSED BUDGETS

The proposed budget and breakdown for HPMP preparation is attached as Annex-1 to this document.

### ANNEX 1

#### Proposed Budget for HPMP-Stage II Preparation

Activity	Proposed Budget (US\$)
<b>UNDP/UNEP</b>	
<b>Initiation meetings of/for stakeholder consultation (Stakeholder/Industry Workshop)</b>	
Meeting arrangements including venue, etc (sub-contract):	2,000
Documentation/poster and information materials (sub-contract):	500
Local travel and expenses for key stakeholders (airfare, DSA, TA):	2,500
<b>Sub-total:</b>	<b>5,000</b>
<b>National Team (Personnel and Operational Costs)</b>	
<i>HPMP Preparation Unit</i>	
National experts: legislation, Customs, servicing and equipment assembly sectors (12 months)	12,000
Local travel for data collection/validation	5,000
Printing reporting/other documentation for NOC/working groups	1,000
Translation	2,000
<b>Sub-total:</b>	<b>20,000</b>
<b>Draft Proposal, Stakeholder consultations and Finalization (Stakeholder/Industry Workshop)</b>	
Meeting arrangements including venue, etc (sub-contract):	2,000
Documentation/poster and information materials (sub-contract):	500
Local travel and expenses for key stakeholders (airfare, DSA, TA):	2,500
<b>Sub-total:</b>	<b>5,000</b>
<b>GRAND TOTAL</b>	<b>30,000</b>

## Country – Lebanon

The information requested for funding for overarching strategy and investment components are given below.

### **Overall progress of Stage-I**

HCFC Phase-out Management Plan of Lebanon for Stage-I (HPMP of Lebanon Stage-I) for achieving targets from 2011 to 2017 was approved in the 64th Meeting of the Executive Committee held in July 2011 at a funding level of US \$ 2,495,109. For implementing this, the Executive Committee entered into a Multi-year Performance Based Agreement spread over 7 years i.e., 2011 to 2017, with the Government of Lebanon. With this funding level, the Government of Lebanon agreed to phase-out 103.02 ODP tons constituting (27 % of baseline) by the year 2017.

Over the last three years, Lebanon has implemented a range of activities including investment projects, awareness and information outreach activities and regulations for facilitating HCFC phase-out. Details of the progress in implementation were provided in the submission for second tranche funding request that was approved by the 70<sup>th</sup> Meeting of the Executive Committee. An extract of this progress report is presented below.

- The HPMP Stage-I included conversion project implementation at Dalal Steel Industries, to cyclopentane and to also provide technical assistance to the sector phasing out in total 137.1 metric tonnes (15.1 ODP tonnes) of HCFC-141b. As of date, 84% of the enterprise's milestones (i.e. Implementation work plan, Plant re-layout, Product redesign, Prototypes, Plant modifications and Trials) have been achieved and it is expected that the conversion project (i.e. the remaining two milestones: commissioning and completion) would be completed by 31 March 2014.
- The HPMP Stage-I also included conversion of the sole manufacturer of residential air conditioners (Lematic) to HFC-410A technology to produce six different models of residential split air conditioners, consuming 90 MT (4.95 ODP tonnes) of HCFC-22. As of date, the enterprise have completed 100% its conversion (31 December 2013) achieving all the eight committed milestones.
- In addition to the above, forty-seven customs officers had been trained and seven refrigerant identifiers purchased and delivered to the customs authorities in the six ports of entry into Lebanon. A two-day technical workshop on HCFC alternatives focusing on air conditioning, refrigeration and foam opportunities for non-ODS, low global warming potential (GWP) alternatives and on policy and regulatory options to promote these technologies was conducted. This workshop was attended by representatives of industry and importers. The National Ozone Unit (NOU) is acting as a Project Management Unit supporting the implementation of all activities.
- The Government of Lebanon has developed and finalized in 2013 a draft final decree for the amendment of the ODS licensing system to incorporate HCFC quotas. However, the particularities of the current political status and process in Lebanon (i.e. 11 months without an official Council of Ministers), lead to a delay in the approval and enforcement of the draft final decree.
- Nevertheless, the Government of Lebanon confirms once again that an enforceable system of licensing and quotas for HCFC imports is in place and that the system is capable of ensuring the Country's compliance with the Montreal Protocol HCFC phase-out schedule for at least the time until and including the year 2017. In addition, several interaction meetings were held

with distributors and importers of HCFCs developing a gentle agreement with them ensuring an unofficial implementation of the HCFC quota system.

Now that the Council of Ministers have been appointed in Lebanon (dated 15 February 2014), the draft final decree will be disseminated to the concerned ministries and stakeholders for final inputs and comments prior submission to the Parliament for approval and implementation.

**It must also be noted that the progress on implementation of HPMP activities has been submitted for the consideration of the 70th Meeting of the Executive Committee and the funds for the second tranche have been approved in that meeting.**

### **Overarching Strategy for Stage-II**

The following table presents the consumption trends by sector and substance for priority end-use sectors.

	2011				2012			
	Ref. mfg.	Ref. serv.	Foam	Others	Ref. mfg.	Ref. serv.	Foam	Others
HCFC 22	167.00	541.13	0	-	171.00	563.00	0	-
HCFC 141b	19.73	0	462.28	-	20.50	0	458.30	-
HCFC 123	0	0	0	-	0	0	0	-
<b>Total</b>	<b>186.73</b>	<b>541.13</b>	<b>462.28</b>		<b>191.50</b>	<b>563.00</b>	<b>458.30</b>	<b>-</b>

\*This relates to consumption of HCFC-123 in fire-fighting applications.

This steady increase in HCFC-22 consumption is ascribed to sustained economic development during the last decade and the rapid expansion of the middle class, resulting in increased demand for consumer, commercial and industrial products operating on HCFCs.

The growth in HCFC-22 consumption has been more marked in recent years due to rapid increase in demand for air conditioning and refrigeration appliances and equipment, which serves the upstream and downstream cold chain, as well as serves the demand for comfort air conditioning systems in buildings and also due to falling prices of air conditioning and refrigeration appliances and equipment. The increasing population of refrigeration and air conditioning equipment has also led to increased servicing demand, thus causing an increase in HCFC-22 consumption.

The Air Conditioning Sector in Lebanon has experienced significant growth especially in the past decade, due to the low market penetration of air conditioning equipment and appliance and also due to steady economic development and increase in purchasing power of the population. Over the years, the cost of air conditioning appliances has also become more affordable due to mass production. Most air conditioning equipment use HCFC-22 as the refrigerant. Thus the consumption of HCFC-22 has also consistently grown at a high rate while an increase of 10-15% of HCFC-22 consumption is still expected in the years 2013-2014.

The slight decrease in the HCFC-141b consumption is due to the economic and security issues that Lebanon was facing during that reporting period (2011-2012), and that Dalal Steel Industries was already in the preparation stages (2011-2012) for the conversion of its facilities to Hydrocarbons.

Contributing to Lebanon's compliance with the 2013 and 2015 control targets for Annex-C, Group-I substances (HCFCs) under the Montreal Protocol, actions to ensure a minimum phase-out of 20.03 ODP tonnes (based on 2009 levels) of HCFC consumption were accomplished through the technology conversion of two enterprises in the Foams (Dalal Steel Industries) and Air Conditioning (Lematic) sectors, carefully selected based on their financial soundness and

sustainability, technical and managerial capacity, reputation and criticality for sustainable reductions.

Whereas the remaining consumption eligible for funding as per the Appendix 2-A “The Targets, and Funding” of the Agreement between the Executive Committee and the Government of Lebanon for the HPMP Stage-I, as amended in the 70<sup>th</sup> meeting of the Executive Committee, is as follows:

Remaining eligible consumption for HCFC-22 (ODP tonnes)	<b>31.05</b>
Remaining eligible consumption for HCFC-123 (ODP tonnes)	<b>0.05</b>
Remaining eligible consumption for HCFC-141b (ODP tonnes)	<b>22.43</b>

*Please note that there is no funds left under HPMP Stage-I preparation funding that was available to Lebanon.*

#### **Data collection need**

Data collection activity that needs to be undertaken mainly relates to trends in consumption of HCFCs as of 2014 and expected growth along with drivers of growth. Stakeholder consultative meetings are also required for (a) understanding the growth patterns and trends along with status of adoption of alternatives by the industry, (b) understanding impact of regulations and need for additional interventions required for achieving future HPMP targets keeping in mind emerging HCFC consumption trends and technology trends in adoption of HCFC free alternatives.

During Stage-I HPMP preparation, data was collected on an overall assessment of the market trends and growth patterns of HCFCs and this data was mainly collected in the year 2009 and 2010. This needs to be reviewed and latest trends on consumption of HCFCs needs to be collected to prepare strategy and action plan for Stage-II. Further, over the last 4-5 years, industry structure and consumption patterns of HCFCs along with availability of alternatives to HCFCs have changed and these changes need to be understood and reflected while preparing Stage-II HPMP.

Servicing sector needs special attention during Stage-II of HPMP. Strengthening service sector technical capacity and understanding for servicing equipment using these alternatives is very important to ensure sustainable HCFC phase-out in the country. One needs to also examine possibility of using alternatives to HCFCs in existing equipment, where feasible (e.g., retrofit options and drop-in options). Stage-II preparation activities will address this on priority and identify interventions needed for assisting service establishments to achieve HCFC phase-out.

A summary table containing the activities that would be undertaken as a part of HPMP preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	55,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Inception workshop</li> <li>• Consultative workshops with stakeholders (including technical working groups)</li> <li>• Finalization workshop</li> </ul>	5,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	10,000
<b>Total (UNDP component)</b>		<b>70,000</b>

### Investment project proposal

The following table presents summary of investment projects proposed to be submitted after survey and data analysis of HCFC consumption and national strategy for HCFC phase-out to achieve targets for 2020 and beyond.

Sector	Sub-sector	Total no. of enterprises nos.	Substance	Total consumption (2009) MT	Estimated no. of enterprises to be considered for HCFC phase-out in Stage-II
<b>Manufacturing</b>					
Foam sector	Rigid Foam	24-30	HCFC-141b	226.40	24-30
	Integral Skin Foam	1-2	HCFC-141b	3.80	1-2
	System House	1-2	HCFC-141b	NA	1-2
Refrigeration sector	Retail Food service equipment	62-70	HCFC-22	36.00	62-70
	Commercial Refrigeration		HCFC-141b	10.80	
	Industrial Refrigeration		HCFC-22	3.60	
			HCFC-22	5	
Air-conditioning sector	Residential	5-10	HCFC-22	90	5-10
	Light Commercial		HCFC-22	9.22	
	Commercial		HCFC-22	0.80	
	Transport		HCFC-22	0.35	
	Centrifugal Chillers		HCFC-22	1.40	
Servicing	All Applications	-	HCFC-22	433.63	-
			HCFC-123	5	

Note:

7. The number of enterprises is based on estimates available during HPMP Stage-I preparation.
8. Details of enterprises-wise consumption is not available. However, for sub-sectors to be addressed, estimated consumption reduction proposed to be achieved is given based on best estimates.

Estimated total quantity of HCFCs that is expected to be phased-out (i.e., baseline consumption) for individual sectors and subsectors is given in the table below.

Sector	Sub-sector	Estimated quantity of HCFC consumption to be phased-out (Baseline)	
		MT	ODP tons



Foam	Rigid Foam (HCFC-141b)	316.29	34.79
Refrigeration (manufacturing)	Retail Food service equipment (HCFC-141b)	24.88	2.73
	Retail Food service equipment (HCFC-22)	52.48	2.88
	Commercial Refrigeration Industrial Refrigeration (HCFC- 22)	11.52	0.63
Air-conditioning manufacturing	Residential Light Commercial Commercial Transport Centrifugal Chillers (HCFC-22)	149.45	8.22
Servicing (Air Conditioning and Refrigeration)	All Applications (HCFC-22)	441.16	24.26
	Chillers (HCFC-123)	2.5	0.05
<b>Total</b>		<b>995.78</b>	<b>73.56</b>

*Note: The above quantities includes phase-out addressed in foam sector and air-conditioning sector in Stage-I aggregating to 15.1 ODP tons and 4.9 ODP tons, respectively.*

The proposed strategy for Stage-II of HPMP would cover foam and refrigeration & air-conditioning manufacturing sectors along with service sector projects. The specific details of plan of action for phase-out would be set-out in the HPMP Stage-II strategy and implementation plan document.

A summary table containing the activities that would be undertaken as a part of HPMP investment component preparation along with costs for the same is given below:

Activity	Particulars	Value in USD
Field survey and data collection	<ul style="list-style-type: none"> <li>Recruitment of consultancy organization for field survey</li> <li>Field survey and data collection</li> <li>Technical consultations on strategy and technology options</li> <li>Report preparation and finalization</li> </ul>	80,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>Consultative workshops with stakeholders (sub-regional for different sectors)</li> </ul>	10,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>Communication costs for organization of HPMP survey for investment component</li> <li>Printing and stationery</li> <li>Travel and other miscellaneous costs</li> </ul>	10,000
<b>Total</b>		<b>100,000</b>

## Country – Malaysia

The information requested for funding for overarching strategy and investment components are given below.

### **Overall progress of Stage-I**

HCFC Phase-out Management Plan of Malaysia for Stage-I (HPMP of Malaysia Stage-I) for achieving targets from 2013 to 2016 was approved in the 65th Meeting of the Executive Committee held in December 2011 at a funding level of US \$ 9,587,470. For implementing this, the Executive Committee entered into a Multi-year Performance Based Agreement spread over 6 years i.e., 2011 to 2016, with the Government of Malaysia. With this funding level, the Government of Malaysia agreed to phase-out 103.02 ODP tons constituting (20 % of baseline) by the year 2016.

Over the last two years, Malaysia has implemented a range of activities including investment projects, awareness and information outreach activities and regulations for facilitating HCFC phase-out. Details of the progress in implementation were provided in the submission for second tranche funding request that was approved by the 71<sup>st</sup> Meeting of the Executive Committee. An extract of this progress report is presented below.

- 13 PU foam manufacturers of discontinuous sandwich panel for construction, insulation for refrigeration equipment, insulated boxes and insulated pipes selected for conversion to cyclopentane. All 13 PU foam manufacturers have signed performance based Memorandum of Agreement (MOA) with Government. Of the 13 manufacturers, 12 manufacturers are at various stages of project implementation (i.e., equipment procurement and installation and completion of civil works) and 1 enterprise has commenced commercial production (on 1 December 2013).
- Technical assistance provided to 4 local system houses for customising formulation using new and emerging low GWP alternative technologies (mainly FEA-1100, HBA-2, AFA-L1, methyl formate and methylal) to ensure availability of cost effective alternatives to downstream enterprises. All 4 system houses have signed an MOA with the government in 2nd Quarter 2012 and are currently testing new formulations that have been developed. The 4 system houses are expected to complete their project implementation by Q3 of 2014.
- Establishment of Approved Permit (AP) import quota system based on HCFC Baseline (515.8 ODPT - average consumption for 2009/2010). An On-Line Application for approval permit to import HCFC by 24 registered importers has been established since March 2013. This will determine total HCFC consumption limits and import permits for HCFC consumers would be provided within these limits.
- Amendment of existing regulations for imports, manufacturing, assembly and installation of products containing HCFCs. Stakeholders were consulted on the changes in the guidelines through seminars and roadshows organized by the Ozone Protection Unit (OPU). In 2013, the OPU organized 6 roadshows covering various regions in Malaysia to inform stakeholders about the new revised regulations. The amended Customs law for HCFC import has been enforced since 1 January 2013. The re-export permit for HCFC has been established and the Custom's Law for re-exporting of HCFC has come into force since 1 January 2014. The online application for re-export permit will be implemented starting from 1 April 2014. The existing law on Refrigerant Management is being amended and expected to come into force by July 2015. A dialogue with stakeholders on RAC was conducted on 11 February 2014 to get them prepared with the impact of the amended law to their business. A workshop will be

conducted on 29 April 2014 to inform foam manufacturers on Government policy and to introduce System Houses who have developed new polyol using alternatives.

- Workshops organized to disseminate information on new technology and policy changes to the foam sector. A workshop on Safety of Cyclopentane Technology was organized on 30 September 2013 to inform the project beneficiaries on requirement by Malaysian Laws on safety issues.
- The following activities were carried out in refrigeration servicing sector and training of enforcement officials.
  - ▶ Training of master trainers – A training manual for service technicians on air-conditioning and refrigeration systems has been developed and will be finalized during a workshop on 3-7 March 2014. Training of Master Trainers and also technicians will be organized in Q3 and Q4 of 2014.
  - ▶ Three series of trainings for enforcement officers namely Customs and Department of Environment Officers were conducted on 11-14 December 2012, 3-6 June 2013 and 16-19 December 2013. Two series of the trainings will be conducted in June and December 2014 to develop manual.
  - ▶ Trainings of enforcement officers namely Customs and Department of Environment Officers were conducted on 3-6 June and 16-19 December 2013. Two series of the trainings will be conducted in June and December 2014.
  - ▶ 10 training and refrigerant management centers (TRMC) will be receiving one set of mini reclaim unit, accessories and tools and technical assistance during the project duration. Procurement of these equipment is expected to be advertised by May 2014.
  - ▶ 30 sets of recovery units and tools will be provided to reclamation services on a commercial basis and record usage of reclaimed refrigerants. Procurement of these equipment is expected to be advertised by May 2014.

As required under Decision 63/17, the Government of Malaysia has an enforceable national system of licensing and quotas for HCFC imports and, where applicable, production and exports is in place and that the system is capable of ensuring the country's compliance with the Montreal Protocol HCFC phase-out schedule for the duration of the agreement between Malaysia and the Executive Committee.

**It must also be noted that the progress on implementation of HPMP activities has been submitted for the consideration of the 71<sup>st</sup> Meeting of the Executive Committee and the funds for the second tranche have been approved in that meeting.**

## Overarching Strategy for Stage-II

The following table presents the consumption trends by sector and substance for priority end-use sectors.

	2011 (MT)				2012 (MT)			
	Ref. mfg.	Ref. serv.	Foam	Others	Ref. mfg.	Ref. serv.	Foam	Others
HCFC 22	2,933.57	3,233.69			3,576.96	4,058.26		
HCFC 141b			1,242.06				2,869.16	
HCFC 142b			1.80			-	-	
HCFC 123		33.70				64.285		
HCFC 225		1.08				1.175		
<b>Total</b>	<b>2,933.57</b>	<b>3,268.47</b>	<b>1,243.86</b>		<b>3,576.96</b>	<b>4,123.72</b>	<b>2,869.16</b>	

\*Based on 2009/2010 distribution percentage

In the year 2012, HCFC-22 accounts for about 72% of the consumption and HCFC-141b accounts for about 27% of the total consumption. HCFC-123, HCFC-225 and other HCFCs account for the remaining consumption.

Over the last three years (i.e., 2010-2012), the consumption has increased from around 8,200 MT to around 10,600 MT. This upward trend is due to increase in demand for PU products in the construction industry such as housing industry, the building of KLIA 2 and Mass Rail Transport (MRT), increase export demand from countries such as Vietnam and procurement practices adopted by the industry in anticipation of supply constraints and controls of the substances in Malaysia. However, with the new AP and quota system fully enforced in 2013 and dissemination of information on conversion to new technology equipment and cyclopentane, HCFC demand would decrease from the year 2014.

### Data collection need

Data collection activity that needs to be undertaken mainly relates to trends in consumption of HCFCs as of 2014 and expected growth along with drivers of growth. Stakeholder consultative meetings are also required for (a) understanding the growth patterns and trends along with status of adoption of alternatives by the industry, (b) understanding impact of regulations and need for additional interventions required for achieving future HPMP targets keeping in mind emerging HCFC consumption trends and technology trends in adoption of HCFC free alternatives.

During Stage-I HPMP preparation, data was collected on an overall assessment of the market trends and growth patterns of HCFCs and this data was mainly collected in the year 2009 and 2010. This needs to be reviewed and latest trends on consumption of HCFCs needs to be collected to prepare strategy and action plan for Stage-II. Further, over the last 4-5 years, industry structure and consumption patterns of HCFCs along with availability of alternatives to HCFCs have changed and these changes need to be understood and reflected while preparing Stage-II HPMP.

Servicing sector needs special attention during Stage-II of HPMP. Current market trends show that a range of alternatives to HCFCs are being adopted in Malaysia in RAC sector. Strengthening service sector technical capacity and understanding for servicing equipment using these alternatives is very important to ensure sustainable HCFC phase-out in the country. One needs to also examine possibility of using alternatives to HCFCs in existing equipment, where feasible (e.g., retrofit options and drop-in options). Stage-II preparation activities will address

this on priority and identify interventions needed for assisting service establishments to achieve HCFC phase-out.

A summary table containing the activities that would be undertaken as a part of HPMP preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	65,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Inception workshop</li> <li>• Consultative workshops with stakeholders (including technical working groups)</li> <li>• Finalisation workshop</li> </ul>	20,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	5,000
<b>Total (UNDP component)</b>		<b>90,000</b>

### Investment project proposal

The following table presents summary of investment projects proposed to be submitted after survey and data analysis of HCFC consumption and national strategy for HCFC phaseout to achieve targets for 2020 and beyond.

Sector	Total no. of enterprises	Substance	Total consumption (2009)	Estimated no. of enterprises to be considered for HCFC phase-out in Stage-II
Foam sector	104	HCFC-141b	1335	91
Refrigeration sector	20	HCFC-22	330	31
Air-conditioning sector	31	HCFC-22	1915	20

Note:

9. The number of enterprises is based on estimates available during HPMP Stage-I preparation.
10. Details of enterprise-wise consumption are not available. However, for sub-sectors to be addressed, estimated consumption reduction proposed to be achieved is given based on best estimates.

Estimated total quantity of HCFCs that is expected to be phased-out (i.e., baseline consumption) for individual sectors and subsectors is given in the table below.

Sector	Sub-sector	Estimated quantity of HCFC consumption to be phased-out	
		MT	ODP tons
Foam	Continuous / Discontinuous sandwich panels, insulation box, pipe insulation, spray foam, refrigeration equipment, integral skin	185	20.4
Refrigeration (manufacturing)	Commercial refrigeration equipment, cold chain equipment	330	18.2
Air-conditioning manufacturing	Air-conditioners, package units, heat pumps, chillers	1,936	106.5
Total		2,471	145.1

Note:

1. The exact details of the strategy on quantities to be phased-out and timing for each of the sub-sectors will be elaborated in the HPMP Stage-II document.
2. Service sector would also be addressed during HPMP Stage-II besides manufacturing sector.

A summary table containing the activities that would be undertaken as a part of HPMP investment component preparation along with costs for the same is given below:

<b>Activity</b>	<b>Particulars</b>	<b>Value in USD</b>
Field survey and data collection	<ul style="list-style-type: none"> <li>• Recruitment of consultancy organization for field survey</li> <li>• Field survey and data collection</li> <li>• Report preparation and finalization</li> </ul>	200,000
Stakeholder consultations	<ul style="list-style-type: none"> <li>• Consultative workshops with stakeholders (sub-regional for different sectors)</li> </ul>	40,000
Communications and miscellaneous	<ul style="list-style-type: none"> <li>• Communication costs for organization of HPMP survey for investment component</li> <li>• Printing and stationery</li> <li>• Travel and other miscellaneous costs</li> </ul>	10,000
<b>Total</b>		<b>250,000</b>

*Note: The break-up given here is indicative and would be subject to change after detailed consultations with the NOU during Stage-II preparation.*

**MOLDOVA**

**PREPARATION OF  
HCFC PHASE-OUT MANAGEMENT PLAN  
(HPMP) -  
Second (2<sup>nd</sup>) Stage – For compliance with 2020 targets**

**PROPOSED INSTITUTIONAL ARRANGEMENTS AND BUDGETS**

**PREPARED BY**

National Ozone Unit - Moldova  
United Nations Development Programme (UNDP)  
United Nations Environment Programme (UNEP)

**March 2014**



## **PREPARATION OF HPMP-Stage II**

### **Proposed Institutional Arrangements and Budget**

#### **1. INTRODUCTION**

This document describes the proposed institutional arrangements and budgets for preparation of HPMP-Stage II for Moldova, which has assigned to UNDP, as a lead, and UNEP, as a cooperating implementing agency, the responsibility of preparing the related documentation. Such arrangements would need:

- j) To reflect national context and priorities, national policies and country-drivenness and consequently would need the agreement of the Ministry of Nature Protection of the Government of Moldova (MNP) and the National Ozone Unit (NOU) to the proposals contained herein;
- k) To facilitate seamless application of the proposed arrangements to the next implementation stage of the HPMP to follow, once it is approved – HPMP-Stage II (2015-2020);
- l) To draw upon the lessons learnt from functioning of institutional arrangements and operational mechanisms employed in the implementation of HPMP-Stage I and to the extent possible ensure coordinated implementation existing MLF-funded initiatives;
- m) To be dynamic and evolving, and to be open for revisions and adaptation as necessary in response to evolving situations.

#### **2. BACKGROUND**

The XIXth Meeting of the Parties to the Montreal Protocol in September 2007, through its Decision XIX/6, adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs would be from 01 January 2013, at the Baseline Levels (average of 2009 and 2010). The second control step is the reduction of 10% from the Baseline Levels in 2015. The decision also directed the Executive Committee (ExCom) of the Multilateral Fund to assist the Parties in preparation of HCFC phase-out Management Plans.

The 54<sup>th</sup> Meeting of ExCom in April 2008, through Decision 54/39, adopted guidelines for preparation of HCFC phase-out management plans. These guidelines provided indicative outline and contents of the HCFC phase-out management plans, which are essentially based on earlier guidelines developed and followed for the Terminal Phase-out Management Plan (TPMP) (RMPs/TPMPs/SPPs/NPPs). The decision featured the following key elements:

- d) Adoption of a staged approach to implementation of the HCFC phase-out management plans within the context of an overall national strategy. The first stage would focus on compliance with the 2013 freeze and 2015 reduction targets. The second stage would focus on HCFC phase-out in compliance with the future reduction control targets;
- e) Commitments to achieving the 2013 (freeze at the 2009/2010 baseline level) and 2015 (10% reduction) control milestones through performance-based agreements;

- f) In countries where there are multiple implementing agencies, a lead agency should be designated to coordinate the overall development of the HCFC phase-out management plans.

Acting through UNDP as HPMP formulation agency, Moldova approached the MLF and the Executive Committee for a preparatory funding of US\$ 85,000 and at the 55<sup>th</sup> meeting of ExCom in July 2008 this request was approved.

While initial HPMP-Stage I formulation works were ongoing in that time, the 60<sup>th</sup> ExCom in April 2010 reviewed and approved HCFC phase-out funding criteria (decision 60/44). A year after, at the 63<sup>rd</sup> ExCom meeting in December 2010, the HPMP-Stage I for Moldova was approved for implementation.

With respect to preparation for HPMP-Stage II, the 71<sup>st</sup> ExCom agreed to related funding guidelines for Article 5 countries (decision 71/42). The current request has been prepared based on recommendations contained in this guidance document.

### **3. PROGRESS IN HPMP-STAGE I IMPLEMENTATION**

*(c) A description of the current progress in implementation of the overall stage I of the HPMP to demonstrate that substantial progress had been made, supported with both quantitative and qualitative data (two to three paragraphs)*

The HPMP document, with a specific Stage I covering the programme period of 2010-2015, was approved at the 63<sup>rd</sup> ExCom meeting in 2011 and contains an overall country's strategy for meeting the required HCFC phase-out schedule through to 2030 when substantive HCFC use in Article 5 countries is expected to be reduced. This involves two HPMP implementation stages corresponding to (1) 2010-2015 and (2) 2015-2030 respectively.

In HPMP Stage-I (2010-2015), a menu of regulatory and administrative control measures were outlined including imposition of mandatory quotas on the import of HCFCs set at the consumption freeze (average of 2009/10) level in 2013 and a follow-up 10% reduction in 2015, as well as other control measures related to controlling import of HCFCs.

Proposed non-investment activities have supported a range of actions related to enhancing Customs control practices and, most critically, the availability and capacities of refrigeration servicing technicians, through initial trainings, and strengthening of coordination and reporting. Finally, an investment project was proposed that initiated the first steps to equip qualified technicians/principal repair workshops with tools to ensure better quality equipment maintenance and help reduce HCFC use during such servicing practices.

The overall incremental cost approved for the implementation of HPMP Stage-I is US\$ 88,000 with UNDP serving as the lead implementing agency. Details of this funding are summarized as follows:

Project	IA	Total	Tranche 1	Tranche 2
1. Regulatory measures	UNDP	\$2,000	\$2,000	
2. Technical Capacity Development	UNDP	\$83,000	\$75,200	\$7,800
3. Monitoring of HPMP	UNDP	\$3,000	\$2,000	\$1,000
	<b>Total for UNDP</b>	<b>\$88,000</b>	<b>\$79,200</b>	<b>\$8,800</b>
	Support cost UNDP (9%)	\$7,920		
	<b>Grand total for UNDP</b>	<b>\$95,920</b>		

It should be noted that the country had opted to receive institutional strengthening (IS) assistance outside of this HPMP, as was the case in the past, the IS programme is implemented by UNEP.

At the 63<sup>rd</sup> ExCom meeting, Moldova obtained financial support from the Multilateral Fund to cover implementation of Stage 1 of the HPMP in the amount of US\$ 79,200 representing Tranche 1.

Submission of the 2<sup>nd</sup> and last tranche under HPMP-Stage I has been scheduled for 2015.

Among main achievements under Tranche 1 of HPMP-Stage I are the following important elements:

### ***Legislative framework***

The Government of Moldova, through the efforts of Ministry of Environment (NOU), prepared good HCFC control foundation by putting in place general legislative measures to control the import of ODSs and their equipment.

A regulation on trade regime and regulating the use of halogenated hydrocarbons that are depleting the ozone layer (Law nr. 852-XV dated 14.02.2002) has been in place, and is a fundamental legislative document concerning implementation of the Montreal Protocol in Moldova. Following this:

- Any import of ODS, including HCFCs and ODS containing equipment requires a license. Additionally each and every import requires an Authorization that is issued by the Ministry of Environment which is issued within the limits of approved annual quota;
- Customs Administration is responsible for monitoring and control at the borders and carry out identification and inspection of ODS and products which contain ODS and reports this information to NOU and Ministry of Environment on a quarterly basis;
- Customs codes have been adjusted to facilitate monitoring of ODS;
- Information from importing companies on their annual imports of ODS is required;
- State Ecological Inspection provides information retrieved during ecological inspections.

According to this Law Nr. 852-XV, the import, export, re-export, introduction into market circulation and transit of equipment, components and technologies that contain substances mentioned in Annex A, group I, II, Annex B, group I, Annex C, group II is banned.

Any import, export and re-export of each lot of ODSs, including HCFCs made with corresponding permit. Permits for import, export and re-export of ODSs, equipment and products are issued by Ministry of Environment. Such authorizations are issued to economic agents (entrepreneurs and legal entities) during 10 working days from a request's receipt. They are issued free of charge and are valid for 90 days.

During the reporting period, the following legislative improvements have been achieved:

- *The HCFC Phase-out Strategy for period 2013-2040 has been drafted in terms of a Governmental Decree and Ministry of Environment presented it to the Government for approval.*
- *Annual HCFC import quotas, according to HPMP, have been drafted in legislation and will be established every year;*
- *Ministry of Environment assisted by the National Ozone Unit and with the assistance of the Public Association of the Refrigeration Technicians from the Republic of Moldova has developed a first set of documentation (harmonized with EU legislation, F-Gas Regulation) for a new certification system for refrigeration technicians, as well reporting system for the servicing sector. A national workshop do discusses elaborated documents for Certification System (draft) was organized.*
- *Logbooks for the equipment containing 3 kg or more of refrigerants were elaborated for introduction;*

### ***Technical capacity development***

#### *Training and certification of existing technicians with supply of basic service equipment*

- NOU, with assistance of the Public Association of the Refrigeration Technicians, has updated a list of the national companies working in refrigeration servicing sector and includes private companies, registered entrepreneurs and individual technicians;
- Data on the total number of technicians engaged in the refrigeration and air-conditioning servicing sector was updated;
- Twenty (20) sets of refrigerant service equipment and tools including electric leak detectors, gauge manifolds, high pressure charging hoses, portable recovery units and essential vacuum pumps were purchased in 2012/2013;
- Sixty (60) technicians (acc. F-gas EU Regulations No. 842/2006 and No. 303/2008) was trained and certificated. The training covered (implemented through the Training Centre "Technofrig") the topics on how to reduce direct emissions of HCFCs and avoid losses of ODSs during equipment maintenance, servicing and repair and master technical skills to service and repair non-CFC systems during servicing practices and provide services corresponding to Updated Code of Good Practice in Refrigeration and AC.
- Training Centre "Technofrig" and Public Refrigeration Association was equipped with training & demonstration equipment and tools.

- A web-site for the Refrigeration Association ([www//frigotehnica.md](http://www//frigotehnica.md)) was created and information fliers were published in support of its work.

*Training of Customs officers*

- In order to ensure effective monitoring of the import/export of HCFC and HCFC-based equipment/products, as well as detecting and preventing any illegal imports of ODSs in the country, NOU has assisted the Customs Administration in procurement of three (3) multi-gas refrigerant identifiers;
- A few trainings have been organized for the Customs Administration during the reporting period.

*Awareness raising activities*

- Awareness activities are an integral part of the HPMP & are target to: the public (specifically at schools, vocational schools, household level, etc.); service technicians and industry; end-users that own and/or operate refrigeration & A/C equipment. Several workshops have been organised by the NOU and Refrigeration Association to discuss different problems during the reporting period.

*Monitoring of activities*

- The implementation of HPMP activities involves constant interaction with the concerned stakeholders, a periodic dialogue on issues and concerns and evolving schemes for implementation of the HCFC phase-out strategy. Therefore, monitoring of progress is an essential element of the programme of actions which would provide a feedback to the decision-making process to achieve better results. Monitoring of the timely implementation of the HPMP components, interacting with major stakeholders and interested parties, and providing feedback on the effectiveness of the proposed measures has been performed during the reporting period.

During implementation of Stage I of the HPMP, NOU has disbursed approximately US\$ 60,818.56 (as of end 60,818.56) subject to slight correction after reconciliation of UNDP's 2013 financial reports in April 2014. This represents 69% delivery to-date.

It should be noted that there was a drop in HCFC import in 2010, and this affects the baseline by suggesting a reduction in technical support. This was brought to the MLF Secretariat informally in 2013 to discuss potential steps to move forward in this situation in terms of putting this cut into effect. NOU and UNDP Country Office were informed about this situation and the need to keep the disbursement level under a specified funding level theoretically adjusted to a lower baseline and respective financing support. Nonetheless, the Government is concerned with the growth in HCFC consumption and would like to have the case considered at the Ozone Secretariat and Implementation Committee for a potential revision of the baseline to stay in the HCFC import/consumption category as was expected during the formulation of the overall HCFC phase-out strategy and HPMP-Stage I.

(d) For the overarching strategy (one page, plus a table):

(i) A brief overview of the current HCFC consumption by substance and distribution by sector/subsector, with a short analysis and explanation of the consumption trend (i.e. increasing or decreasing). The remaining consumption eligible for funding should also be provided (this information is available from Appendix 2-A: The Targets, and Funding, of the Agreement between the Executive Committee and the country when their stage I HPMP was approved);

Moldova has provided Article 7 reports to the Ozone Secretariat and the summary of that information is provided below in ODP tons:

<b>Chemical</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Baseline</b>
CFCs	0.0	0.0	0.0	0.0	0.0		73.3
Halons	0.0	0.0	0.0	0.0	0.0		0.4
Methyl Chloroform	0.0	0.0	0.0	0.0	0.0		0.0
HCFCs	2.8	1.2	0.7	1.31	1.88		1.0
Methyl Bromide	0.0	0.0	0.0	0.0	0.0		7.0

In terms of its HCFC consumption, HCFC-22 has been the only chemical imported for use in 2011 and 2012, and, before the freeze, the trend had been growing based on the normalized local demand for HCFC-22, as well as a complementary stockpiling exercise before the freeze date. The situation relates to excessive stockpiling of HCFCs in 2008 before setting baseline in 2009/2010 through decreased imports. The currently available data confirms the growth in demand.

The country is in planning stage to start preparing required documentation for the Ozone Secretariat's review at the Implementation Committee for the revision of the HCFC consumption baseline that will allow the country to stay in a sustained HCFC import regime in line with its domestic demands.

Remaining eligible HCFC-22 consumption is found in the servicing and equipment assembly sectors, and is contained imported appliances/refrigerated packages.

(ii) A description of the information that needs to be gathered and updated, as well as an explanation of why this had not been undertaken during the preparation of stage I; and

HCFC data collection and verification will follow those survey procedures developed and applied in the preparation of HPMP Stage-I, and will be directed to updating information in the field by deployment of a local expert team on in-country travel to principal territorial administrative units (regions), and main cities.

Direct discussions will be held with HCFC/HCFC equipment importers and distribution centers (companies), and assessments will be made on the future needs in HCFCs in servicing equipment fleet that has been already imported and installed in the country.

Appropriate consultations in the industry/private/public sectors will be arranged in regions on the Stage-II preparatory processes, expected information inputs, timeframes proposed for finalization of formulation works and future design of the Government's backed interventions on the national level to prepare the country to meet 2020 HCFC phase-out obligations.

NOU will make sure that stakeholders are well informed on future legislative measures that may cover selective bans on import of HCFC-based equipment and appliances.

*(iii) An indication of the activities that need to be undertaken for PRP. Each activity (e.g., surveys, consultation meetings) has to be described briefly, taking into account what had been completed in stage I, and why a new or similar activity is required to develop the strategy for stage II. The costs for undertaking such activities should also be provided in a table;*

As mentioned in the HPMP overarching strategy/Stage I document, it was recognized at the outset that a strictly “top down” approach of relying on reported import data may have limitations. As in any country, the accuracy and comprehensiveness of this type of data will be a function of the capacity of the responsible institutions to identify imported HCFCs and potentially HCFC containing equipment/products through the licensing system, Customs data, and its level of physical enforcement. It will also be a function of the degree to which importers, distributors and end users of such equipment voluntarily comply with reporting and control measures and what economic and structural factors may exist to discourage such compliance.

In view of the above limitations, a more comprehensive “bottom up” approach to estimating HCFC consumption was adopted during preparation of HPMP-Stage I. It relied on direct survey and supplemented by the use of statistically based data to estimate the bank of HCFC containing equipment in service. The survey based methodology involved data collected directly at the enterprise level, including import/distribution enterprises, end users of HCFCs and HCFC containing equipment, and refrigeration servicing organizations, along with statistical data related to the amount of HCFC containing equipment in the country.

This approach was facilitated by the extensive network of contacts maintained by the NOU generally and particularly in the refrigeration sector, including involvement of the developing refrigeration association. Additional contacts among end-users generally were obtained through relevant national and local government agencies, as was the statistical data related to estimated total inventory of operating HCFC containing equipment.

In the current proposed work to formulate HPMP-Stage II, the NOU with support from UNDP and UNEP will follow the same format of work and update required baseline information, backed by the outreach to the HCFC importers and end-users in commercial sector as well as industry (agriculture, product supply chain), and identify the priority next steps to be taken to meet 2020/35% HCFC reduction step. Approaches to implement this phase-out will be designed in discussions with stakeholders and presented in a format for HPMP-Stage II acceptable for the review by the MLF and ExCom.

The following presents the joint budget for UNDP and UNEP:

<b>Implementing agency</b>	<b>Budget in US\$</b>
UNDP (lead)	20,000
UNEP (cooperating)	10,000

And, activities planned by each implementing agency are described in detail below:

### 3. HPMP-Stage II formulation and proposal for investment components formulation (UNDP)

UNDP will provide support to overall coordination HPMP-Stage II preparation activities and interact with partner UNEP agency during data collection and HPMP formulation.

On the national level, UNDP will help with recruitment of local expertise to enable local travel, stakeholder consultation on HCFC data collection and validation, assessment of HCFC consumption scenarios and development of draft action plan. Priority activities for investment components to meet next HCFC reduction milestone in 2020 will be presented to key stakeholders, consulted on and included in the action plan of HPMP-Stage II document.

The budget of US\$ 20,000 will cover national experts, local travel (DSA, tickets) and costs of national workshops in partnership with UNEP.

UNDP Budget Lines	US\$
National experts	7,000
Local travel (for experts, NOU staff)	5,000
Stakeholder workshops (co-shared with UNEP: total for workshops US\$ 10,000)	5,000
Printing/operational expense/translation	3,000
<b>Sub-total</b>	<b>20,000</b>

### 4. Non-investment component proposal (UNEP)

UNEP will support information collection and analysis for the non-investment components, and cover the policy and legislation aspects and capacity building activities in HCFC import/export monitoring function and the servicing sector for technicians.

The specific details of plan of action for phase-out would be set-out in the HPMP Stage II strategy and implementation plan document which will be developed by UNDP/UNEP for submission to the MLF Secretariat.

A summary table containing the activities that are proposed by UNEP be undertaken as a part of HPMP non-investment components preparation along with costs for the same is given below:

Activities	Details	Value in USD
National Consultants	<p><u>Local expertise will be recruited to enable the following field work:</u></p> <ul style="list-style-type: none"> <li>- Consideration of the need for additional legislative measures (selective equipment bans, etc) to support the continued HCFC phase-out process</li> <li>- Consideration of the need for additional actions for introduction of low GWP alternatives to HCFCs into the country in terms of safety/application standards, training, economic incentives;</li> <li>- Consideration of the need for additional training of customs officials and service technicians</li> <li>- Support consultations with national stakeholders including</li> </ul>	5,000



	servicing sector for development of implementation plan for non-investment component. - Prepare and finalize UNEP non-investment component for Moldova, Rep Stage-II HPMP, primarily covering policy, training and capacity building needs of the country.	
Stakeholder workshop	- Consultative stakeholder workshop (inclusive DSA for participants, travel, printing, venue, operational expenses) to present and to obtain the endorsement of the strategy of UNEP non-investment component for Moldova Stage-II HPMP. This will be held in an integrated manner with the workshop held under UNDP component (as a lead agency) during the Stage-II preparation phase	5,000
<b>Total (UNEP component)</b>		<b>10,000</b>

#### 4. ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

This section outlines the roles and responsibilities of respective stakeholders in the implementation of activities involved in the preparation of the HPMP.

##### 3.1 Ministry of Environment (MoE)

The MoE is the designated ministry responsible for the Montreal Protocol in Moldova and operates through several departments, institutions and organizations. The key responsibilities of MoE in context of the Montreal Protocol are as below:

- ❖ Developing basic national principles on global issues; administering international cooperation and exchanges; participating in and coordinating important international activities; administering foreign economic cooperation; coordinating and implementing relevant overseas funded projects; handling international affairs; and responsible for liaison with international development as well as environmental organizations;
- ❖ Acting as focal point of managing, organizing and coordinating implementation activities;
- ❖ Formulating general and specific policies, laws and regulations, and administrative rules and regulations and organizing their implementation;
- ❖ Organizing research and development, and technical demonstration projects;
- ❖ Administering information/management systems, labeling and certification programmes
- ❖ Responsible for monitoring, statistics and information; formulating monitoring systems and norms; guiding and coordinating promotion, education, and publishing work; and promoting the participation of the public and NGOs

##### 3.2 National Ozone Unit (NOU)

The NOU's operations are associated with and carried out under MoE overall mandate. It carries out all tasks mentioned in the previous section when they relate specifically to the Montreal Protocol. The NOU thus functions as the country's focal point for the coordination of the ODS phase-out projects.

##### 3.3 Implementing Agencies for HPMP Preparation

UNDP has been designated as the lead Implementing Agency and UNEP as the cooperating Implementing Agency for the preparation of the HPMP (Stage-II) for Moldova. The draft HPMP will be prepared following the guidelines approved by ExCom in related decisions and this will be done in close cooperation with MoE. UNDP will submit the HPMP document to ExCom upon endorsement of the final draft HPMP by Government. The role of UNDP/UNEP, respectful of assigned mandates, sectors of work and types of future assistance, during the preparation of HPMP (Stage-II) would be as follows:

*With respect to MoE/NOU*

- ❖ Support MoE/NOU in ensuring an effective and smooth process in preparation of the HPMP;
- ❖ Support MoE/NOU in review and endorsement process on the draft HPMP, for timely finalization and submission to the ExCom;
- ❖ Provide assistance with policy, management and technical support to MoE/NOU when required.

*With respect to Industries/commercial sectors*

- ❖ Assist MoE/NOU in the process of consultations with industries, commercial sectors and other relevant stakeholders on the technical and logistical aspects of the preparation of the sectoral and integrated HPMP;
- ❖ Assist MoE/NOU in discussions with industries, commercial sectors and relevant stakeholders on identification and selection of alternative technologies and technology transfer.

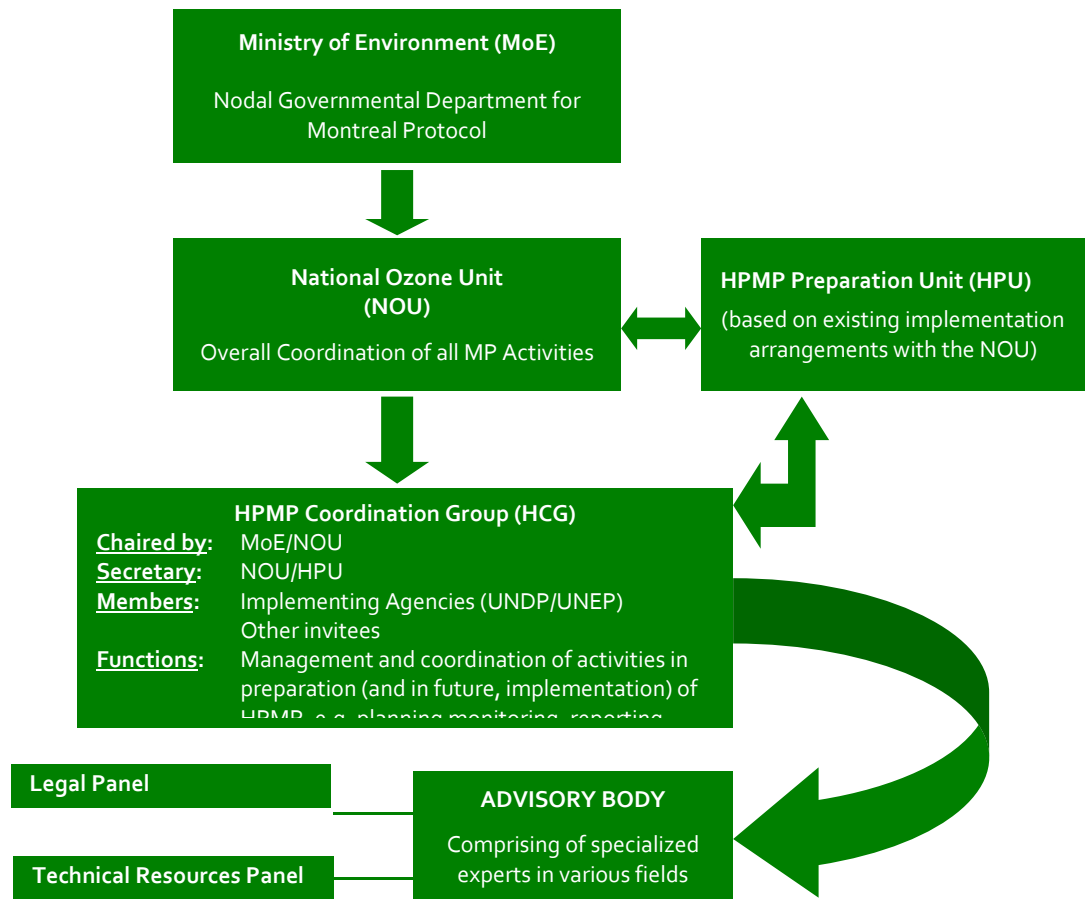
*With respect to MLF Secretariat, ExCom and Ozone Secretariat/ImpCom*

- ❖ Undertake consultations and clarifications with MLF Secretariat on HPMP guidelines and HPMP preparation process to facilitate effective preparation;
- ❖ Assist MoE/NOU in responding to comments on HPMP from MLF/ExCom;
- ❖ Carry out consultations with the Ozone Secretariat on the revision of the baseline, submit required information and have such data reviewed by the Implementation Committee.

#### **4. PROPOSED INSTITUTIONAL FRAMEWORK**

It is proposed to establish the following institutional framework for preparation of the HPMP, which can be subsequently adapted for implementation of the HPMP.

**Figure-1: Proposed Institutional Framework**



**a) HPMP Preparation Unit (HPU)**

The NOU is an existing infrastructure for day-to-day physical implementation of activities associated with the Montreal Protocol programmes.

The implementation structure for preparation of HPMP-Stage II will be linked to a direct supervision of the National Ozone Officer of NOU assisted by required national experts/administrative staff. This structure (HPU) would have the following key responsibilities:

- ❖ Operational responsibility for implementation of activities under the HPMP-Stage II preparation with the assistance of the implementing agencies (work plans, etc);
- ❖ Act as a focal point for prospective recipient enterprises in various HCFC-consuming sectors;
- ❖ Manage enterprise participation and enterprise-level HCFC phase-out/conversion activities (during implementation).

**b) HPMP Coordination Group (HCG)**

The HPMP Coordination Group will serve as an overall coordination body for activities related to the preparation and implementation of the HCFC phase-out management plan.

## Members

- ❖ Representatives from MoE/NOU, the National Committee on Ozone Depleting Substances (NCODS) and the Implementing Agencies (UNDP/UNEP) as core members;
- ❖ Representatives from the Technical Resources Panel and other advisory panels (see below) as invitees when required
- ❖ MoE/NOU representative acts as Chair
- ❖ The HPU representative acts as Secretary

## Functions

- ❖ Overall coordination of implementation in collaboration with MoE/NOU
- ❖ Periodic review and monitoring/evaluation of progress of implementation
- ❖ Any corrective interventions as required
- ❖ Technical and policy advice to MoE/NOU on HCFCs as necessary

It is expected that the HCG would meet at least twice a year for review and coordination of HPMP preparation and future implementation activities.

### **c) Advisory Body**

The HCG, in consultation with the MoE/NOU, will establish an advisory body to provide specialized technical and other advice for implementation of various activities under the HPMP. The advisory body could cover technical, financial, legal and other aspects, pertaining to the preparation and implementation of the HCFC phase-out management plan. At a minimum, it is considered necessary to establish a technical body proposed to be named as the Technical Resources Panel (TRP) for providing technical advice upon request, to the HCG on technologies related to HCFCs and HCFC alternatives.

## **5. HPMP PREPARATION**

The preparation of the national HPMP would involve the following broad activities:

- ❖ Initial consultation meetings for stakeholders
- ❖ Constituting the national team
- ❖ Information dissemination and industry interaction
- ❖ Data Collection
- ❖ Data Analysis
- ❖ Draft document preparation
- ❖ Stakeholder interactions/consultations
- ❖ Finalization of the HPMP-Stage II proposal

### **5.1 Initiation Meetings of/for Stakeholders/Industry**

The initial meeting(s) of/for stakeholder consultation would mark the commencement of activities involved in the preparation of the HPMP-Stage II.

The expected outcomes of these meetings would be to finalize the roles and responsibilities of the various stakeholders/industry, development and finalization of the terms of reference for activities and personnel, finalization of work plans for various activities and development of formats and templates for data collection and reporting.

## **5.2 Constituting the National Team**

This would include recruitment and/or nomination of national personnel and experts for fulfilling various positions as envisaged in the proposed institutional framework. Existing arrangements of NOU coordinating/managing/supervising such work will be employed by both UNDP and UNEP as implementing agencies.

NOU will decide on the needed national expertise support.

## **5.3 Information Dissemination and Industry Interaction**

The following sub-activities are envisaged:

- ❖ Preparation of information materials on HCFC phase-out
- ❖ Industry interaction workshops for various sectors (preferably by region to improve outreach)
- ❖ Consultations on existing HCFC alternatives and GWP implications: experience from global technology forums will be shared (MLF pilot technology projects, CCAC, TEAP, CAP Network meetings etc)
- ❖ Preparation of documentation/reports on findings

## **5.4 Data Collection**

Data collection on industry profiles, baselines, consumption, etc. will be collected for various HCFC-consuming sectors, through nationally sub-contracted experts.

This would include the use of previously developed questionnaires and formats for reporting the information and data collected.

The data collected would be cross-checked and verified through NOU and Refrigeration Association in terms of legal eligibility as per local regulations.

## **5.5 Data Analysis**

The data analysis would include but not necessarily be limited to classification of data based on present and historical HCFC consumption by enterprise, sector, sub-sector and application, list of HCFC users segregated by sector/sub-sector, data on first and second conversions by sector/sub-sector, historical (production where applicable) consumption and export data by sector/sub-sector, projected growth trends beyond 2013 and until 2020, and required reductions in HCFC consumption for meeting the 2020 reduction, by sector/sub-sector.

## **5.6 Preparation of draft proposal**

Based on the data collected, sector-wise draft proposals for would be prepared in collaboration with MoE/NOU.

The draft HPMP-Stage II proposal will be prepared, based on data collected and stakeholder consultations, focusing on compliance with the 2020 reductions with respect to the proposed baseline revision information.

The draft HPMP-Stage II proposal would be discussed by the HCG and the final draft would be forwarded to MoE/NOU for further comments from national stakeholders.

## 5.7 Stakeholder Consultations

The draft HPMP (Second Stage) document will be circulated by MoE/NOU among the various national stakeholders for comments.

In addition, a national stakeholder consultation workshop will be arranged with participation from key national stakeholders, implementing agencies, national and international experts, key representatives of the national scientific and technical institutions and industry representatives. The comments and recommendations of the stakeholders shall be collected and collated by NOU and forwarded to the HCG.

In the view of global discussions on HCFC-free/low GWP alternatives and in light of ongoing consultations of Montreal Protocol Parties on HFCs, MoE/NOU will schedule national level discussions in this respect with appointed focal points for UNFCCC/Kyoto protocol, NAMAs, GEF, and CCAC for purposes of assessing opportunities for complementary programmes from GEF/bilateral resources in the servicing sector

## 5.8 Finalization of the HPMP Proposal (Second stage)

The HCG will discuss the comments received from national stakeholders and the Implementing Agencies will finalize the HPMP (Stage-II) proposal in consultation with MoE/NOU, after incorporating comments and recommendations of the national stakeholders. The finalized proposal will be sent to government for endorsement and thereafter submitted to MLF by UNDP/UNEP.

## 6. TIME FRAME/MONITORING MILESTONES FOR HPMP PREPARATION

The approval of HPMP-Stage II preparation funding is expected at the 72<sup>nd</sup> Executive Committee meeting in May 2014. In order to complete the project formulation works, NOU estimates that 24 months will be required to have HPMP-Stage II document drafted and prepared for submission to the MLF.

MILESTONE/TIME FRAME (In months)	M1/6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Start-up of project activities	X									
Initiation meetings of/for stakeholders	X	X								
Constituting the national team	X	X								
Information dissemination/industry interaction			X	X						
Data collection			X	X	X	X				
Data analysis					X	X	X			
Preparation of draft proposal							X	X	X	

Stakeholder consultations									X	X
Finalization and submission									X	X

## 7. PROPOSED BUDGETS

The proposed budget and breakdown for HPMP preparation is attached as Annex-1 to this document.

### ANNEX 1

#### Proposed Budget for HPMP-Stage II Preparation

Activity	Proposed Budget (US\$)
<b>UNDP/UNEP</b>	
<b>Initiation meetings of/for stakeholder consultation (Stakeholder/Industry Workshop)</b>	
Meeting arrangements including venue, etc (sub-contract):	2,000
Documentation/poster and information materials (sub-contract):	500
Local travel and expenses for key stakeholders (airfare, DSA, TA):	2,500
<b>Sub-total:</b>	<b>5,000</b>
<b>National Team (Personnel and Operational Costs)</b>	
<i>HPMP Preparation Unit</i>	
National experts: legislation, Customs, servicing and equipment assembly sectors (12 months)	12,000
Local travel for data collection/validation	5,000
Printing reporting/other documentation for NOU/working groups	1,000
Translation	2,000
<b>Sub-total:</b>	<b>20,000</b>
<b>Draft Proposal, Stakeholder consultations and Finalization (Stakeholder/Industry Workshop)</b>	
Meeting arrangements including venue, etc (sub-contract):	2,000
Documentation/poster and information materials (sub-contract):	500
Local travel and expenses for key stakeholders (airfare, DSA, TA):	2,500
<b>Sub-total:</b>	<b>5,000</b>
<b>GRAND TOTAL</b>	<b>30,000</b>

# **NIGERIA**

## **HCFC PHASE-OUT MANAGEMENT PLAN**

**REQUEST FOR PRP FOR**

**THE SECOND STAGE**

**12 March 2014**

**PREPARED JOINTLY BY  
UNDP & NOO (WITH INPUTS BY UNIDO)**



## **I.1 Background**

The HPMP for Nigeria, approved at the 62<sup>nd</sup> meeting of the Executive Committee, will result in the complete phase-out of HCFCs in Nigeria by 1<sup>st</sup> January 2040 in line with the obligation taken by the Government of Nigeria under the Montreal Protocol on Substances that Deplete the Ozone Layer. This is based on the combination of interrelated institutional and regulatory measures and investment activities including conversion of production facilities and strengthening of national capacities for local manufacture of hydrocarbon-based alternative refrigerants. UNDP is the lead agency for the implementation of this plan, UNIDO being the cooperating agency. Nigeria has obtained financial support from the Multilateral Fund for the first stage over a period of 5 years, which is expected to result in the country attaining its 10% phase-out target of the baseline level by 2015. The present document requests PRP funding for Stage II of the HPMP.

The overall HPMP consisted of two main parts: the overarching strategy, and the sector plans/investment projects necessary to support phase-out in the manufacturing and servicing sectors.

## **I.2 Description of the current progress in implementation of the overall stage I of the HPMP to demonstrate that substantial progress had been made, supported with both quantitative and qualitative data**

### I.2.1 Phase-out activities in the manufacturing sector

UNDP component:

#### **Foam Sector Programme**

##### *Upgrade of System House at Vitapur for Supply of Methyl Formate-Based Systems to the Nigerian Foam Industry*

The Nigerian companies that manufacture foam products using HCFC-141b or manufacture products that depend on the use of HCFC-141b are mainly small- and medium-scale enterprises. The overall average consumption of the enterprises was estimated to be 7.0 tonnes in 2009. There were 25 manufacturers of non-appliance foam products such as sandwich panels, spray foam and thermoware products. In addition there are 140 manufacturers of ice-making machines that used an average of 4.8 tonnes of HCFC-141b in 2009. Thus, the phase-out of HCFC-141b by companies that manufacture foams - regardless of whether they belong to the foam or the refrigeration sector - posed a major challenge in terms of the selection of appropriate alternative technologies. As detailed in the HPMP, the most suitable and cost-effective alternative blowing agent appeared to be methyl formate (MF). Prior to the HPMP, systems containing this blowing agent were not available in Nigeria.

Nigeria's only PU systems houses, Vitapur Nigeria Limited and Komaj Nig. Limited, have been targeted for support to operate systems houses capable of meeting the requirement for the systems. However, during the implementation of the first tranche, UNDP concluded that Komaj's organisational, technical and financial capability would not allow operating as a full MF system house within a reasonable time frame and offered an alternative solution under which Komaj would purchase MF-based PU systems from Vitapur and act as a distributor in the market. Both companies accepted this proposal and signed a memorandum of understanding on this basis in

2012. The Government signed MOAs with both companies and, following this milestones-based agreement and based on the endorsement of payments by the Government, payments are made to the companies.

The main production site of Vitapur in Lagos (Ikeja) was visited during a UNDP-led mission in March 2012 along with representatives from the South African company Rigifoam who brought their technical expertise as well as the proposed blender specifications. Some changes were proposed that were immediately incorporated. Following the bidding process, a South African supplier was retained to provide the blender for Vitapur.

The mixing tank was finally received in June 2013. The containers with raw material (polyol, Ecomate, etc.) were delivered to Vitapur. The first tests were conducted at the plant. However, it was noted during a UNDP mission (Sept-Oct 2013) that the tank had to be further adapted by Vitapur as the installation was not completed. The adaptations are going on at the moment.

Now that the first part - the set-up of the system house over the first two tranches of the HPMP - is nearing completion, it is time to look at the second phase, the conversion to MF in all Vitapur operations.

Vitapur had, at the time of project identification (2010) two high-pressure dispensers and two sprayfoam dispensers. These need to be fitted for the future use of methyl formate (MF). MF has a relatively low acidity and can at high pressures, high flows and high shot frequency, be abrasive. Also, the system viscosity is somewhat higher and, when used in high amounts, its emissions can be flammable.

The project also foresees trials with MF and compensation for higher costs in the first year of operation. Installations, including trials, were initiated but not completed yet by Vitapur as noted during the UNDP mission in September-October 2013. This will be completed in the coming months.

In parallel to this, downstream users' full conversion plans have to be developed for the Komaj and Vitapur customers, with the support of Rigifoam as international expert.

For Komaj, the first phase of this plan for downstream users will initially include 3 companies as tests: Alumaco, Kolinton Tech and Weston Porkka. The program would start by October 2013 for completion by 2014.

*Individual project for automotive integral skin foam (Automotive Component Industries Ltd, ACI)*

This company (ACI) manufactured rigid automotive products using HCFC-141b. During a monitoring visit at the Kaduna facility of this company by the international foam consultant it was concluded that the company, as part of the second tranche of the HPMP, has completed the full conversion to non-ODS all-water-based systems. The closing documents are under preparation currently.

UNIDO component: Refrigeration and A/C Manufacturing Sector

The second tranche implementation was started with recruitment of local consultants and the collection of data required for preparation of detailed technical specifications and Terms of Reference (TOR) on the supply of low-pressure PU foam injection machines.

The developed TOR was coordinated with the NOU and UNIDO consultants. It was finally decided to procure PU foam injection machines with the maximum output of 39 kg/min and spare parts (delivery, installation, test runs, training and commissioning included) to 53 companies located in Ibadan and Abuja and representing almost 50% of eligible project beneficiaries. Taking into account the specific local conditions, the initial technical specifications were amended by including the phase failure protection relay, earth leakage circuit breakage and over current cut-out gadgets in the starter panel. The value of this equipment, spare parts and services was estimated at the amount of US\$ 1,000,000.

International bidding on the supply of new foaming units and spare parts was completed in 2013. The evaluation of the bids was carried out and the respective purchase order in the amount of US\$ 951,000 was awarded to the supplier submitting the lowest cost technically acceptable proposal. Under the purchase order, 30 low-pressure foam injection units and spare parts will be supplied to 16 eligible beneficiaries in Ibadan and 14 in Abuja, resulting in the phase-out of 96.35 MT or 10.6 ODP tons of HCFC-141b consumption.

It has to be noted that the funds approved for the phase-out of HCFC-141b consumption in the ice-making machine manufacturing sector will be insufficient to accommodate 109 eligible enterprises included into HPMP's Stage 1. The lowest cost of the foaming unit with spares (without costs of delivery, installation, training and commissioning) obtained through international bidding is US\$ 25,000, which significantly exceeds the initially calculated one of US\$ 15,000 per company.

The next step will be the delivery of the supplied equipment to the users in Ibadan and Abuja. The next tranche will also include an inspection of the remaining eligible companies in various cities of Nigeria and collection of their commitments to arrange the adequate power supply.

Upon completion of the above activity it is planned to arrange the respective international bidding on the supply of low pressure PU foam injection machines to the remaining end users, evaluation of the offers received and placement of the respective purchase order.

As part of Tranche 3 approval, UNIDO was requested to submit an implementation plan for the conversions of foam manufacturing in enterprises in the refrigeration sector, related to a consumption of 310.2 mt (34.12 ODP tonnes) of HCFC 141b.

#### I.2.2 Phase-out activities in the refrigeration servicing sector

##### *Refrigeration and A/C Servicing Sector: RACS and Pamaque Hydrocarbon Production Demonstration Project.*

The informal servicing sector for domestic sector's refrigerators and air conditioning in Nigeria is using, in rapidly increasing amounts, hydrocarbons as replacement for HCFC-22 and HCFC

blends. The feedstock is mostly imported cooking gas and no safety measures to cope with flammability and explosion hazard were observed prior to the HPMP.

At the initiative of the Federal Ministry of Environment / National Ozone Office, an innovative prototype distillation unit for locally available LPG was designed to produce natural refrigerants (C<sub>3</sub> thru C<sub>4</sub>). These refrigerants are then to be offered in the market along with training programs for manufacturers and service technicians to assure safe use.

Based on this initiative and as part of the first two tranches of the HPMP, the Pamaque company constructed an LPG demonstration distillation and bottling unit. This unit is located outside of Lagos, in Irolu-Remo (Ogun State), next to the Ozone Village being developed by the Federal Ministry of Environment. The facility includes quality control testing. Its products will be marketed to a select group of service providers in the domestic sector that commit to a training and certification program on good practices in the use of HC refrigerants (R-290, R-600a and R-600) and are prepared to function as trainers if and when the program is expanded at a later date.

A first monitoring mission was conducted in August 2012 and noted the advances in the programme. During the following UNDP mission in April 2013, the completion of the work was noticed and a full safety inspection was conducted as a pre-requisite for the facility to start operation. The UNDP mission conducted at the location on 30 September 2013 noted that most of the safety measures had been implemented as per the safety audits. The facility is not in operation yet, only in trial and testing phase.

Part two of the project (distribution of the product in the RAC servicing market along with a good practices' program) has started. This involves marketing the refrigerants in the field along with a safety program. The Government takes the lead in this part with Pamaque providing hardware and technical support.

The objective will remain to:

- Demonstrate the technology at commercial refrigeration manufacturers at ice makers and other commercial refrigeration manufacturers, and
- Assure through training and proper retrofit that the use of these hydrocarbons in the market will occur in a safe way.

It is expected that the commercial production at the plant will be initiated in the first half of 2014.

### **I.3 Stage II – PRP for Overarching strategy**

- (1) Brief overview of the current HCFC consumption by substance and distribution by sector/subsector

As per the Country programme reporting for 2012, the consumption figures are as follows (2013 estimates are not available yet):

	<b>2011 data</b>	<b>2012 data</b>	<b>% change between 2011 and 2012</b>

	Metric	ODP	Metric	ODP	
<b>HCFC 22</b>	5,244.8	288.5	5958.2	327.7	<b>+13.5%</b>
<b>HCFC 141b</b>	1,575.5	173.3	1680.51	184.9	<b>+ 6.7%</b>
<b>TOTAL</b>	6,820.3	461.8	7,638.71 (+12%)	512.6 (+11%)	

Consumption has thus increased by about 11% in ODP and about 12% in metric tonnes (this reflects that higher-ODP HCFC141b has increased more slowly than HCFC22 in terms of imports/consumption). The most notable increase is in the servicing sector (+17.5% between 2012 and 2011), which can be explained by the fact that this sector was not addressed in the first stage of the HPMP. The pre-blended polyols imports are stable. Additional broken down data can be found in the CP reporting of 2012 data.

The remaining consumption eligible for funding of HCFC-22 is 237.9 ODP tonnes. The remaining consumption eligible for funding of HCFC-141b is 70.1 ODP tonnes.

(2) A description of the information that needs to be gathered and updated

In this PRP for stage 2, an update of the information gathered in the initial PRP will be needed, to understand more precisely the current dynamics on the market and the drivers of the trends in each of the subsector's consumption. This will be particularly important as the servicing sector will be addressed in priority in this second stage.

It will be also important to coordinate with other on-going activities in the country. For example, Nigeria is an active member of the Climate and Clean Air Coalition and will be completing in 2014 an HFC survey. This information can be taken into account and synergy can be sought in the development of the strategy for Stage 2.

Activities in Stage II for the servicing sector would for example include follow up, training and strengthening enforcement for HCFC legislative measures, continued and intensified training of customs officers, a canisterization project, recovery and reclaiming of refrigerant and assistance to the end-user sector. This detailed plan will need to be prepared for implementation under Stage 2.

(3) An indication of the activities that need to be undertaken for PRP

The following activities will need to be conducted under this PRP:

Activity	Indicative funding (in USD)
Survey work (National consultants) - update	40,000
Technical support and updating of overall strategy for Phase 2, as well as specific strategy for the Servicing sector (International Consultant). Includes Travel to Nigeria.	20,000
Stakeholders' meetings (Inception and Final)	20,000
Reporting and monitoring	10,000
<b>Total</b>	<b>USD 90,000</b>

As per Decision 71/42(d), Nigeria is eligible to USD 90,000 for PRP of the overall strategy for Stage II, as remaining eligible HCFC consumption is comprised between 100.1 and 1,500 ODP tonnes.

#### I.4 Stage II – PRP for the Manufacturing sector

As indicated in the HPMP document, the HCFC usage in the manufacturing sector in Nigeria is as follows:

Sub-Sector	Nr of Companies	HCFC-22 (Tonnes)				HCFC-141b (Tonnes)			
		2006	2007	2008	2009	2006	2007	2008	2009
<b>Refrigeration and Air Conditioning (RACM) Sector</b>									
AC Assembly	9	385.5	487	565	678	0	9	22	26.4
Commercial Refrigeration *	162	278.9	382.2	513.2	615.8	382.5	461.2	563.8	675.4
<b>Total RAC</b>	<b>171</b>	<b>664.4</b>	<b>869.2</b>	<b>1,078.20</b>	<b>1293.8</b>	<b>382.5</b>	<b>470.2</b>	<b>585.8</b>	<b>701.8</b>
<b>Foam Sector</b>									
Rigid PU Spray **	13	0	0	0	0.0	80.2	111.3	138.9	166.7
Rigid PU Panels & others	4	0	0	0	0.0	85.5	98.5	117.5	141.0
Rigid PU Thermoware	7	0	0	0	0.0	82.5	96.5	130.1	156.1
Rigid foam automotive	1	0	0	0	0.0	7	6	4	4.8
<b>Total PU Foam</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>255.2</b>	<b>312.3</b>	<b>390.5</b>	<b>468.6</b>
<b>Total all sectors</b>	<b>196</b>	<b>664.4</b>	<b>869.2</b>	<b>1078.2</b>	<b>1293.8</b>	<b>637.7</b>	<b>782.5</b>	<b>976.3</b>	<b>1170.4</b>
<b>Total (ODP tonnes)</b>		<b>36.54</b>	<b>47.81</b>	<b>59.30</b>	<b>71.16</b>	<b>70.15</b>	<b>86.08</b>	<b>107.39</b>	<b>128.87</b>

\* Including Ice machines and multiple products (cold room, spray, ice machines)

\*\* Excludes spray foam of multi-product enterprises

#### 1. Spray Foam sector (UNDP)

A follow-up programme for the sprayfoam sector needs to be developed and the programme will consider using technology that is yet to be determined: either CO<sub>2</sub> (derived from water/isocyanate or direct injection), CHOs (methylal or methyl formate), HFCs flowed by HFOs or combinations of these substances. The choice of options has grown since the approval of the HPMP. This is due to the following technological and market developments:

- the emergence of HFOs: this emergence of HFOs on the market will be happening during stage 2 of the HPMP of Nigeria and needs to be taken into consideration in this PRP phase;
- the addition of some other substances (water, non-critical CO<sub>2</sub> - therefore injected CO<sub>2</sub>);
- the fact that in very low densities combinations of several substances (“co-blowing”) might provide better results (this is based on experience in implementation from Mexico).

The list of companies is as follows, although it would need to be checked and updated during the PRP phase:

Company Name &	Products	First	Prior	HCFC-141b consumption	Equipment
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Location	Manufactured	Year of HCFC use	MLF project (Y/N)	(tonnes)			Type
				2007	2008	2009	
Onwell Ent. Lagos.	Spray foam	2005	Yes	3.5	5	6	Cannon; Low pressure
Agric Services, Apapa – Lagos	Spray foam	2002	Yes	32.6	33.5	40.2	TecMac; High pressure
Polyma Ind.Ltd, Lagos	Spray foam	2002	Yes	1.1	1.7	2.04	
Dan Altimate, Ibadan	Spray foam	2005		4.9	5.9	7.08	
Danoput Ltd, Lagos	Spray foam	2005		2.8	5.6	6.72	TecMac; Low pressure
SUNSAILOS NIG. LTD, Oshodi Lagos	Spray foam	2001	Yes	22	30	36	TEC MAC
Benson Insulation	Spray foam			15	18	21.6	Gusmer/Foam Dispenser
Danpur Nig. Ltd	Spray foam			11.6	15	18	Spray foam machine (Unspecified brand)
A.Y.Tech Services	Spray foam			10.25	15	18	Spray foam machine (Unspecified brand)
Kayode Glorious Tech. Co.	Spray foam			2.5	3	3.6	Spray foam machine (Unspecified brand)
S.A. Lawal & Co.	Spray foam			1.5	1.95	2.34	Spray foam machine (Unspecified brand)
Okwute and Sons Eng. Works	Spray foam			1.25	1.5	1.8	Spray foam machine (Unspecified brand)
Havana Nig. Co.	Spray foam			2.3	2.75	3.3	Spray foam machine (Unspecified brand)
<b>Sub-total</b>				<b>111.3</b>	<b>138.9</b>	<b>166.68</b>	

In this case, the information was already partially gathered as part of preparation of Stage I of the HPMP (the HPMP document is the source of the table above). However, the funding of this specific activity was not granted under Stage 1 and information updates are needed.

The activities under the PRP would be needed for the following activities:

Activity	Indicative funding (in USD)
Survey work (National consultants) – updating companies’ data and technology choices	30,000
Technical support (International Consultant) for preparation of technology option analysis and development of strategy for this foam subsector under Stage 2	20,000
Stakeholders’ meetings (Inception and Final)	20,000
Reporting and monitoring	10,000
<b>Total</b>	<b>USD 80,000</b>

As per Decision 56/16(d) and (f)), with the number of enterprises being in between 3 and 14, the total funding available for this PRP would be USD 80,000.

## 2. RACM Sector Programme (UNIDO)

Initially investment activities in the Refrigeration and Air-conditioning Manufacturing (RACM) sector were included into the HPMP, Stage I (see the table below). However, those ones related to

the phase-out of HCFC-22 consumption were deferred to HPMP, Stage II, while Stage I addressed only the phase-out of HCFC-141b consumption in the production of PU foam used as insulation in the production of ice making machines at 109 eligible companies.

Sector	No. of Companies	R22 2006	R22 2007	R22 2008	R141b 2006	R141b 2007	R141b 2008
<b>R&amp;AC Manufacturing</b>							
AC Manufacturing	9	385.5	487	565	0.0	9.0	22
Commercial refrigeration		278.9	382.2	513.2	380.5	454.2	563.8
Multiple products	31	139.6	203.2	264.4	181.7	209.1	253.8
Ice maker	109	139.3	179	248.8	198.8	245.1	310.0
<b>Total</b>	<b>150</b>	<b>664.4</b>	<b>869.2</b>	<b>1,078.2</b>	<b>380.5</b>	<b>463.2</b>	<b>585.8</b>

According to the CP data reporting the HCFC-22 consumption in the RACM sector has increased and is as follows: 2011 – 1,278.93 MT; 2012 – 1,292.93 MT.

It has to be noted that the initial version of the HPMP, Stage I has envisaged the use of R-407C, R-410A and, to a lesser extent, the trans-critical CO<sub>2</sub> as the HCFC-22 replacement technology for the RACM sector. Since then new low GWP technologies have appeared on the market. Therefore, it will be most important to consider their potential application for phasing out HCFC-22 consumption in the sector under implementation of the HPMP, Stage II.

With respect to the above the requested PRP funds for the preparation of HPMP, Stage II in the RACM sector are planned to be used for the implementation of the following activities.

Activity	Indicative funding (in USD)
Survey work (National consultants) – updating information on 150 companies of the RACM sector, their latest HCFC-22 consumption data and technology choices	40,000
Technical support (International Consultants) for preparation of technology option analysis and development of the HCFC-22 phase-out strategy for the AC and commercial refrigeration manufacturing sub-sectors under Stage 2.	60,000
Stakeholders' meetings (Inception and Final)	40,000
Reporting and monitoring	10,000
<b>Total</b>	<b>USD 150,000</b>

#### SUMMARY OF REQUESTED PRP FUNDING

Activity	Implementing Agency	Funding requested (without PSC)
PRP for Overarching strategy /	UNDP	90,000



Refrigeration servicing sector		
PRP for the Manufacturing sector / Spray Foam	UNDP	80,000
<i>TOTAL FOR UNDP</i>		<i>170,000</i>
PRP for the Manufacturing sector / RACM Sector Programme	UNIDO	150,000
<i>TOTAL FOR UNIDO</i>		<i>150,000</i>
<b>TOTAL</b>		<b>USD 320,000</b>

**PREPARATION OF STAGE II FOR  
THE HCFCs PHASE OUT MANAGEMENT PLAN - HPMP  
PANAMA, March 12, 2014.**

## **1. BACKGROUND**

The HCFC phase out plan for Panama was approved at the 65<sup>th</sup> Meeting of the Executive Committee of the Multilateral Fund, held in Bali, Indonesia in November 2011. The total amount was US\$ 335,545. All funds were approved in principle by the MLF Executive Committee to assist Panama in complying with the 2013 and 2015 control measures for HCFCs under the Montreal Protocol, subject to the provisions of the performance-based agreement between the MLF Executive Committee and the country, comprising of annual/biennial HCFC consumption and phase-out targets.

UNDP is the lead agency for the implementation of the HPMP, focused on all refrigeration training, recovery - recycling programme, programme for end-user conservation and conversion plans, technical assistance and monitoring activities, while UNEP is the cooperating agency, focused on strengthening the legal framework, customs training and awareness-raising.

First tranche progress report and second tranche request were presented and approved at the 70<sup>th</sup> ExCom meeting held in Bangkok, Thailand on July 1 to 15, 2013. It is expected to request the HPMP Stage I third, and last, tranche on the first meeting of 2015. As February 2014, Panama has spent and committed 61 % of HPMP approved funds (first and second tranche).

## **2. HPMP STAGE I IMPLEMENTATION PROGRESS**

Panama's National Ozone Unit (Unidad Nacional de Ozono - UNO in Spanish) is part of the Ministry of Health (Ministerio de Salud- MINSa) who has been in charge of implementing the HPMP's activities in the country, has executed the project in a coordinated and participative way with all stakeholders, including governmental institutions and private sector.

HPMP Stage I activities have been aimed to strength the legal framework for control HCFCs and to phase out the consumption of HCFCs in the in the refrigeration service subsector.

Regarding the strengthening of the legal framework, awareness in the public and private sector, the activities have been focused on preparation of norms to establish a quota system to control HCFCs imports, which is in place and working properly, phase-out of HCFC-141b consumption as cleaning agent for cooling systems and training of 43 sanitation inspectors of the Ministry of Health on the implementation of the Montreal Protocol and other international agreements; In such training UNO has also performed an exercise for the implementation of national inventory of HCFC-based equipment for end users (public hospitals), which will be the background for the establishment of Conservation Plans and conversion equipment.

In addition to these activities, the NOU has worked together the National Association of Refrigeration and Air Conditioning in the expedition of the National Regulation of Air

Conditioning and Ventilation which rules the work on this sector and establishes general directions for new constructions where AC and ventilation requirements exist.

In the refrigeration sector, Panama’s NOU has worked with the main stakeholders involved in consumption of HCFC in the country; NOU has implemented different activities aimed to allow Panama adopting new alternative refrigerants with, when feasible, low global warming potential such as: discussion and implementation of a memorandum of agreement between NOU and the National Institute of Human Development (Instituto Nacional de Formación Profesional y Capacitación para el Desarrollo Humano - INADEH in Spanish) for training refrigeration technicians, 2 train-the-trainers workshops were conducted by an international expert with participation of 27 trainers, 114 refrigeration technicians were trained in 5 workshop carried out in 3 cities.

Besides training activities, Panama has looked out to strength its national R&R network, for this a procurement process of Nitrogen-based flushing equipment was done, the equipment will be distributed in March 2014 among 80 beneficiaries. Additionally, 3 closed-cycle flushing equipment and basic tools were purchased for strengthening the training centers capabilities.

### 3. HCFC CONSUMPTION AND REMAINING ELIGIBLE CONSUMPTION

Panama does not produce any substances that deplete the ozone layer, so consumption is entirely dependent on imports. Nowadays, consumption of HCFC is composed especially on HCFC-22 in refrigeration and air conditioning sector, HCFC-141b as blowing agent in pre-blended polyols for the manufacture of foams and cleaning agent in maintenance activities (its use for this application was ban on January 1, 2014) and HCFC-123 in air conditioning maintenance.

There was an increase in the importation of HCFC-22 and HCFC-141b, during 2012, as a result of increasing in the inventory levels of some importers as a precautionary measure due to 2013 entry into force of the quota system. The Panamanian government was aware of this situation thanks to conversation with stakeholders and custom authorities, preliminary data shows that this trend did not continue in 2013 thanks to the quota systems implemented, importation has decreased compared to previous year levels and is within the established limit. In table 1 the latest consumption reported is shown and in table 2 the remaining eligible consumption as per agreement between the country and the MLFS.

**Table 4. Panama HCFC consumption (in MT).**

<b>Substance</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
HCFC-22	380.36	381.14	474.48
HCFC-123	4.06	2.93	--
HCFC-124	0.45	0.98	0.1
HCFC-141b	30.01	25.5	60.65
HCFC-142b	4.12	0.59	0.06

**Table 5. Remaining eligible consumption (in ODP ton).**

HCFC	Baseline	Starting Point	Approved	Remaining
HCFC-22	22.24	22.24	2.48	19.76
HCFC-141b	2.3	2.3	--	2.3
HCFC-142b	0.18	0.18	--	0.18
HCFC-123	0.05	0.05	--	0.05
HFC-124	0.014	0.014	--	0.14
<i>Subtotal</i>	24.77	24.77	2.48	22.29
HCFC-141b in pre-blended polyols.	--	2.5	--	2.5
<b>TOTAL</b>	<b>24.77</b>	<b>27.27</b>	<b>2.48</b>	<b>24.80</b>

#### 4. STAGE II PROJECT PREPARATION ACTIVITIES

##### a. Overarching strategy

Panama looked to work together with the different stakeholders in the preparation and implementation of Stage I of its HPMP and its part of its overall strategy to keep involving the stakeholders, both from governmental and private sectors, in the preparation of the Stage II. Additionally, the country intends to address those sectors that were not covered on the Stage I, mainly the polyurethane foam sector which depend on fully formulated polyols.

As the country has suffered a huge economic development in the last 3 years, propelled by the construction of the Panama metro system, the Panama Canal and Tocumen International Airport extensions, amongst many others projects, it is necessary to review the strategy planned during the HPMP first stage and evaluate the impact of the activities carried out during this stage.

The activities of the Stage II project preparation can be divided in 6 steps: a) Launch of Stage II preparation, b) survey for updating of HCFC use profile in the country, c) Assessment of current situation and stakeholders' needs, d) Definition of priorities and objectives, e) Presentation of Stage II of HPMP strategy to stakeholders, and f) Preparation of the final document; In table 3 a brief description and cost of these activities are presented.

**Table 6. Activities to be undertaken during Stage II preparation.**

No.	Activity	Cost (US\$)
<b>1</b>	<b>Workshop with stakeholders to present the progress in the implementation of stage I of the HPMP and the action plan to ensure an appropriate Stage II preparation.</b>	<b>5,000</b>
<b>2</b>	<b>Conduct a survey to update the HCFCs use in Panama</b>	<b>16,000</b>
	<i>Review of official data on HCFCs imports by substance and by sector.</i>	<i>1,000</i>
	<i>Meetings with importers to understand the logistic of the current product chain, to identify possible barriers for the introduction of replacement options and to update the list of distributors, suppliers and large end-users.</i>	<i>2,000</i>
	<i>Visits to main end-users by sector to collect information on specific applications and build the baseline on related equipment (capacity, procurement date, etc.), on HCFCs consumption and on expectations about HCFCs replacement (new alternatives, timeline, etc.).</i>	<i>10,000</i>
	<i>Preparation of the document related to the market survey update.</i>	<i>3,000</i>
<b>3</b>	<b>Assessment of current situation and needs of stakeholders</b>	<b>14,000</b>
	<i>Assessment of current situation and definition of required improvement for the projects</i>	<i>5,000</i>

No.	Activity	Cost (US\$)
	<i>implemented in the first stage of the HPMP for servicing subsector. (training and certification of refrigeration and air conditioning technicians, technical assistance for the refrigeration and air conditioning maintenance and technical assistance for end users)</i>	
	<i>Two regional workshops with the recovery and recycling network stakeholders to present and discuss the current state and new objectives to improve the capacity of the network.</i>	6,000
	<i>Workshop with the Customs Office, the Ministry of Commerce and Industries and Prosecutors, Environmental Lawyers and Judges to discuss the results of the activities implemented to control ODS trade and prevent illegal commerce.</i>	3,000
<b>4</b>	<b>Priorities and objectives definition</b>	<b>12,000</b>
	<i>Definition of the country strategy for the second stage of the HPMP, including the definition of non-investment projects to be implemented to ensure the HCFCs consumption reduction in the RAC sector. Conduct the required meetings with RAC equipment suppliers and main installing and charging enterprises.</i>	3,000
	<i>Conduct the final meeting with the recovery and recycling network stakeholders. Prepare the non-investment project.</i>	6,000
	<i>Conduct the final meeting with the Customs Office, the Ministry of Commerce and Industries and Prosecutors, Environmental Lawyers and Judges Prepare the non-investment project for technical assistance to enhance the control of ODS trade that will support the HCFCs phase out.</i>	3,000
<b>5</b>	<b>Presentation of the HPMP Stage II strategy to stakeholders</b>	<b>5,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	5,000
<b>6</b>	<b>Preparation of the final document (second stage of HPMP)</b>	<b>8,000</b>
<b>TOTAL</b>		<b>60,000</b>

### b. Investment component: Foam sector

Panama consumes fully formulated polyols, with HCFC-141b as blowing agent, for several polyurethane foam applications, such as panels, blocks and spray. During the HPMP stage I preparation some companies were identified but there were several small companies that were not characterized nor visited; main companies identified are shown in table 4 below.

**Table 7. Identified companies in HPMP Stage I preparation (2010 figures).**

Company	PU System consumed (MT)	HCFC-141b (MT)	Application
Plastifom	140,0	11,2	Spray, blocks
Cangas Trucks	50,0	4,0	Spray, blocks
Fibropinturas	4,7	0,4	Discontinuous panels.
Equipment Container Solutions	14,6	1,2	Spray
Auto Servicio VIT	4,7	0,4	Spray
Otros (Carrocerías ACT, Salazar, etc.)	10,0	0,8	Spray, blocks
<b>TOTAL</b>	<b>224,0</b>	<b>17,9</b>	

Foam sector was not covered in the course of the HPMP Stage I implementation as for small and medium enterprises, like the ones present in Panama, there was not a technically and economically feasible technology with low global warming potential, as hydrocarbons required an excessive counterpart from the companies which would make it an alternative economically unviable, water-based systems had technical limitation (i.e. poor K factor and high densities required) and other emerging technologies, such as Methyl Formate, Methylal and HFO, were in their initial stages, with limited commercialization and/or long-term experience.

The country intends to phase out the HCFC consumption in this sector during the HPMP Stage II. As mentioned before, the breakthrough economic growth experienced by Panama in the last years required a review of the current state of the sector, as construction, of both big infrastructure projects and housing, has being one of the pillars of this growth. Additionally, during the implementation of the Stage I a new system house was established in the Colon Free Zone, which has altered the dynamic of the sector making the PU technology more available and leading to unidentified new applications.

During the preparation of the investment project for Panama's HPMP Stage II, it is necessary to assess the current state of the sector, review the state eligible companies, update consumption figures and baseline equipment, discussed with beneficiary companies the work plan and projects to be prepared; In the following table a list of activities to be carried out is presented.

**Table 8. Investment component activities and costs.**

<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
<b>1</b>	<b>Assessment of current situation and needs of stakeholders</b>	<b>13,000</b>
	<i>Assessment of current situation, review of fully formulated polyols imports, meeting with stakeholders to discuss sector perspectives.</i>	<i>8,000</i>
	<i>Workshop on alternative technologies available in Panama.</i>	<i>5,000</i>
<b>2</b>	<b>Individual and group projects preparation</b>	<b>62,000</b>
	<i>Meeting with system houses and distributors.</i>	<i>10,000</i>
	<i>Visits to beneficiary production facilities to evaluate their processes and base line equipment.</i>	<i>20,000</i>
	<i>Discussion with beneficiary companies of best available technology for their applications.</i>	
	<i>Preparation of project documents</i>	<i>20,000</i>
	<i>Presentation and discussion with beneficiary companies of project document prepared.</i>	<i>10,000</i>
<b>3</b>	<b>Presentation of sector strategy and work plan.</b>	<b>5,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	<i>5,000</i>
<b>TOTAL</b>		<b>80,000</b>

## Country - Timor-Leste

The information requested for funding for HPMP Stage-II preparation overarching strategy is provided in the proposal submitted by UNEP as the lead agency, and the information on UNDP investment components under HPMP Stage-II preparation are given below.

### 5. Overall progress of Stage-I

A Letter of Agreement (LoA) for implementation of the project between UNDP and the Government of Timor-Leste was signed in April 2012. The first payment under the LoA for implementation of the project activities was transferred in October 2012.

In June 2012, the NOU started preparing and had been reviewing the tender documents for 10 recovery unit and one mini-reclamation equipment for recovery and reclamation activity. In April 2013, the Government announced the invitation to bid for the equipment on information bulletin as well as on national TV and newspapers. However no bid was submitted, thus A1 Service, the only qualified company in Timor-Leste, was requested to submit the bid. The terms and conditions of the procurement have been discussed and being finalized between the NOU and A1 Service. The second payment under the LoA has been transferred in late 2013.

*Please note that there is no funds left under HPMP Stage I preparation funding that was available to Timor-Leste.*

### 6. Investment component proposal

The proposed strategy for Stage-II of HPMP investment component would cover the refrigeration & service sector. The specific details of plan of action for phase-out would be set-out in the HPMP Stage II strategy and implementation plan document.

A summary table containing the activities that would be undertaken as a part of HPMP investment component preparation along with costs for the same is given below:

Activities	Particulars	Value in USD
Consultant	<ul style="list-style-type: none"><li>• Hold consultations with national stakeholders including servicing sector and installation agencies for development of implementation plan for investment component.</li><li>• Data analysis to supplement the data collection and survey conducted under UNEP component during the Stage-II preparation phase</li><li>• Prepare and finalize UNDP investment component for Timor-Leste Stage-II HPMP, primarily covering Recover and Reclamation activity and Retrofit incentive activity.</li></ul>	8,000
Stakeholder consultations	<ul style="list-style-type: none"><li>• Consultative stakeholder workshop to present and to obtain the endorsement of the strategy of UNDP investment component for Timor-Leste Stage-II HPMP. This will be held in an integrated manner</li></ul>	2,000

	<u>with the workshop held under UNEP component during the Stage-II preparation phase</u>	
<b>Total (UNDP component)</b>		<b>10,000</b>



**PREPARATION OF STAGE II FOR  
THE HCFCs PHASE OUT MANAGEMENT PLAN - HPMP  
URUGUAY, March 10, 2014.**

## **1. BACKGROUND**

The HCFC phase out plan for Uruguay was approved at the 65th Meeting of the Executive Committee of the Multilateral Fund, held in Bali, Indonesia in November 2011. The total amount was US\$ 380,004. All funds were approved in principle by the MLF Executive Committee to assist Uruguay in complying with the 2013 and 2015 control measures for HCFCs under the Montreal Protocol, subject to the provisions of the performance-based agreement between the MLF Executive Committee and the country, comprising of annual/biennial HCFC consumption and phase-out targets.

UNDP is the lead agency for the implementation of the HPMP, focused on all refrigeration training, recovery - recycling programme, technical assistance activities, strengthening the legal framework, customs training, awareness-raising and monitoring.

First tranche progress report and second tranche request were presented and approved at the 68<sup>th</sup> ExCom meeting held in Montreal, Canada, on December 3 to 7, 2012, while second tranche progress report and third tranche request were presented and approved at the 71<sup>st</sup> Excom meeting held in Montreal, Canada, on December 2 to 6, 2013.

It is expected to request the HPMP Stage I third tranche report and fourth tranche request on the last meeting of 2014. As February 28 2014, Uruguay has spent and committed 47 % of its HPMP approved funds (first, second and third tranche).

## **2. HPMP STAGE I IMPLEMENTATION PROGRESS**

Uruguay's National Ozone Unit (Comisión Gubernamental de Ozono - CGO in Spanish) is part of the Environment National Directorate (Dirección Nacional de Medio Ambiente – DINAMA), it has been in charge of implementing the HPMP's activities in the country, implementing the project in a coordinated and participative way with all stakeholders, including governmental institutions and private sector.

HPMP Stage I activities have been aimed to strength the legal framework for control HCFCs and to phase out the consumption of HCFCs in the refrigeration service subsector.

Regarding the strengthening of the legal framework, the activities have been focused on preparation of norms to establish a quota system to control HCFCs imports, which is in place and working properly, meeting with stakeholders and governmental control entities to disseminate these new control measures and secure its proper implementation while increasing the awareness in the public and private sectors,

In the refrigeration sector, Uruguay's NOU has worked with training institutions (such as Technological Laboratory of Uruguay – LATU and Professional and Technical Education Board

– CEPT), technical associations and other stakeholders to design and implement training sessions on good refrigeration practices and HCFC alternatives. 2 week-long multi-session workshops have been carried out by an international expert, implemented in LATU's laboratories, which have been upgraded with new equipment bought with HPMP's funds; Those workshops were attended by more than 700 technicians, engineering students and refrigerants and equipment suppliers.

Several meetings have been with the technical committee, composed by LATU, CEPT and independent technicians, on the alternatives to replace HCFC-141b in flushing activities and for discussing on the implementation of an efficient recovery and recycling system.

### 3. HCFC CONSUMPTION AND REMAINING ELIGIBLE CONSUMPTION

Uruguay does not produce any substances that deplete the ozone layer, so consumption is entirely dependent on imports. Nowadays, consumption of HCFC is composed especially on HCFC-22 in refrigeration and air conditioning sector, HCFC-141b as blowing agent for the manufacture of foams, contained in fully formulated polyols, and cleaning agent in maintenance activities, HCFC-123 in air conditioning maintenance and some HCFC-based blends such as R-406A and R-409A for servicing refrigeration systems.

There was an increase in the importation of HCFC-22 and HCFC-141b during 2012 as a precautionary measure due to 2013 entry into force of the quota system. The Uruguayan government was aware of this situation thanks to conversation with stakeholders and custom authorities, preliminary data for 2013 shows that the quota systems implemented is working properly as licenses granted during 2013 were below the baseline limit. In table 1 the latest consumption reported is shown and in table 2 the remaining eligible consumption as per agreement between the country and the MLFS is presented.

**Table 9. Uruguay HCFC consumption.**

<b>Substance</b>	<b>2010 (MT)</b>	<b>2011 (MT)</b>	<b>2012 (MT)</b>
HCFC-22	397.05	294.26	453.58
HCFC-123	2.12	0.57	2.13
HCFC-124	5.82	4.03	5.95
HCFC-141b	20.12	8.38	23.97
HCFC-142b	7.47	6.36	4.45

**Table 10. Remaining eligible consumption.**

<b>HCFC</b>	<b>Baseline</b>	<b>Starting Point</b>	<b>Approved</b>	<b>Remaining</b>
HCFC-22	21.08	21.08	2.34	18.74
HCFC-141b	1.49	1.49	1.08	0.41
HCFC-142b	0.63	0.63	0.63	0
HCFC-123	0.04	0.04	0.04	0
HFC-124	0.09	0.09	0.09	0
<i>Subtotal</i>	23.33	23.33	4.18	19.15

HCFC-141b in pre-blended polyols.		5.33	0	5.33
<b>TOTAL</b>	<b>23.33</b>	<b>28.66</b>	<b>4.18</b>	<b>24.48</b>

#### 4. STAGE II PROJECT PREPARATION ACTIVITIES

##### a. Overarching strategy preparation

Uruguay is characterized by being a democratic society where national issues are discussed amply with those parties involved, so NOU is looking to work together with the different stakeholders for the preparation and implementation of Stage II of its HPMP. Also, the country intends to address those sectors that were not covered on the Stage I, mainly the polyurethane foam sector which depends on fully formulated polyols.

The activities of the Stage II project preparation can be divided in: a) Launch of Stage II preparation, b) survey for updating the national profile of HCFC consumption, c) Assessment of current situation and stakeholders' needs, d) Definition of priorities and objectives, e) Presentation of Stage II of HPMP strategy to stakeholders, and f) Preparation of the final document; In table 3 a brief description and cost of these activities are presented.

**Table 11. Activities to be undertaken during Stage II preparation.**

No.	Activity	Cost (US\$)
<b>1</b>	<b>Workshop with stakeholders to present the progress in the implementation of stage I of the HPMP and the action plan to ensure an appropriate Stage II preparation.</b>	<b>5,000</b>
<b>2</b>	<b>Conduct a survey to update the HCFCs use in Uruguay</b>	<b>16,000</b>
	<i>Review of official data on HCFCs imports by substance and by sector.</i>	<i>1,000</i>
	<i>Meetings with HCFC and alternative substances importers to understand the logistic of the current product chain, to identify possible barriers for the introduction of replacement options and to update the list of distributors, suppliers and large end-users.</i>	<i>2,000</i>
	<i>Visits to main end-users by sector to collect information on specific applications and build the baseline on related equipment (capacity, procurement date, etc.), on HCFCs consumption and on expectations about HCFCs replacement (new alternatives, time-line, etc.).</i>	<i>10,000</i>
	<i>Preparation of the document related to the market survey update.</i>	<i>3,000</i>
<b>3</b>	<b>Assessment of current situation and needs of stakeholders</b>	<b>14,000</b>
	<i>Assessment of current situation and definition of required improvement for the projects implemented in the first stage of the HPMP for servicing subsector (training and certification of refrigeration and air conditioning technicians, technical assistance for the refrigeration and air conditioning maintenance and technical assistance for end users).</i>	<i>7,000</i>
	<i>Workshop with the Customs Office, the Ministry of Commerce and Industries and Prosecutors, Environmental Lawyers and Judges to discuss the results of the activities implemented to control ODS trade and prevent illegal commerce.</i>	<i>3,000</i>
	<i>Awareness raising and information dissemination.</i>	<i>4,000</i>
<b>4</b>	<b>Priorities and objectives definition</b>	<b>7,000</b>
	<i>Definition of the country strategy for the second stage of the HPMP, including the definition of non-investment projects to be implemented to ensure the reduction on HCFCs consumption in the RAC sector. Conduct the required meetings with RAC equipment suppliers and main installing and charging enterprises.</i>	<i>4,000</i>

No.	Activity	Cost (US\$)
	<i>Conduct the final meeting with the Customs Office, the Ministry of Commerce and Industries and Prosecutors, Environmental Lawyers and Judges Prepare the non-investment project for technical assistance to enhance the control of ODS trade that will support the HCFCs phase out.</i>	3,000
5	<b>Presentation of the HPMP Stage II strategy to stakeholders</b>	<b>8,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	4,000
	<i>Awareness raising and information dissemination.</i>	4,000
6	<b>Preparation of the final document (second stage of HPMP)</b>	<b>10,000</b>
<b>TOTAL</b>		<b>60,000</b>

### b. Investment component: Foam sector

Uruguay consumes fully formulated polyols, with HCFC-141b as blowing agent, for several polyurethane foam applications, such as appliances, panels and spray. During the HPMP stage I preparation some companies were identified but there were several small companies that were not identified nor visited; main companies are shown in table 4 below.

**Table 12. Identified companies in HPMP Stage I preparation.**

#	Company	Applications
<b>Appliance Makers</b>		
1	James	Water heaters
2	Rivomark	Water heaters
3	Ferroco	Thermoware
<b>Panels</b>		
4	Colder	Panels
<b>Spray/Pour-in Place</b>		
5	Aispur	Spray
6	Ecopur	Spray
7	Compañía Oriental de Aislaciones	Spray
8	Karlen	Spray
9	Kubal	Spray
10	Metalizadora Uruguaya	Spray
11	Montevideo Port Service	Spray/PIP
12	SergioCeballos	Spray
13	Tomsic	Spray
14	Zaducom	Spray
<b>Integral Skin/Flexible Molded</b>		
15	Fumaya	Armrests/Seats

Preparation funds for the foam sector were requested for Stage I project preparation, they were partially used although the foam sector was not covered in the course of the HPMP Stage I implementation as for small and medium enterprise presented in Uruguay there was not a technically and economically feasible technology with low global warming potential, as hydrocarbons required an excessive counterpart from the companies which would make it an

alternative economically unviable, water-based systems had technical limitation (i.e. poor K factor and high densities required) and other emerging technologies, such as Methyl Formate, Methylal and HFO, were in their initial stages, with limited commercialization and/or scarce long-term experience.

Foam sector preparation funds were used for assess the sector in the HPMP Stage I frame work, activities carried out included hiring a national consultant for identifying HCFC consumption in the sector and eligible beneficiaries companies and an international expert for discussing the available technologies, also, workshops with stakeholders were conducted to discuss possible alternatives to HCFC in their application; At the end, an agreement on which technology to be adopted was not reached so it was decided to present the investment project later during implementation of the first stage or in the second stage, depending on technology development and maturing.

At this point, the country intends, as part of its general strategy, to phase out the HCFC consumption in this sector during the HPMP Stage II but there are not updated information on fully formulated polyols imports and the general state of the sector, so for the preparation of the investment project for Uruguay's HPMP Stage II is necessary to assess the current state of the sector, review the state eligible companies, update consumption figures and baseline equipment, diffuse alternatives currently available, discussed with beneficiary companies the best alternatives for their applications, the work plan and projects to be prepared; In the following table a list of activities to be carried out is presented.

**Table 13. Investment component activities and costs.**

<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
<b>1</b>	<b>General assessment of current situation</b>	<b>18,000</b>
	<i>Assessment of current situation, review of fully formulated polyols imports, meeting with stakeholders to discuss sector perspectives.</i>	8,000
	<i>Workshop on alternative technologies available in Uruguay.</i>	5,000
	<i>Awareness raising and information dissemination.</i>	5,000
<b>2</b>	<b>Individual and group projects preparation</b>	<b>72,000</b>
	<i>Meeting with system houses and distributors.</i>	2,000
	<i>Visits to beneficiary production facilities to evaluate the current state and needs of their processes and base line equipment.</i>	35,000
	<i>Discussion with beneficiary companies of best available technology for their applications.</i>	
	<i>Preparation of project documents.</i>	25,000
	<i>Presentation and discussion with beneficiary companies of project document draft.</i>	10,000
<b>3</b>	<b>Presentation of sector strategy and work plan.</b>	<b>10,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	5,000
	<i>Awareness raising and information dissemination.</i>	5,000
<b>TOTAL</b>		<b>100,000</b>

**PREPARATION OF STAGE II FOR  
THE HCFCs PHASE OUT MANAGEMENT PLAN - HPMP  
FOAM SECTOR  
VENEZUELA, March 12, 2014.**

**1. BACKGROUND**

The HCFC phase out plan for Venezuela was approved at the 63th Meeting of the Executive Committee of the Multilateral Fund, held in Montreal, Canada in April 2011. The total amount approved was US\$ 1,894,500. All funds were approved in principle by the MLF Executive Committee to assist Venezuela in complying with the 2013 and 2015 control measures for HCFCs under the Montreal Protocol, subject to the provisions of the performance-based agreement between the MLF Executive Committee and the country, comprising of annual/biennial HCFC consumption and phase-out targets.

UNIDO is the lead agency for the implementation of the HPMP Stage I in Venezuela and UNEP acts as the cooperating agency. First tranche activities were focused on refrigeration training, recovery - recycling programme, programme for end-user conservation, technical assistance activities, strengthening the legal framework, customs training, awareness-raising and monitoring.

HPMP Stage I Foam sector component was removed from the original proposal as the country would focus on the service sector while the new alternatives on the foam sector mature.

On November 2013, Venezuela's NOU requested assistance of UNDP for preparing and implementing the foam component of the HPMP Stage II.

**2. HCFC CONSUMPTION ON FOAM SECTOR**

Venezuela consumes HCFC-141b as blowing agent for polyurethane foam application, which is imported pure (and integrated into the polyol locally) or in fully formulated polyols; Main PU foam uses are manufacturing of commercial refrigeration equipment (display cases and bottle coolers), panels' injection for cold rooms and in-situ spray. HCFC-141b reported consumption is presented in table 1. HCFC-141b contained in fully formulated polyols imported in 2012 was 17.47 MT.

**Table 14. Consumption of HCFC-141b (in MT)**

<b>Substance</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
HCFC-141b	342.81	376.44	176.8	469.12

During the HPMP stage I preparation a survey was conducted to assess sector consumption, uses and eligible companies; a list of identified companies is shown below in table 2.

**Table 15. Identified companies during Stage I preparation.**

<b>Company</b>	<b>Application</b>
Industrias Nival	Panels.

<b>Company</b>	<b>Application</b>
P3 de venezuela	Panels.
Veniber	Panels.
Pinova	Display cases and bottle coolers.
Lucan de Venezuela (Frio Tech)	Panels.
Liderfrio	Panels.
Invitrel	Commercial refrigeration units
Hielomatic	Display cases and bottle coolers.
Refrigeración Durán	Display cases and bottle coolers.
Neve Industrial	Display cases and bottle coolers.
Tecnocongeladores Venezolanos (Tecoven)	Bottle coolers, freezers and water coolers
Nordpol	Bottle coolers and freezers
Refrigeración Industrial Mavi s.a.	Display cases and bottle coolers.
Deproca	Panels.
Ductopanel	Panels.
Punto frio	Panels.
Friocon	Display cases and bottle coolers
Inelmem	Bottle coolers and freezers
Metalcentro	Display cases and bottle coolers.
Industrias Ecotel	
Crioven 20	Panels
Fanametal.	Water Boilers
Frimac	Display cases and bottle coolers.
Refricentro	Display cases and bottle coolers.
Corporación Lilly.	Phenolic Foam
Fadelca	Domestic Refrigerators
Fribrepxi	Panels for refrigerated transport.
Dureca	Display cases and bottle coolers.
Cafrica	Walk-in cold rooms
Fibro Steel.	Panels.
Refriservice	Display cases and bottle coolers.
Fricava	Panels
Covencava	Panels for refrigerated transport.
Cold Panels	
Novemeca	Furniture
Refrigeración y Servicios Múltiples RSM	Panels.
Inversiones Enfibra	
Daniven	Panels.
Decocar	Plastic cooling products.
Inyectofibras.	Panels for refrigerated transport.

Company	Application
Amerio Industrial	Panels.
Pablo Fiber Glass	Panels
Refrigeración Unidas	Display cases.
Tecobar	Display cases and bottle coolers
Medina Plasticos	Panels and spray.

There are more **than 60 additional companies** identified, with lower consumption volumes that are not presented in the table.

### 3. STAGE II PROJECT PREPARATION ACTIVITIES FOAM SECTOR

Part of Venezuela's strategy in the implementation of the second stage of its HPMP is to phase out completely the HCFC consumption in the polyurethane foam sector, adopting cost-effective alternatives with low impact on the climate.

For carrying out this goal, it is required a complete assessment of the sector and the preparation of a complex strategy that involved the local system houses, distributors and beneficiary companies, both in individual, group and umbrella projects, with different alternatives and implementation time frames; this general strategy have to be agreed with all stakeholders involved; The general components to be carried out during the preparation of the foam sector component for the HPMP Stage II are:

#### a) **General assessment of current situation**

The last in-depth assessment of the sector was made in 2010 during the Stage I preparation, since then there has not had an evaluation of the sector, considering that HPMP's activities have been focused on servicing sector added to an changing environment in the national industrial sector, it is required to evaluate and update the information of the general state of the industry.

It is necessary to review the imports of HCFC-141b, both pure and in fully formulated polyols, to meet local system houses and distributors and to carry out workshops to describe and diffuse available technologies and experiences.

#### b) **Individual and group projects preparation**

Among activities identified to be carried out are meeting with system houses to recognize possible beneficiary companies, visit beneficiary companies to assess their current consumption, application and baseline equipment, discussion of best available solution for their applications, preparation of project document and discussion with beneficiaries. As Venezuela is looking for a complete sector approach, it will be necessary to visit as many companies as possible to give them proper technical assistance and obtain accurate information aiming the preparation of innovative solutions, considering both the company and national circumstances and requirements.

#### c) **Presentation of sector strategy and work plan.**

It is part of Venezuela's strategy to discuss the sector plan and projects to be prepared with the different stakeholders involved, so different workshops will be carried out to present the result of the project preparation and the strategy agreed.

**Table 16. Investment component activities and costs.**

No.	Activity	Cost (US\$)
<b>1</b>	<b>General assessment of current situation.</b>	<b>18,000</b>
	<i>Assessment of current situation, review of pure HCFC-141b and fully formulated polyols imports, meeting with stakeholders to discuss sector perspectives.</i>	8,000
	<i>Workshop on alternative technologies available in Venezuela.</i>	5,000



<b>No.</b>	<b>Activity</b>	<b>Cost (US\$)</b>
	<i>Awareness raising and information dissemination.</i>	<i>5,000</i>
<b>2</b>	<b>Individual and group projects preparation.</b>	<b>122,000</b>
	<i>Meeting with system houses and distributors.</i>	<i>2,000</i>
	<i>Visits to beneficiary production facilities to evaluate the current state and needs of their processes and base line equipment.</i>	<i>60,000</i>
	<i>Discussion with beneficiary companies of best available technology for their applications.</i>	
	<i>Preparation of project documents.</i>	<i>45,000</i>
	<i>Presentation and discussion with beneficiary companies of project document draft.</i>	<i>15,000</i>
<b>3</b>	<b>Presentation of sector strategy and work plan.</b>	<b>10,000</b>
	<i>Final workshops with stakeholders to present and discuss the proposed country strategy.</i>	<i>5,000</i>
	<i>Awareness raising and information dissemination.</i>	<i>5,000</i>
<b>TOTAL</b>		<b>150,000</b>