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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Seventy-third Meeting  
Paris, 9-13 November 2014

**UNIDO's WORK PROGRAMME AMENDMENTS FOR 2014**

## COMMENTS AND RECOMMENDATION OF THE FUND SECRETARIAT

1. UNIDO is requesting approval from the Executive Committee of US \$2,001,823 for its 2014 work programme amendments, plus agency support costs of US \$141,370 listed in Table 1. The submission is attached to this document.

**Table 1: UNIDO's work programme amendments 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>			
Armenia	Renewal of institutional strengthening (phase IV)	120,000	120,000
Mexico	Renewal of institutional strengthening (phase XII)	247,000	247,000
Syrian Arab Republic	Renewal of institutional strengthening (phase V)	203,823	203,823
Subtotal for A1		570,823	570,823
Agency support costs (7 per cent for institutional strengthening):		39,958	39,958
Total for A1		610,781	610,781
<b>A2: Project preparation</b>			
Antigua and Barbuda	Preparation of a HCFC phase-out management plan (stage II)*	10,000	10,000
Egypt	Preparation of a HCFC phase-out management plan (stage II)	50,000	50,000
	Preparation for HCFC phase-out investment activities (stage II) (polyurethane foam sector)	60,000	60,000
	Preparation for HCFC phase-out investment activities (stage II) (air- conditioning manufacturing sector)	80,000	80,000
	Preparation for HCFC phase-out investment activities (stage II) (refrigeration manufacturing sector)	80,000	80,000
Iraq	Preparation for HCFC phase-out investment activities (stage II) (overarching strategy)*	25,000	25,000
	Preparation for HCFC phase-out investment activities (stage II) (manufacturing sector)	30,000	30,000
Morocco	Preparation of a HCFC phase-out management plan (stage II)	70,000	70,000
	Preparation of a HCFC phase-out investment activities (stage II) (PU foam sector)	100,000	100,000
Oman	Preparation of a HCFC phase-out management plan (stage II)	33,000	33,000
Qatar	Preparation of a HCFC phase-out management plan (stage II)	40,000	40,000
Yemen	Preparation of a HCFC phase-out management plan (stage II)*	20,000	20,000
	Preparation for HCFC phase-out investment activities (stage II) (foam sector)	80,000	80,000
Subtotal for A2		678,000	678,000
Agency support costs (7 per cent for project preparation):		47,460	47,460
Total for A2		725,460	725,460
<b>A3: Technical assistance</b>			
Guatemala	Verification report for stage I of HPMP	30,000	30,000
Honduras	Verification report for stage I of HPMP	30,000	30,000
Subtotal for A3		60,000	60,000
Agency support costs (9 per cent for technical assistance):		5,400	5,400
Total for A3		65,400	65,400

<b>SECTION B: ACTIVITIES RECOMMENDED FOR INDIVIDUAL CONSIDERATION</b>			
<b>B1: Project Preparation</b>			
China	Preparation of a HCFC phase-out management plan (stage II) (XPS foam)	308,050	**
	Preparation for HCFC phase-out investment activities (stage II) (room air-conditioning sector)	385,550	**
Subtotal for B1		693,600	
Agency support costs (7 per cent for project preparation):		48,552	
Total for B1		742,152	
Grand Total (A1, A2, A3 and B1):		2,143,793	1,401,641

\* Project description in the document UNEP/OzL.Pro/ExCom/73/27 (UNEP's work programme amendments for 2014)

\*\*Project for individual consideration

## **SECTION A: ACTIVITIES RECOMMENDED FOR BLANKET APPROVAL**

### **A1: Institutional strengthening**

#### **Project description**

2. UNIDO 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 the present document.

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

3. The Secretariat reviewed the requests for the renewal of three IS projects submitted by UNIDO on behalf of the Governments concerned against the guidelines and relevant decisions regarding eligibility and funding levels. The requests were cross-checked against the original IS work plan for the previous phase, country programme and Article 7 data, the latest report on implementation of the HCFC phase-out management plans (HPMP), the agency's progress report, and any relevant decisions of the Meeting of the Parties to the Montreal Protocol. It was noted that these countries are in compliance with the ODS phase-out targets under the Montreal Protocol and have also submitted their country programme implementation reports for 2013.

#### **Secretariat's recommendations**

4. The Secretariat recommends blanket approval of the IS renewal requests for Armenia, Mexico and the Syrian Arab Republic at the level of funding indicated in Table 1. The Executive Committee may wish to express to the aforementioned Governments the comments which appear in Annex II to the present document.

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

#### **Project description**

5. UNIDO submitted the following requests for seven countries for the preparation of stage II of HPMPs and HCFC phase-out investment activities as lead or cooperating implementing agency: Egypt, Morocco, Oman and Qatar (UNIDO as the lead implementing agency); Antigua and Barbuda, Iraq and Yemen (UNEP<sup>1</sup> as the lead implementing agency). The details of the activities that will be undertaken during the project preparation process are described in the respective work programmes of the lead implementing agency.

<sup>1</sup> UNEP/OzL.Pro/ExCom/73/27.

6. In the case of Antigua and Barbuda, Iraq, Egypt, Oman, Qatar and Yemen, these requests are in addition to what is being sought by UNEP for part of the overarching strategy, as relevant. For Morocco, UNIDO is the only agency requesting funding for stage II of the HPMP.

7. UNIDO provided descriptions of the activities to support the requests for project preparation for the following countries where it is the lead agency:

- (a) For Egypt, US \$50,000 for UNIDO and US \$20,000 for UNEP for the overarching strategy; US \$60,000 for the polyurethane (PU) foam sector; US \$80,000 for the air-conditioning manufacturing sector; and US \$80,000 for the refrigeration manufacturing sector for UNIDO only);
- (b) For Morocco, US \$70,000 for the overarching strategy and US \$100,000 for the PU foam sector;
- (c) For Oman, US \$33,000 for UNIDO and US \$27,000 for UNEP for the overarching strategy; and
- (d) For Qatar, US \$40,000 for UNIDO and US \$20,000 for UNEP, for the overarching strategy.

8. The submissions included a progress report on the implementation of stage I, justification for the requested project preparation funding as well as a list of activities and the corresponding budgets.

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.

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

10. The Secretariat reviewed these requests in line with the guidelines for funding preparation of stage II of the HPMPs for Article 5 countries contained in decision 71/42, and the additional requirements in decision 72/18. The approved stage I of HPMPs and the progress of project implementation of the approved tranches were also reviewed.

11. With regard to Egypt, UNIDO had originally submitted a request for project preparation for investment projects of US \$290,000, which was higher than the amount eligible under decision 71/42. After discussion with the Secretariat, the request was adjusted to US \$250,000 in line with the decision. In response to decision 72/18, UNIDO had indicated that stage II will be prepared to meet the 67.5 per cent reduction of HCFC consumption under the Montreal Protocol by 2025. Stage II of the HPMP will cover the room air-conditioning (RAC), foam manufacturing and the refrigeration and air-conditioning servicing sectors.

12. Regarding the request for preparation of investment activities in the foam sector for Morocco, UNIDO explained that the proposal will cover 16 enterprises that will lead to the conversion of the whole sector using HCFC-141b in pre-blended polyol systems.

13. For Oman, UNIDO confirmed that stage II of the HPMP will be to meet the 35 per cent reduction in 2020. In response to the comments on the further inclusion of a survey for the foam and the fisheries sector, UNIDO reported that in stage I, the technical assistance focused on training technicians on available alternatives to HCFCs and servicing considerations. Stage II seeks to provide incentives to end-users to either retrofit or replace their equipment when viable technologies become available. The survey will take into account activities completed in stage I and gather further data to update sector information.

14. In the case of Qatar, concerns were expressed with regard to the progress of implementation of stage I of the HPMP, of which the tranche due at this meeting was withdrawn due to lack of progress and disbursement for the UNEP component. UNIDO assured the Secretariat that activities are currently ongoing as planned and delays are being resolved. UNIDO also explained the importance of approving the project preparation funding, at this time, due to timing concerns (i.e., the last tranche of stage I of the HPMP is 2015) and the need to commence preparation of stage II before stage I is completed in order to meet compliance with the Montreal Protocol.

15. After discussions, the Secretariat concluded that these requests for the project preparation for the HPMPs/HCFC phase-out investment activities (stage II) met the requirements of decision 71/42 and agreed on the level of funding indicated in Table 1.

### **Secretariat's recommendation**

16. The Fund Secretariat recommends blanket approval of the requests for UNIDO's components for project preparation for the HCFC phase-out management plans/HCFC phase-out investment activities (stage II) for Antigua and Barbuda, Egypt, Iraq, Morocco, Oman, Qatar and Yemen at the level of funding indicated in Table 1.

### **A3: Technical assistance**

#### **Project description**

17. The Executive Committee in decision 72/22 *inter alia*, requested relevant bilateral and implementing agencies include in their respective work programme amendments for submission to the 73<sup>rd</sup> meeting, funding for verification reports for stage I of the HPMPs of Guatemala and Honduras, where UNIDO is the lead implementing agency.

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

18. The Secretariat noted that the funding requested by UNIDO for each of the countries was consistent with the funds approved by the Executive Committee for similar verifications in previous meetings. It further noted that verification reports for these countries have to be submitted at least 60 days prior to the applicable Executive Committee meeting where future tranche requests for their HPMP is being sought.

### **Secretariat's recommendation**

19. The Secretariat recommends blanket approval for the verification reports for stage I of HCFC phase-out management plans (HPMPs) for Guatemala and Honduras at the level of funding indicated in Table 1 on the understanding that the verification reports should be submitted at least 60 days prior to the applicable Executive Committee meetings where the next funding tranche requests for their HPMPs are being sought in accordance with paragraph 5(b) of the agreement between the country concerned and the Executive Committee for the reduction of consumption of HCFCs.

## **SECTION B: ACTIVITIES RECOMMENDED FOR INDIVIDUAL CONSIDERATION**

### **B1: Project preparation for HCFC phase-out management plans/HCFC phase-out investment projects (stage II)**

China: Preparation for HCFC phase-out investment activities (stage II) (extruded polystyrene foam sector) (US \$308,050)

China: Preparation for HCFC phase-out investment projects (stage II) (room air-conditioning sector) (US \$385,550)

**Project description**

20. UNDP is the lead implementing agency for stage II of the HPMP for China. In line with relevant information on the request for preparation of stage II of the HPMP presented in UNDP work programme amendments for 2014<sup>2</sup>, UNIDO submitted a request for project preparation of investment activities for the extruded polystyrene foam (XPS) sector as a component of the stage II, at a total cost of US \$380,050 plus agency support costs, consisting of US \$308,050 plus agency support costs for UNIDO and US \$72,000 plus agency support costs for the Government of Germany (as cooperating bilateral agency)<sup>3</sup>.

21. UNIDO also submitted a request for funding to prepare investment projects related to the RAC sector at a cost of US \$385,550, plus agency support costs.

22. Details of the activities that will be undertaken during the project preparation for these sectors were provided in line with decision 71/42. Preparation of stage II of the HPMP will include field surveys and detailed analysis on the sector consumption and alternative technologies implemented in stage I for both the XPS and RAC sectors. It will also address any obstacles encountered in implementation. A detailed costing for the activities was provided by UNIDO.

23. Stage II of the HPMP will enable China to meet the 35 per cent reduction target under the Montreal Protocol and is envisaged to phase out 635 ODP tonnes of HCFCs used in the XPS foam sector, and 1,027 ODP tonnes of HCFC-22 used in the RAC sectors.

**Secretariat's comments**

24. The Secretariat noted that out of the total funding of US \$3,899,569 approved for China for the preparation of stage I of the HPMP at the 55<sup>th</sup> meeting, UNIDO received US \$584,000 to prepare the investment projects for the XPS and RAC sectors.

25. In responding to the comments on the necessity of policy review for both sectors, UNIDO explained that it is necessary to analyse how the policies and standards enforced in stage I have limited the consumption of HCFCs in the XPS and RAC sectors, and to identify any regulatory support needed to facilitate the implementation of stage II and define the implementation details to support compliance.

26. With regard to the necessity of the surveys for both sectors, UNIDO explained that the surveys for stage I collected the consumption data in 2008. Since then the consumption has changed due to market, regulatory and technological reasons. For the RAC sector, a new sub-sector (heat pump) will be considered in stage II which may include the identification of 50 to 60 enterprises in order to choose conversion enterprises for stage II.

**Secretariat's recommendation**

27. The Executive Committee may wish to approve the request for UNIDO's components for the project preparation for the HCFC phase-out investment activities for China (stage II) for the extruded polystyrene foam sector at the level of funding of US \$308,050, plus agency support costs of US \$21,564; and the room air-conditioning sector at the level of funding US \$385,550, plus agency support costs of US \$26,999.

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<sup>2</sup> UNEP/OzL.Pro/ExCom/73/28.

<sup>3</sup> UNEP/OzL.Pro/ExCom/73/25.

**Annex I**

**INSTITUTIONAL STRENGTHENING PROJECT PROPOSAL**

**Armenia: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		UNIDO
Amounts previously approved for institutional strengthening (US \$):		
	Phase I: Apr-09	120,000
	Phase II: Dec-10	120,000
	Phase III: Dec-12	120,000
	Total:	360,000
Amount requested for renewal (phase IV) (US \$):		120,000
Amount recommended for approval for phase IV (US \$):		120,000
Agency support costs (US \$):		8,400
Total cost of institutional strengthening phase IV to the Multilateral Fund (US \$):		128,400
Date of approval of country programme:		2009
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)		196.5
(b) Annex A, Group II (halons) (average 1995-1997)		0.0
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)		0.0
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)		0.0
(e) Annex C, Group I (HCFCs) (average 2009-2010)		7.0
(f) Annex E (methyl bromide) (average 1995-1998)		0.0
Latest reported ODS consumption (2013) (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)		4.54
(f) Annex E (methyl bromide)		0.00
	Total:	4.54
Year of reported country programme implementation data:		2013
Amount approved for projects (as at May 2014) (US \$):		1,099,353
Amount disbursed (as at December 2013) (US \$):		943,330
ODS to be phased out (as at May 2014) (ODP tonnes):		2.2
ODS phased out (as at December 2013) (ODP tonnes):		2.2

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

<b>Summary of activities</b>	<b>Funds approved (US \$)</b>
(a) Investment projects:	562,838
(b) Institutional strengthening:	360,000
(c) Project preparation, technical assistance, training and other non-investment projects:	176,515
	Total: 1,099,353

Progress report

2. During the phase III of the IS project, the national ozone unit (NOU) achieved the implementation of the necessary additional legislative acts on HCFCs quotas, and the licensing and quota

system for HCFCs is in place and working smoothly. Awareness raising and training activities were focused on HCFC issues and included the publication of a guide on import/export procedures in Armenia and training workshops for customs staff. The NOU is the nucleus of the ODS management structure and was established as a specialized body within the country's Ministry of Nature Protection to provide the execution and follow-up of the ODS phase-out strategy as laid down in the action plan of the Country Programme. Regular access of the NOU to senior decision-makers was assured through integration of the NOU's Action Plan in the National Environmental Action Plan and by the legislative framework in place. The NOU also monitored the ODS import and consumption data for the quota and the licensing system as a measure to control ODS consumption

### Plan of action

3. Phase IV of the IS project aims to address the sustainability of the NOU and strengthen its capacity in order to assist the Government of Armenia to meet its obligations under the Montreal Protocol, particularly with respect to the control of HCFCs. In this context, the national ozone office will be assisted in its efforts to monitor and identify ODS consumption and to update the required national policies and regulations. The country is planning to ensure the sustained phase-out of halons and methyl bromide, and to continue implementation of appropriate measures to comply with the HCFCs phase-out targets. The subject of illegal trade will further be pursued in close collaboration with the customs, as well as awareness-raising of technicians about recycling and recovery techniques and practices, with a view to using the experience gained in the HCFC phase-out programme. The NOU within the Ministry of Nature Protection of Armenia will continue to be responsible for and oversee the implementation of the project in accordance with the objectives and activities, and will continue to actively cooperate with ministries and inter-ministerial bodies as well as with advisory groups such as non-government organizations, refrigeration and air-conditioning, and others.

### **Mexico: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>			
Implementing agency:			UNIDO
Amounts previously approved for institutional strengthening (US \$):			
Phase I:	Jun-92		285,000
Phase II:	Jul-95		95,000
Phase III:	Oct-96		190,000
Phase IV:	Jul-98		190,000
Phase V:	Jul-00 & Jul-02		190,000
Phase VI:	Jul-02		247,000
Phase VII:	Apr-05		247,000
Phase VIII:	Jul-07		247,000
Phase IX:	Jul-09		185,250
Phase X:	Dec-10		247,000
Phase XI:	Dec-12		247,000
	Total:		2,370,250
Amount requested for renewal (phase XII) (US \$):			247,000
Amount recommended for approval for phase XII (US \$):			247,000
Agency support costs (US \$):			17,290
Total cost of institutional strengthening phase XII to the Multilateral Fund (US \$):			264,290
Date of approval of country programme:			1992
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)			4,624.9
(b) Annex A, Group II (halons) (average 1995-1997)			124.6
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)			62.5



<b>Summary of the project and country profile</b>	
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)	56.4
(e) Annex C, Group I (HCFCs) (average 2009-2010)	1,148.8
(f) Annex E (methyl bromide) (average 1995-1998)	1,130.8
Latest reported ODS consumption (2013) (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)	835.17
(f) Annex E (methyl bromide)	327.10
Total:	1,162.27
Year of reported country programme implementation data:	2013
Amount approved for projects (as at May 2014) (US \$):	112,655,657
Amount disbursed (as at December 2013) (US \$):	96,772,914
ODS to be phased out (as at May 2014) (ODP tonnes):	6,734.5
ODS phased out (as at December 2013) (ODP tonnes):	6375.1

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

<b>Summary of activities</b>	<b>Funds approved (US \$)</b>
(a) Investment projects:	99,356,994
(b) Institutional strengthening:	2,370,250
(c) Project preparation, technical assistance, training and other non-investment projects:	10,928,413
Total:	112,655,657

Progress report

5. The programme of activities relating to the Montreal Protocol forms part of Mexico's commitment to phase out the consumption of HCFCs in a controlled and cost-effective manner. The National Ozone Unit is part of the Environmental and Natural Resources Secretariat (SEMARNAT) and cooperates closely with the General Directorate for Air Quality Management and Public Release and Transfer Registry. The NOU is the focal point for Montreal Protocol activities. The NOU mainly coordinates the whole Montreal Protocol programme in the country and prepares the basis for legislative and regulatory measures to be adopted by the responsible government authorities with a view to the HCFC phase-out targets. The NOU is responsible for monitoring the ODS import and consumption data and has for this purpose developed the Information and Monitoring System (SISSAO). Through phase XI of the IS project Mexico has achieved strengthening the capacity of the NOU towards the control of HCFCs. The NOU ensured the smooth running of the quota system and control over the imports of all HCFC which assisted the country to comply with its HCFC phase-out management plan (HPMP) targets. It also continued to train technicians through the established training centres. With respect to Commission of Environmental Cooperation's enforcement and training activities, the on-line training programme was improved by translation to different languages for the target group to undertake the training programme (i.e. importers) and thus strengthening of the coordination within the North America region was achieved. The NOU also made additional contributions to the implementation of the country's HPMP. Mexico is an active member of the Regional Ozone Network for Latin America and supports countries of the region through dissemination of achievements through the organization of workshops and technical visits. The Executive Committee greatly supports the efforts of Mexico to implement the stage I of the HPMP.

Plan of action

6. In phase XII of the IS project the NOU will follow-up with priority to improve the HCFC control, and to implement projects and quota system to allow meeting the 30 per cent reduction target in 2018, as per the approved phase-out schedule in the HPMP or any other reduction targets agreed with the Executive Committee of the Montreal Protocol, depending on the approval of stage II of the HPMP. In the next phase of the IS project Mexico plans to improve the HCFC quota system in order to make it more transparent and make public the quotas and reduction targets. The training programme will be improved with a view to including the good practices in refrigeration servicing to avoid the use of HCFC and sustain the phase-out of CFC. Further work will take place to reinforcement of the control of imports of ODS into Mexico including work on illegal trade with the Commission for Environmental Cooperation. Coordination activities will continue including consultations with the national steering committee in the General Direction Coordination with Ministry of Foreign Affairs, industry associations, and other stakeholders. Public awareness activities will be continued including a video on MB phase-out in Mexico.

**Syrian Arab Republic: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		UNIDO
Amounts previously approved for institutional strengthening (US \$):		
	Phase I: Jun-93	235,180
	Phase II: Mar-01	195,000
	Phase III: Apr-05	203,823
	Phase IV: Jul-09	152,867*
	Total:	786,870
Amount requested for renewal (phase V) (US \$):		203,823
Amount recommended for approval for phase V (US \$):		203,823
Agency support costs (US \$):		14,268
Total cost of institutional strengthening phase V to the Multilateral Fund (US \$):		218,091
Date of approval of country programme:		1989
Date of approval of HCFC phase-out management plan:		Not yet approved
Baseline consumption of controlled substances (ODP tonnes):		
(a) Annex A, Group I (CFCs) (average 1995-1997)		2,224.6
(b) Annex A, Group II (halons) (average 1995-1997)		416.9
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)		0.0
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)		0.0
(e) Annex C, Group I (HCFCs) (average 2009-2010)		135.0
(f) Annex E (methyl bromide) (average 1995-1998)		188.6
Latest reported ODS consumption (2013) (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)		28.03
(f) Annex E (methyl bromide)		0.00
	Total:	28.03
Year of reported country programme implementation data:		2013
Amount approved for projects (as at May 2014) (US \$):		25,646,331
Amount disbursed (as at December 2013) (US \$):		22,604,819
ODS to be phased out (as at May 2014) (ODP tonnes):		3,808.7
ODS phased out (as at December 2013) (ODP tonnes):		3,508.4

\* Approval for 18 months as per decisions 58/16 and 58/26

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

<b>Summary of activities</b>	<b>Funds approved (US \$)</b>
(a) Investment projects:	21,161,310
(b) Institutional strengthening:	786,870
(c) Project preparation, technical assistance, training and other non-investment projects:	3,698,151
Total:	25,646,331

Progress report

8. The implementation of phase IV of the IS project was critical for the Syrian Arab Republic in the context of the political situation in the country. The commitment of the country to comply with its Montreal Protocol obligations was demonstrated by the stability of its staffing and the fact that the country met its Montreal Protocol reporting obligations. In addition, the Syrian Arab Republic made relevant progress by planning its HCFC management programme, and by succeeding to raise relevant awareness among the stakeholders involved in the HCFC phase-out process. The implementation of the IS project was affected by the security situation in the country, for example some local purchasing and/or local consultancy services took longer than initially estimated. The NOU Office maintained its communication with implementing agencies and was able to perform its duties. Awareness activities were organized mainly targeted other government authorities on the importance of compliance with the Montreal Protocol's control measures.

Plan of action

9. The next phase of the IS project (phase V) will focus on coordination of finalization of the HPMP and on strengthening the control of HCFCs. In this regard, the IS project will facilitate the required legislative revision. Awareness activities will remain focused to address key stakeholders involved in HCFC control. Special attention is to be given to strengthen the cooperation with the customs authorities. Thus the next phase of the IS project aims to increase the capacity of the Government Central Environment Authority to implement the country's Montreal Protocol obligations. The NOU is part of a Government office located in a safe area. Consultants expertise under the IS project will be required mainly in connection with data collection and legislative review process and/or guidelines and handbooks for reporting or for training activities and will not involve any field trips.



## **Annex II**

### **VIEWS EXPRESSED BY THE EXECUTIVE COMMITTEE ON RENEWAL OF INSTITUTIONAL STRENGTHENING (IS) PROJECTS SUBMITTED TO THE 73<sup>rd</sup> MEETING**

#### **Armenia**

1. The Executive Committee noted the progress achieved by Armenia through the implementation of its institutional strengthening (IS) project. Furthermore the Executive Committee recognizes that the national ozone unit (NOU) acting within Ministry of Environment administrative structure has demonstrated dedication to the targets of the programme and extended its fullest cooperation to the implementing agencies in order to achieve compliance with the HCFC phase-out schedule. The Executive Committee is therefore hopeful that, in the next two years, Armenia will continue its efforts to implement the country's HCFC phase-out management plan (HPMP), in order to ensure the country's compliance with the Montreal Protocol's HCFC reduction targets. In particular the Executive Committee expects that the tranche of the HPMP submitted to the 73<sup>rd</sup> meeting but subsequently withdrawn would be submitted to the 74<sup>th</sup> meeting.

#### **Mexico**

2. The Executive Committee reviewed the report presented with the IS project renewal request for Mexico and noted with appreciation that Mexico is in compliance with its reporting obligations. The Executive Committee also noted that within the framework of the IS project, Mexico has strengthened the capacity of the NOU in terms of controlling HCFCs. The Executive Committee noted that the NOU's priority is to follow-up with the improvement of HCFC controls, and to implement projects and quota system to allow the country to meet the 30 per cent reduction target in 2018, as per the approved phase-out schedule in the HPMP for Mexico, and/or any other reduction targets agreed with the Executive Committee of the Montreal Protocol in the context of the approval of stage II of the HPMP.

#### **Syrian Arab Republic**

3. The Executive Committee reviewed the report submitted with the request for phase V of the IS project for the Syrian Arab Republic and noted with appreciation the progress achieved by the country through the implementation of phase IV of the project. The Executive Committee recognizes that the NOU acting was dedicated to the IS programme and extended its cooperation to the implementing agency to achieve compliance with the Montreal Protocol's HCFC phase-out schedule. Furthermore the Executive Committee would like to express appreciation for the commitment of the Syrian Arab Republic to comply with its Montreal Protocol obligations, demonstrated by the continuity and stability of the NOU staff, and of the technical expertise over last years. The Executive Committee expects that that the Government of the Syrian Arab Republic will be able to submit stage I of the HPMP as soon as possible in order to ensure the continuing compliance of the country with the Montreal Protocol.



**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

73<sup>nd</sup> Executive Committee of the  
Multilateral Fund for the Implementation of the Montreal Protocol

**UNIDO Work Programme**

**73<sup>nd</sup> Executive Committee**

## Introduction

The UNIDO Work Programme for the consideration of the 73<sup>nd</sup> Ex.Com. of the Multilateral Fund has been prepared following the Government requests as well as based on ongoing and planned activities. The Work Programme will support the implementation of UNIDO's three year Rolling Business Plan 2014-2016.

As a follow up of the Decision 71/42 that approved Guidelines for the preparation of Stage II HPMPs and based on country requests, the UNIDO 73 WPA included preparatory funding for the stage II of HPMP for Antigua and Barbuda, China, Egypt, Iraq, Morocco, Oman, Qatar and Yemen.

The 73<sup>rd</sup> UNIDO WPA is considering one demonstration activity in Lebanon, with the main objective of destruction of 12.73 MT of CFCs. The demonstration activity concept is subject to individual submission to the MLF Secretariat.

Technical assistance for the phase-out of Methyl Bromide applications in Sudan and Tunisia, in grain sector and respectively in dates sector were included within the 73 UNIDO WPA and forwarded to the Secretariat as separate requests.

Institutional strengthening extension proposals are based on the country requests, and the UNIDO 73 Work Programme Amendment considered Institutional strengthening Phase IV for Armenia, Institutional strengthening Phase XII for Mexico and Institutional strengthening Phase V for Syrian Arab Republic.

Verification Reports for Guatemala and Honduras were addressed in line with the Decision UNEP/OzL.Pro./Ex.Com./72/22

The UNIDO Work Programme Amendment for the consideration of the 73<sup>nd</sup> Ex.Com. Meeting comprises the following sections:

### Section 1

Gives in a tabulated form by project types and country the consolidated list of activities foreseen for the above requests

Funding is requested as follows:

- preparatory assistance proposals addressing HPMP stage II and preparatory funding for feasibility studies in central air conditioning sector amounting \$US 1,489,012 (including \$US 97,412 representing 7.0 % A.S.C.)
- demonstration activity in Lebanon, amounting \$US 132,118 (including \$US 8,643 representing 7.0 % A.S.C.)
- technical assistance for methyl bromide phase-out, amounting \$US 622,751 (including 40,741 representing 7.0 % A.S.C)
- IS extension requests, amounting \$US 610,781(including \$US 8,643 representing 7.0 % A.S.C)
- Verification reports related funding, amounting \$US 64,200 (including \$US 4,200 representing 7.0 % A.S.C)
  
- **Total: \$US 2,897,463 \$US (including \$US 189,555 A.S.C.)**

Project concepts indicating details and funding requirements are provided in Section 2.

## Section 1

Consolidated table giving project preparation and non-investment projects  
in all countries and sectors

Country	Type	Sub- tance	Title of Project	Requeste d amount USD	A.S.C. USD	Total (incl ASC) USD	A.S.C . %	P.D.	Remark
<b>Preparatory assistance</b>									
Antigua and Barbuda	PRP	HCFC	HPMP Stage II	10,000	700	10,700	7	12	UNEP lead agency, UNIDO CoIA
China	PRP	HCFC	HPMP Stage II in XPS sector plan	308,050	21,564	329,614	7	12	GIZ CoIA
China	PRP	HCFC	HPMP Stage II in RAC sector plan	385,550	26,989	412,539	7	12	
Egypt	PRP	HCFC	Foam (PU sector)	60,000	4,200	64,200	7	12	
Egypt	PRP	HCFC	HPMP stage II overarching strategy	50,000	3,500	53,500	7	12	Excluding UNEP CoIA share
Egypt	PRP	HCFC	HPMP stage II AC Manufacturing investment component	80,000	5,600	85,600	7	12	
Egypt	PRP	HCFC	HPMP stage II Refrigeration Manufacturing investment component	80,000	5,600	85,600	7	12	
Iraq	PRP	HCFC	HPMP Stage II, RAC Servicing sector	25,000	1,750	26,750	7	12	UNEP lead agency, UNIDO CoIA
Iraq	PRP	HCFC	HPMP Stage II, Manufacturing sector	30,000	2,100	32,100	7	12	
Morocco	PRP	HCFC	HPMP Stage II Overarching strategy (Refrigeration servicing and Assembly sectors)	70,000	4,900	74,900	7	12	
Morocco	PRP	HCFC	HPMP Stage II investment component PU foam sector	100,000	7,000	107,000	7	12	
Oman	PRP	HCFC	HPMP stage II overarching strategy	33,000	2,310	35,310	7	12	UNIDO lead agency, excluding UNEP Co-IA share 27,000 USD and CoIA ASC
Qatar	PRP	HCFC	HPMP stage II overarching strategy	40,000	2,800	42,800	7	12	Excluding UNEP Co-IA share 20,000 USD and respective ASC
Yemen	PRP	HCFC	HPMP stage II strategy, investment component	20,000	1,400	21,400	7	12	Submitted by UNEP as lead agency



Yemen	PRP	HCFC	HPMP stage II strategy, investment component	80,000	5,600	85,600	7	12	Lead Agency UNEP, submitting separately Non-Investment & Monitoring Component
<b>Subtotal</b>				<b>1,371,600</b>	<b>96,013</b>	<b>1,467,613</b>			
<b>Demonstration activities</b>									
Lebanon	DEM	All	ODS destruction demonstration project	123,475	8,643	132,118	7	24	
<b>Subtotal</b>				<b>123,475</b>	<b>8,643</b>	<b>132,118</b>			
<b>Technical assistance</b>									
Sudan	TA	MB	MB phase-out in grain sector	181,610	12,713	194,323	7	24	
Tunisia	TA	MB	MB phase-out in dates sector	400,400	28,028	428,428	7	24	
<b>Subtotal</b>				<b>582,010</b>	<b>40,741</b>	<b>622,751</b>			
<b>Institutional strengthening</b>									
Armenia	INS	All	Institutional Strengthening - Phase IV	120,000	8,400	128,400	7	24	
Syrian Arab Republic	INS	All	Institutional Strengthening - Phase V	203,823	14,268	218,091	7	24	
Mexico	INS	All	Institutional Strengthening - Phase XII	247,000	17,290	264,290	7	24	
<b>Subtotal</b>				<b>570,823</b>	<b>39,958</b>	<b>610,781</b>			
<b>Verification Reports</b>									
Guatemala	Verification report	All	Institutional Strengthening - Phase	30,000	2,100	32,100	7	24	
Honduras	Verification report	All	Institutional Strengthening - Phase	30,000	2,100	32,100	7	24	
<b>Subtotal</b>				<b>60,000</b>	<b>4,200</b>	<b>64,200</b>			
<b>Grand Total</b>				<b>2,707,908</b>	<b>189,555</b>	<b>2,897,463</b>			

## Section 2

### PROJECT CONCEPT

**Country:** Antigua and Barbuda

**Title:** Concept for the Second Phase Project Preparation

**Project Duration:** 12 months

**Project Budget:** US\$ 10,000 (excl. 7% Agency Support Costs)

**Implementing Agency:** UNIDO

**Coordinating Agency:** ODSUNIT- NOU

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#### Project Summary

The Implementing Agency has received an official request from the Government of Antigua and Barbuda for project preparation in the stage II of HPMP. In response to the decision 71/42(b) UNIDO is submitting a request for funds for the preparation of stage II of HPMP.

Antigua and Barbuda's base line consumption of HCFCs amounted to 0.3 ODP tonnes. During the implementation of the first phase, 0.03 ODP tonnes are planned to be eliminated.

Remain consumption in the HPMP will be 0.27 ODP after the first phase is completed. UNIDO component will include an action plan for the HCFC compliance strategy, namely: "Technical Assistance for Reduction of HCFC Use".

#### Financial progress

The first phase was implemented by UNEP as Implementing Agency therefore no finance progress is to be reported by UNIDO.

#### Implementation progress

As above.

## PROJECT CONCEPT

<b>Country:</b>	China
<b>Sector Covered:</b>	Project preparation for Stage II HPMP in the XPS Foam Sector
<b>Duration:</b>	12 months
<b>Project Budget:</b>	UNIDO: US\$ 308,050 (excluding support costs of US\$ 21,563) GIZ: US\$ 72,000 (excluding agency support costs of US\$ 9,360) Total: US\$ 380,050 (excluding agency support costs of US\$ 30,923)
<b>Implementing Agencies:</b>	UNIDO (lead IA) and Germany (co-operating IA)
<b>Coordinating Agency:</b>	Foreign Economic Cooperation Office (FECO/MEP)

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### Project Summary

#### 1. Background

At the 19<sup>th</sup> Meeting of the Parties held in September 2007, Parties agreed to accelerate the HCFC phase-out schedule. As an Article 5 country, China was required to freeze the production and consumption of HCFCs at the average level of 2009 - 2010 (baseline) by 2013, to realize 10%, 35%, 67.5% reductions in 2015, 2020 and 2025 respectively, and achieve complete phase-out of HCFCs by 2030 with a 2.5% remaining allowed production and consumption of HCFCs to meet the residual demand in the servicing sector during the period of 2030 – 2040.

In cooperation with UNIDO and GIZ in their capacity as implementing agencies to the Multilateral Fund for the implementation of the Montreal Protocol, the Sector Plan for the Phase out of HCFCs in the Extruded Polystyrene Foam Sector (hereafter XPS) in China (Stage I) was submitted to the 62<sup>nd</sup> ExCom meeting for approval in August 2010, and was approved at the 64<sup>th</sup> ExCom meeting with a funding of US\$50,000,000. The objective of the HPMP in XPS foam sector in Stage I (2011-2015) is to ensure the HCFC consumption in the XPS foam sector is frozen on an average level of 2009-2010 by 2013 and achieves 10% reduction from the freeze level by 2015. To realize these targets, the sector plan covers production line conversion, policy-making and technical assistance activities. According to the sector plan, around 10,031 MT of HCFCs, equivalent to 592 ODP tonnes, will be phased out by the year 2015.

In order to continue the phase-out of HCFCs and achieve the 2020 target of phasing out 35% of HCFC consumption from the baseline level, Stage II HPMP in the XPS foam sector has to be prepared with a view to organize further investment activities, policy development, and technical assistance (TA) activities. This document presents the intended coverage, time-lines and costs for the preparation of Stage II.

#### 2. Sector background and coverage

##### 2.1 Sector Background

The XPS foam sector in China comprises of a large number of foam manufacturers (around 500) widely disseminated across the country. In the survey carried out during the preparation of the XPS HPMP (Stage I), 125 enterprises were identified.

Due to limitations on the technical feasibility and financial obstacles faced by small-and-medium sized enterprises, as well as safety concerns, the XPS foam sector is facing great challenges to phase-out HCFCs. Since approval of the Sector Plan, China has initiated various activities to ensure its smooth implementation. With regard to policy actions, in order to duly achieve the freeze target in 2013 and 10% reduction in 2015, China has already issued the ODS regulations, strict control of HCFC production facilities and the establishment of new facilities using HCFCs, and it has also introduced a specific quota management system for the XPS foam sector.

As a result of the conversion activities carried out so far under the sector plan, in addition to policy

measures as well as a series of TA activities, China has realized the freeze target for 2013, and the XPS foam sector also properly tracks its commitments as defined in the sector plan. In the XPS foam sector in China, taking into consideration the feasibility of current alternative technologies as well as the factors of 0 ODP, low- GWP, etc., most enterprises by now have selected CO<sub>2</sub> with other co-blowing agents as the alternative solution to replace HCFCs. Lessons learned during the implementation of this technology during Stage I needs to be evaluated in order to assess the adequacy of the technology for SMEs.

## **2.2 Implementation Progress of Stage I HPMP and lessons learned**

According to the targets set in China's HPMP, the XPS foam sector plans to phase out 592 ODP tons of HCFCs (approximately 10,031MT) in Stage I.

By August 2014, 19 conversion contracts had been signed, phasing out 6,879.51 MT of HCFCs. In order to support and push forward HCFC phase-out activities in the XPS foam sector FECO/MEP, with the cooperation and assistance of the two implementing agencies (UNIDO and GIZ) as well as the domestic implementation supporting agency (ISA), also carried out a series of TA activities, namely: training workshops, work meetings, baseline verifications, research on technology optimization, formulation and revision of standards in the XPS foam sector, etc.

In order to fairly and duly achieve the compliance targets in the sector plan, additional 5-8 conversion contracts will be signed with enterprises during implementation of Tranches IV and V, and around 3150 MT of HCFCs will be further phased out with the collaboration of policy measures as well as TA activities.

With regard to TA activities FECO, together with ISA, will continue to provide XPS producers with training and technical assistance. Due to the adoption of CO<sub>2</sub> and ethanol as blowing agents by most beneficiaries, a "Handbook for Safe Production with CO<sub>2</sub> as Blowing Agent in the XPS Foam Sector" is planned to be developed, with the purpose of providing XPS producers with guidance on the use of CO<sub>2</sub> and ethanol.

During implementation of Stage I, it has been observed that most XPS foam enterprises in China are still lacking of information on alternative technologies, so it is urgent to provide them with sufficient support and technical assistance in the course of the HCFC phase-out. In addition to this, cooperation with related national ministries, industrial associations, local EPBs, academic institutes and enterprises is significant to ensure the smooth implementation of the XPS sector plan. Additionally, the publicity to HCFCs phase-out strategy and the development of alternative technologies should be further enhanced among XPS foam producers, local EPBs and other stakeholders.

## **2.3 Preparation of Stage II HPMP**

As per the HCFCs accelerated phase-out schedule, Stage II HPMP will phase out at least 25% of the baseline consumption in addition to what is achieved in Stage I. For the XPS foam sector, that translates to at least 635 ODP tonnes of HCFC phase-out.

In order to properly develop Stage II HPMP for the XPS foam sector, the preparation project needs to include various activities, namely: information collection, policy review, in-field evaluation, data and technology analysis, cost calculation, exploration of project implementation modalities and formulation of HPMP. They are detailed as follows:

### **A. Data collection and analysis**

The XPS foam sector has gone through significant changes since the time when the first data collection exercise was undertaken for preparation of Stage I HPMP. This is mainly due to the evolution of local consumer markets (e.g. real estate) in China, the domestic policy framework, as well as the development of new emerging applications of the XPS foam products. For this reason, the following activities are proposed:

### **A.1. Sector-wide level**

- Background information of the XPS foam sector will be updated through consultation with academic institutes, industrial associations, XPS producers, and other related stakeholders.
- A brief review of activities undertaken so far under the HPMP (stage I) in the XPS foam sector, focusing on lessons learned and how these could be used for future HCFCs phase-out.

### **A.2. Enterprise level**

- Preparatory working meetings will be organized with academic institutes, industrial associations, foam manufacturers and experts.
- Questionnaires used during the preparation of Stage I will be updated and distributed among a representative sample consisting of 100 selected enterprises.
- Field visits to 30-50 XPS foam enterprises will be organized. The field survey will be jointly carried out by PMO/MEP, academic institutes, industrial associations, local EPBs and external experts, with a view to assess the following aspects:
  - Eligibility of enterprises;
  - Information on HCFC consumption in the last three years;
  - Production lines, applications and feasibility of conversion;
  - Technical preference for replacing HCFCs;
  - Co-financing capacity of potential beneficiaries;
  - Any difficulties or challenges to be faced by enterprises in future conversions.
- Upon completion of the data collection exercise, the consumption of HCFCs in the XPS foam sector will be updated and analyzed, and the application of different blowing agents will be assessed.
- Consultation meetings with all relevant stakeholders will be organized to share the results of the data collection exercise and address potential data gaps.

### **B. Policy review**

The policy framework affecting the XPS foam sector has evolved since the preparation of Stage I HPMP due to the policy-related activities undertaken during implementation. For this reason, it is necessary to assess the impact of these changes as the basis to suggest further work on this area, mainly through the following activities:

- Existing national and local policies and regulations will be reviewed.
- Additional policies and review of the regulatory framework for HCFCs phase-out in the XPS foam sector might be proposed.

### **C. Review and analysis of substitute technologies**

At present, the main alternative option adopted by most beneficiaries to replace HCFCs in the XPS foam sector is carbon dioxide as the main blowing agent. Comparing with HCFCs, the carbon dioxide has higher thermal conductivity and lower boiling point, so PMO/MEP has carried out a technical assistance activity on the research of CO<sub>2</sub> technology optimization under the HPMP (stage I).

The profile of potential beneficiaries in Stage II will most likely change compared to that of Stage I, with a larger number of SMEs compared to the relatively larger companies participating in Stage I. Therefore, technologies alternative to those applied during Stage I implementation should be taken into account, as well as the possible ways of adapting the CO<sub>2</sub> technology to smaller scale companies. With this in mind, the following activities are proposed:

- The CO<sub>2</sub> technology will be further studied in order to find better solutions and promote access of new XPS foam products quickly to market.

- Research and evaluation on latest developments in both domestic and overseas alternative technologies in the XPS foam sector will be conducted, taking into consideration any technical issues emerging in the process of conversion activities under Stage I HPMP.

The data collection exercise will contribute to the above-mentioned activities for a proper selection of the technology, considering the challenges faced by potential beneficiaries during the conversion process at both technical and financial level.

**D. Cost calculation**

- Update the information of the cost for different alternative technologies;
- Cost calculation methodology will be established, taking into account different scales of enterprises, especially the small and medium enterprises in the XPS foam sector.

**E. Review of project implementation modality**

Project implementation modalities for Stage II HPMP will be proposed. In Stage I, most beneficiaries are large or medium enterprises. Given the fact that there are a large number of small and medium sized enterprises in the sector, it is estimated that more enterprises of the latter group will be involved in phase-out activities in Stage II. Therefore, in order to identify implementation modalities fit to this situation, in addition to single-enterprise conversion projects, some other project implementation modalities may be taken into consideration, such as industrial restructuring project, facility closure, etc.

**F. Formulation of Stage II HPMP**

- Stakeholder meetings will be organized to review the draft sector plan, including proposed HCFCs phase-out strategy, technology options, proposed policy framework, cost calculation, proposed implementation modalities, etc.
- Stage II HPMP for the XPS foam sector will be revised based on the feedback from the above-mentioned meetings, and be concluded for submission.

**3. Timeline for preparation**

The timeline for preparation of Stage II HPMP in the XPS foam sector takes into consideration a period of 12 months for undertaking the above-mentioned required activities, as shown in the table below:

Activity	Q1	Q2	Q3	Q4
Inception meeting	X			
Field survey planning	X	X		
Data collection		X	X	
Data analysis		X	X	
Project preparation			X	
Stakeholder consultations			X	X
Project document finalisation				X

**4. Project costs and budget break-down**

For the sake of clarity, the budget breakdown associated to the costs of preparing Stage II HPMP in the XPS foam sector is provided on an input-basis rather than on an activity-basis. Main inputs to be considered, and their relationship to the activities described above, is as follows:

- Workshops and meetings: preparation of Stage II HPMP in the XPS foam sector will require work meetings where relevant stakeholders will participate, as well as coordination meetings with implementing agencies working in the preparation of Stage II for other sectors. Both types of meetings can be organized back-to-back, which would lead to consider three

meetings (inception, follow-up and final). In addition, at least two additional meetings will be required to organize and wrap-up the data collection exercise and subsequent analysis;

- National coordinator and national experts: data collection and analysis will require a team of national experts led by a coordinator;
- Travel of national experts will be needed in order to undertake the planned 30-50 field visits to XPS foam enterprises; in addition, national experts will be required to attend workshops and meetings related to the preparation of Stage II HPMP in the foam sector;
- Travel of FECO personnel: staff at FECO's XPS sector team will be required to undertake travel at national level to assist national experts and organize work meetings. In addition, a budget allocation is provided to ensure that staff at FECO's XPS sector team can attend relevant ExCom meetings where approval of Stage II is discussed, as well as additional activities (meeting at UNIDO HQs, or study tour outside China);
- International experts:
  - One of the international experts will get involved in various aspects of project preparation, namely: policy review; review and analysis of substitute technologies; cost calculation; and review of project implementation modality. In addition, the international expert will be requested to get involved in the design stage of the data collection exercise to ensure collection of information which is relevant and meaningful for the purpose of the preparation of Stage II HPMP in the XPS foam sector;
  - A second international expert will contribute to the preparation of the project document to be submitted to the ExCom.
- Travel of international expert and staff from implementing agencies: the following mission schedule is proposed:
  - The international expert participating in project preparation is expected to undertake four missions to China;
  - Two members of the UNIDO team in charge of the XPS sector plan should attend at least three of the scheduled meetings (inception, follow-up and final);
  - GIZ will participate in two missions.

The costs related to the preparation of Stage II HPMP for the XPS foam sector are given in the table below.

Item	Unit cost (USD)	Number of Units	Total cost (USD)
Workshops and meetings	10,000 (/meeting)	5	50,000
National coordinator	200 (/wd)	100	20,000
National experts	200 (/wd)	200	45,000
Travel national experts	800 (/travel)	50	40,000
Travel of FECO personnel (local)	800 (/travel)	50	40,000
Travel of FECO personnel (abroad)	6,000 (/person)	5	30,000
International expert	15,000 (/month)	2	30,000
International expert for project preparation	15,000 (/month)	1.5	22,500
Travel international expert	5,000 (/travel)	4	20,000
Travel staff IAs	6,000 (/travel)	8	48,000
Contingency (10%)			34,550
		<b>Total</b>	<b>380,050</b>

## PROJECT CONCEPT

<b>Country:</b>	China
<b>Sector Covered:</b>	Project preparation for Stage II HPMP in the Room Air-Conditioner and Domestic Heat Pump sectors
<b>Duration:</b>	12 months
<b>Project Budget:</b>	US\$ 412,539 (including 7% Agency Support Costs) US\$ 385,550 excluding 7% Agency Support Costs
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	Foreign Economic Cooperation Office (FECO/MEP)

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### Project Summary

#### Background and implementation of Stage I HPMP

UNIDO is responsible for the implementation of the Stage I HPMP for the Room Air-Conditioning sector in China. The successful implementation of the Stage I HPMP will help China to reach the 2013 Freeze target as well as the 2015 reduction target, as specified in the Agreement between the Executive Committee and the Government of China. The Baseline consumption of HCFC-22 in the RAC manufacturing sector is 74,700 mt and the 2015 target consumption is 67,230 mt of HCFC-22. According to the Stage I Agreement, the RAC sector plans to phase out 10,430 metric tons of HCFC-22, and the Government of China committed to the conversion of at least 18 lines to hydrocarbon technology.

As demonstrated in the submission of the 4<sup>th</sup> Tranche of the subject sector to the 73<sup>rd</sup> Meeting of the Executive Committee, substantial progress has been made in the implementation of the Stage I HPMP.

Since approval of the Sector Plan, China has initiated various activities to ensure the smooth implementation of the sector plan. With regard to policy actions, in order to duly achieve the Freeze target in 2013 and 10% reduction in 2015, China has already issued ODS regulations, strict control of HCFC Production facilities and establishment of facilities using HCFCs, and introduced the quota management in the RAC sector.

By August 2014, contracts with 15 enterprises for the conversion of 24 production lines have been signed, phasing out 8,079 MT of HCFC-22 as follows:

- 8 lines with a phase-out of almost 3,000 mt of R22 and were converted to R410A as an interim measure and to ensure reaching the Freeze target;
- 13 lines (plus 1 additional line is in the pipeline) to R290 with a total phase-out of almost 5,100 mt of R22. Two lines are close to completion and the other conversions are also progressing well;
- 3 compressor manufacturing lines to R290 with a total manufacturing capacity of 5.3 million units.

In order to support HCFC-22 phase-out activities in the RAC sector and in particular to promote the R290 alternative, FECO/MEP, in cooperation with UNIDO and the domestic implementation supporting agency (ISA) have carried out series of technical assistance activities, including training workshops, industrial consultation meetings, research on technology optimization, formulation and revision of standards in the RAC sector, as well as policy measures.

Further details on the progress made under Stage I HPMP can be found in the tranche request, which has been submitted to and reviewed by the Fund Secretariat.

#### Preparation of Stage II HPMP

As mentioned above, implementation of the Stage I HPMP will enable China to reach the Freeze in 2013 and 10% reduction in 2015. The last funding tranche of the current Stage I HPMP is expected to be approved at the last ExCom Meeting in 2015 and thereafter there is only 4 years left until the next control measure, namely, the



35% reduction target on 1 January 2020.

There has been an inter-agency coordination meeting on 11-12 September in China to discuss the required steps and the time schedule for the Stage II HPMP. It was confirmed that addressing all sectors in parallel proved to be successful and important. Furthermore, in order to keep momentum and build on the achievements of Stage I HPMP as well as to keep the enterprises' commitment, it was underlined that each sector should make additional efforts and contribute to the 2020 phase-out requirements.

Since at least an additional 25% of the baseline, namely 18,675 mt of R22 has to be phased-out in the RAC sector in a very short time, it is of utmost importance to start project preparation immediately to enable China submission of its Stage II HPMP no later than the first ExCom meeting in 2016.

Taking into consideration the environmental benefits of R290, most of the eligible enterprises by now have been involved in R290 conversions. However, despite all the efforts during Stage I, the RAC sector is facing great challenges to promote R290 RACs. Among others, there are market concerns due to the flammability of R290. Furthermore, the cost of the R290 units is higher compared to the R22 or R410A units due to the additional safety requirements of the units and the installation. There are also additional safety requirements of storage, transportation, installation and maintenance of the R290 RACs, which add to the costs and the complexity of the issue. In addition, there are also technical barriers to overcome, since there are charge limitations in existing standards, which impact on the heating capacity and energy efficiency. Taking into consideration the barriers mentioned above, additional and concerted efforts are required from the stakeholders to accelerate market introduction and acceptance of the R290 technology. Furthermore, although R290 has very high potential, in particular in high-ambient regions, however, due to the negative market perception of flammable alternatives global promotion seems more difficult than the local introduction.

For the above reasons, and taking into consideration the fact that additional 18,675 mt have to be phased out, there has to be a careful analysis of the various sub-sectors in the RAC sector, which could be considered for the introduction of low-GWP alternatives. As an example, the domestic heat pump sub-sector has grown rapidly in China in the recent years. In order to avoid further increase of R22 in that sub-sector and since the potential for the introduction of low-GWP alternatives for heat pumps is high HCFC-22 phase-out in the heat pump sector will also be considered during Stage II preparation.

Furthermore, since China is the biggest producer and exporter of air conditioners (both assembled and charged units as well as semi knocked-down - or complete knocked-down kits), a detailed global analysis is required to assess the policies of both Article 2 and Article 5 countries regarding existing and possible future import limitations of R22-based air-conditioners and kits, as well as possible import limitations of equipment with alternatives to R22. Such limitations have direct impact on the current markets of China and thus, the technology selection will be influenced by such factors. This will require extensive industry consultations as well. Since the RAC sector is a very dynamic sector, ownership of enterprises, as well as eligibility of unfunded lines has to be verified to assess the future needs of conversion.

All these elements are required to design the most suitable phase-out strategy for the RAC sector.

In light of the above and in order to properly develop a sustainable Stage II strategy in the room air conditioning and domestic heat pump sub-sector, the project preparation will focus, but will not be limited to the following main activities:

#### **G. Stakeholder consultation workshops**

- There will be at least 3 main coordination meetings:
  - 1 inception workshop, which is essential to sensitize the stakeholders on all the above issues in order to avoid any delays during preparation.
  - Mid-term review workshop: to review the results of the field surveys and to get the stakeholders views and comments on the possible ways forward.
  - Final workshop to agree on the phase-out strategy for the RAC sector taking into consideration the overall phase-out possibilities in other sectors as well.
- Furthermore, there will be at least 5 stakeholder consultation meetings:

- These will be held at various stages of the project preparation, in particular to discuss technology options, possible sub-sectors for phase-out taking also into consideration global technology development and prospects for R22 phase-out.
- These workshops are core activities, since without the industry's and various government stakeholders' common agreement, no implementable and sustainable strategy can be prepared.
- The strategy cannot also fail due to the importance of the RAC sector in the Chinese economy.

#### **H. Field survey and data analysis**

- Collection of background information on the domestic heat pump sub-sector and update the same for the RAC sector.
- Field visits to 50-60 RAC and heat pump enterprises. The field survey, under the guidance of an international expert, will be jointly carried out by the PMO/MEP, associations, local EPBs as well as external experts. When visiting enterprises, the team will look in to the eligibility of the enterprises, their competence and capabilities, collect information on the HCFC consumption, production lines, applications, market share, etc.
- Manufacturers will also be consulted on future technology options, and identify any difficulties and challenges to be faced by enterprises in future conversions.
- When collecting information on HCFCs, an attempt will be made to collect HFC related information as well.
- Field visits to high ambient temperature region. The field survey will be jointly carried out by FECO/MEP, associations, local EPBs and external experts and will focus on the market perception, promotion of the substitute technology in RAC sector as well as consult on the available and potential future policies restricting HCFC-based equipment and alternative equipment.
- The data collected will be carefully analyzed and consolidated. Additional follow-up will be done to clarify inconsistencies and close coordination will be made with other sectors to avoid double-counting as well as to avoid that any HCFC consumption remains unidentified.
- There will be extensive consultations with all major players on the potential and possible acceptance of various substitute technologies in the coming 5 years.

#### **I. Policy review**

- As explained above, due to China's global leading role in the RAC sector as well as due to the level of exports to both A5 and A2 companies, there will be a need to have a detailed research and analysis of the policies and regulations of other countries, with particular focus on the major export markets.
- In addition, local policies will also have to be reviewed to be able to propose easing some of the policies to enable easier access of the R290 units to the local market.
- Taking into consideration the results of the surveys, data analysis, consultation meetings as well as the policy review, a team of experts (both international and local), in close consultation with FECO/MEP and UNIDO will draft a preliminary strategy to enable the stakeholders to review that before the mid – term review workshop and to propose amendments to those.
- The strategy will be further refined and presented to the final stakeholders meeting after which, the strategy will be finalized.
- Policies and regulatory framework for HCFCs phase-out in the RAC and heat pump sector will be proposed.

#### **J. Strategy development and formulation of Stage II HPMP in the RAC and domestic heat-pump sector**

- There will be also a review of the project implementation modalities, and the current one will be amended, as required, taking into consideration the lessons learnt during Stage I, the short time available for implementation as well as taking into consideration relevant ExCom Decisions.

As explained in the chapeau, there may be additional activities required, not listed above for the development of the Stage II HPMP. For this reason, a contingency budget has been introduced.

### Timeline for preparation

Main Activities	Q1	Q2	Q3	Q4
Inception meeting	X			
Stakeholder consultation meetings (5)	X	X	X	X
Field survey/data collection	X	X		
Data analysis and verification		X	X	
Mid-term review coordination meeting			X	
Preparation of RAC sector preliminary strategy		X	X	
Final coordination meeting to agree on the Stage II HPMP strategy				X
Project document finalization				X

### Project cost

The cost of project preparation including breakdown of main activities and cost components is provided in the below table. The below budget takes already into consideration the information already available and constitutes only the estimated incremental cost required for the preparation of the Stage II HPMP.

Item	Units	Unit explanation	No.	Value in USD
Stakeholder Workshops / consultation meetings	10,000	Per workshop	5	50,000
National consultants (2) (data collection and verification)	4,000	per month per person	10	40,000
National project coordinator (1)	5,000	per month	6	30,000
National Travel (3 persons, 30 missions)	800	per mission per person	90	72,000
International travel for FECO staff and experts for technology consultations (5 persons)	6,000	per person	5	30,000
International consultant (1) (data collection, guidance of national consultants, data analysis)	15,000	per month	2	30,000
Mission of international consultant	10,000	per mission	4	40,000
International travel for coordination meetings (3 meetings, 2 persons)	6,000	per person per mission	6	36,000
International consultant - Preparation of project document	15,000	per month	1.5	22,500
<b>Sub-Total</b>				<b>350,500</b>
Miscellaneous/contingency (10%)				35,050
<b>Grand Total</b>				<b>385,550</b>

## Project Concept

**Country:** The Arab Republic of Egypt  
**Title:** Preparation of Stage-II HCFC Phase-out Management Plan of Government  
**Project Duration:** 12 months  
**Project Budget:** US\$ 290,000 (excluding 7% Agency Support Costs)  
**Implementing Agency:** UNIDO  
**Co-implementing Agency:** UNEP  
**Coordinating Agency:** MARN - NOU

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### Background

The Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, at its 65th Meeting held in Bali in November 2011, approved stage I of the HCFC phase-out management plan (HPMP) for Egypt for the period 2011 to 2018 to reduce HCFC consumption by 10 per cent of the baseline, at the amount of US \$ 2,325,415 for UNIDO (including \$892,840 approved at 61st Meeting in 2010) and 6,195,400 for UNDP (including \$1,479,000 approved at 61st Meeting in 2010). \$950,000 was approved for UNIDO and \$2,000,000 for UNDP for the First Tranche.

The Government of Egypt committed to the following control measures with the support of funding and technical assistance from the Multilateral Fund and implementing agency:

- Freeze the consumption of HCFCs in 2013 to the agreed baseline figure.
- Reduce consumption of HCFCs by 10% from 2015

The Government has agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption calculated on the basis of an estimated baseline of 386.27 ODP tonnes, using actual consumption of 396.60 ODP tonnes and 375.93 ODP tonnes reported for 2009 and 2010, respectively, under Article 7 of the Montreal Protocol, plus 98.34 ODP tonnes of HCFC-141b contained in imported pre-blended polyol systems, resulting in 484.61 ODP tonnes.

The endorsement from the Government of Egypt for the request of the Stage-II HPMP preparation with UNIDO as lead agency and UNEP as cooperating agency has been received.

There are no balances remaining from the PRP funding approved for UNIDO for the preparation of the HCFC Phase-Out Management Plan and Investment Projects at several meetings of the Executive Committee. The details are given below.

MFS Project Code	Agency	Approved Funding (USD)	Funds Returned (USD)
EGY/PHA/55/PRP/96	UNIDO	195,000	834
EGY/FOA/61/PRP/102	UNIDO	100,000	374

### Progress in the implementation of the Stage-I (brief information)

Activity	Progress
<p>Individual investment projects to phase out HCFC-141b used in insulation foam for domestic refrigeration appliance manufacturing (El Araby Company, Mondial Freezers Co.) (Approved at 62<sup>nd</sup> Meeting)</p>	<p>The implementation started in April 2011. Specifications for conversion of equipment were formulated by an international expert in close cooperation with the companies and the UNIDO field office Cairo. The terms of reference were finalized and endorsed in December 2011. The international bidding exercise was conducted in the first quarter of 2012. Bids from interested equipment suppliers were received end of March 2012 (3 offers for El-Arabi, 4 offers for Mondial). The bids were reviewed and a provider – the same for both projects - was selected in June. The delivery of equipment for those companies was completed by the end of 2013.</p> <p>The target for El Araby was 100 metric tonnes or 11 ODP tonnes, for Mondial is 60 metric tonnes equivalent to 6.6 ODP tonnes. Equipment installation is under way and project completion for El Araby is expected to be October 2014. At Mondial installation preparation is ongoing and the project is expected to be completed in December 2014.</p>
<p>Individual investment project to phase out HCFC-141b in appliance foam sub sector: Kiriazi Refrigerator Factory</p>	<p>The objective of this project is to replace HCFC-141b by c-pentane technology. The implementation started in January 2012. Specifications for conversion of equipment were formulated by an international expert in close cooperation with the company and the UNIDO field office Cairo. The terms of reference were finalized and endorsed in June 2012. Three bids from interested equipment suppliers were received. The bids were reviewed and a provider was selected end of September. As the contract with the technology provider signed in October 2013, the delivery of equipment completed in December 2013.</p> <p>At Kiriazi installation preparation is ongoing and the project is expected to be completed in December 2014. The target is 13.6 ODP tonnes.</p>
<p>Enabling activities in support of HCFC phase-out in refrigeration and air conditioning (RAC) sector</p>	<p>A workshop on available HCFC alternatives in the air-conditioning manufacturing sector was held on May 9, 2013. The workshop’s objective was to increase the awareness and information exchange of available HCFC Alternatives to the Air Conditioning Manufacturing Sector in Egypt.</p> <p>It has been decide to use funds to develop a pilot project and implement it in collaboration with UNEP and the Industry Leaders in the air conditioning sector. The main objective of the project is to assess what can be considered as sustainable alternative refrigerants for the A/C industry in Egypt in conjunction with the global and regional development in this industry. Two meetings were held in June 2014 to invite the industry to participate in the pilot project implementation.</p>
<p>Coordination and Management</p>	<p>A HPMP Unit (HPCU) was established to coordinate two main technical areas of the phase-out of HCFCs in the foam sector and the refrigeration and air-conditioning sector (RAC), and the management of enabling activities in the RAC sector. The head of the HPCU is the NOU.</p>

## Lessons learned

The experience gained from the implementation of previous projects will be capitalised upon and taken in to account in the design of the second stage of the HPMP:

- The established and operating ODS licensing system to monitor imports, exports and consumption of ODS
- Involvement of the industry associations, academy and ODS consuming enterprises
- development of individual and umbrella investment projects addressing timely phase-out of HCFCs

## Overarching Strategy

The Government of Egypt's overarching strategy is based on accelerated phase-out in accordance with decision XIX/6 of the Parties. Priority is given to the phase-out of HCFC-141b consumption through the introduction of commercially available, cost-effective and sustainable low global warming potential (GWP) technologies that do not place an unwanted financial burden on the recipient enterprises. The Government will explore alternative technologies that could make cost-effective use of its resources (i.e., natural gas in vapour compression refrigeration applications) and will establish a national Task Force to develop guidelines and norms for the safe use of natural refrigerants (i.e., hydrocarbon-based, carbon dioxide, ammonia and water). The Government will continue to explore options for co-funding in order to maximize the resources available to stakeholders, especially in the RAC servicing sector.

## HCFC Consumption

Egypt has reported HCFC consumption in ODP tonnes for 2011 – 2013 as follows:

	2011	2012	2013	Baseline
HCFCs	355.58	513.78	297.0	386.3

The 2013 consumption is well below baseline but can be attributed to instability in the country during that period resulting in lower demand.

The targets for Stage I of the HPMP are as follows:

	2010	2011	2012	2013	2014	2015	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	0	0	0	386.27	386.27	347.64	
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	0	0	0	386.27	386.27	347.64	
Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)							6.13
Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)							0
Remaining eligible consumption for HCFC-22 (ODP tonnes)							234.06
Total phase-out of HCFC-123 agreed to be achieved under this agreement (ODP tonnes)							0
Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)							0
Remaining eligible consumption for HCFC-123 (ODP tonnes)							0.11
Total phase-out of HCFC-141b agreed to be achieved under this agreement (ODP tonnes)							64.34
Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)							31.35
Remaining eligible consumption for HCFC-141b (ODP tonnes)							33.92
Total phase-out of HCFC-142b agreed to be achieved under this agreement (ODP tonnes)							0
Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)							0
Remaining eligible consumption for HCFC-142b (ODP tonnes)							16.36
Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)							48.53
Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)							23.65
Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)							26.16

## Information to be collected

Information to be collected during the Stage-II HPMP preparation will include:

- Survey of all remaining eligible companies to prepare sector plan for the PU Foam in appliances sector.
- Survey to prepare RAC sector plan to phase out HCFC consumption as refrigerant. The sector plan will include:

- RAC Servicing: Support to Stage 1 Activity - Demonstration service centres and support to Stage 1 Activity - Training Centre
- RAC Servicing Sector (Chillers): Application (scope, cost scenarios and implementation modalities) of absorption refrigeration technology (as cost-effective alternative) to phase out HCFC-22 in RAC servicing (Chillers)
- Phased RAC (Manufacturing and Servicing) Sector Phase-out Plan: Preparation and phased implementation of sector plan of investment and non-investment activities for complete phase-out of HCFC-22 in the manufacturing and servicing sectors, including HCFC-22 phase-out in manufacture of chillers, AC and other refrigeration equipment.
- Incentive programme for retrofit of ACs to low GWP alternatives; recovery/recycling, training, refrigerant destruction.
- Review of Stage I coordination and management activities to determine funding levels for Stage-II
- Review of Regulatory Activities for banning of the use of HCFC-141b in PU foam manufacturing and creation of public awareness on the issue.

### Activities proposed for Stage II Preparation

The proposed activities and budget for developing the activities for Stage II is as following:

Activities	UNIDO	UNEP
<b>Investment Activities</b>		
Preparation for Investment phase-out project for the PU Foam manufacturers (2 Domestic Refrigerator manufacturers)	60,000	
Preparation for Investment phase-out project for the A/C manufacturing sector (for sector Phase Out Plan and preparation of Demonstration project)	80,000	
Preparation for Investment phase-out project for the Commercial Refrigeration sector (all Commercial Refrigeration manufacturing companies)	80,000	
<b>Activities related to Policy Enforcement and Servicing Sector</b>		
- Review of policies and related mechanisms and needs assessment for enforcement and training		20,000
- Review the relevant national technical standards, codes and norms related to RAC and foam sectors		
- Review and update of the national survey on the HCFC consumption in the different servicing sectors		
- Review the national relevant technical training capacities including curricula and training centres/program		
- Needs assessment about the establishment of national reclamation scheme including R&R equipment/tools and reclamation centres	70,000	
- Needs Assessment for the phase-out of HCFC in the commercial refrigeration sectors (cold stores, transportation and outlets)		
- Consultations to review Stage I coordination and management activities		
- Write-up of stage II HPMP Document		
Total	290,000	20,000
<b>GRAND TOTAL</b>	<b>310,000</b>	

**Note:** All the preparation activities including the stakeholder consultations and finalization of the Stage-II HPMP will be conducted in an integrated manner of both UNIDO and UNEP leads components. Thus the funding level of each activity is indicative and subject to change based on the further discussion between the NOU, implementing agencies and the national stakeholders during the Stage-II preparation.





## Project Concept

<b>Country:</b>	<b>The Kingdom of Morocco</b>
<b>Title:</b>	Funding Request for Preparation of Stage II HCFC Phase-out Management Plan (HPMP)
<b>Project Duration:</b>	12 months
<b>Project Budget:</b>	USD 74,900 (incl. 7% agency support costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	National Ozone Unit (NOU), Ministry of Industry, Trade and New Technologies

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### 1. Proposal background and compliance with previous decisions

UNIDO has received an official request from the Government of Morocco for the preparation of Stage II of HPMP to address the 2020 phase-out targets in respect to the HCFC phase – out set by the Montreal Protocol. In response to that and in accordance with Decision 65/42 and Decision 71/42, UNIDO is submitting a request for funding for the preparation of the overall strategy for Stage II HPMP.

Morocco has chosen 2009 consumption of 68 ODPt (45.9 ODPt of HCFC-22 and 22.1 ODPt of HCFC-141b), as the starting point for aggregate reductions in consumption pursuant to Decision 53/37. Targets included in the Stage I HPMP for Morocco comprised of the freeze of the HCFC consumption to its baseline consumption of 59.7 ODP tones in 2013 and its further reduction by 20% (i.e. 47.74 ODPt) by 2017. However, approval of Stage I of HPMP did not prevent Morocco from submitting, prior to 2015, a proposal to achieve a reduction in HCFC consumption greater than that proposed in stage I of the HPMP (Decision 71/42 (e)).

The remaining consumption to be covered by subsequent Stages is 51.23 ODP t (i.e. 7.9 ODPt of HCFC-141b and 43.33 ODPt of HCFC-22). Of those, stage II aims at further reducing HCFC consumption to 35% of the baseline (i.e. 38.8 ODPt), by 1<sup>st</sup> January 2020. This will be achieved by phase-out activities in the manufacturing sector (foam manufacturing sectors) and servicing sector (fishing sector, industrial refrigeration sector, maintenance of refrigeration and air-conditioning systems). As for the balances from previous PRP funding requests for Stage I of the HPMP, these have been returned to the Multilateral Fund as shown in Table 1 below.

**Table 1.** Balances of PRP funding requests for Stage I of HPMP

Sector	Project Code	Approved Funding (USD)	Funds Spent (USD)	Funds Returned (USD)	Funds Returned (ExCom meeting)
FOA	MOR/FOA/60/PRP/64	60,000	59,935	65	64
PHA	MOR/PHA/55/PRP/59	150,000	149,323	677	72
REF	MOR/REF/60/PRP/65	40,000	39,746	254	72
<b>TOTAL</b>		<b>250,000</b>	<b>249,004</b>	<b>996</b>	

### 2. Current progress in implementation of Stage I HPMP

The strategy approved under Stage I aims to phase-out 2.57 ODPt of HCFC-22 in servicing sector and 14.2 ODPt of HCFC-141b in foam manufacturing and servicing sector (flushing). So far the implementation of Stage I strategy has been executed successfully and the country is in compliance with the Montreal Protocol targets. Consumption figures reported according to Article 7 of the Montreal Protocol shows that Morocco was 10 ODPt below the freeze target in the year 2013 (49.41 vs 59.7), representing a 18% reduction for that specific year. Reasons for the low consumption figure in

2013 could be the financial crisis and the compensation for high imports in previous years (78.8 ODPt in 2011 and 68.84 ODPt in 2012). HCFC consumption verification for the year 2013 is ongoing.

## **2.1 Investment projects**

An investment project phasing-out HCFC-141b from the manufacture of polyurethane (PU) rigid insulation foam in the domestic refrigeration sector at MANAR, has been approved in 2010 (Decision 62/33) and already implemented and successfully completed in 2013. In January 2013 all production lines were tested and in February the plant has successfully started its manufacturing processes using cyclopentane technology. The consequent elimination of 11 ODPt of HCFC-141b in bulk allowed Morocco to successfully reach the HCFC consumption freeze in 2013.

Stage I HPMP includes as well the phase-out of consumption in the PU foam component at FAGOR (not eligible under MLF support<sup>1</sup>) eliminating an additional consumption of 2.1 ODPt of HCFC-141b by 1<sup>st</sup> January 2015. Furthermore, the elimination of 0.9 ODPt of HCFC-141b used as a solvent for flushing of refrigeration circuits by the National Railway Corporation (ONCF) is ongoing. The relevant equipment will be purchased and delivered to the regional servicing centres followed by training of service technicians, this year.

## **2.2 Awareness raising, training and capacity building**

Project activities are being implemented along with an extensive training and awareness raising program that includes training of technicians planned to be undertaken in 2014 and trainings to custom officers. Further, awareness raising and capacity building activities have been ongoing throughout the duration of the project. Some of these included Launching Workshop on the Management and Disposal of HCFCs (6 June 2012, Marrakech) and the awareness done during the celebration of the Ozone Day (e.g. 23-24 September 2013, Agadir).

## **2.3 Policy instruments**

The adoption of measures on licensing system is completed. The consumption of HCFC-141b and HCFC-22 are controlled by appropriate import quota that was established in 2013. The consumption of HCFC-22 used for servicing of refrigeration and air conditioning equipment was frozen in 2013 while import of HCFC-141b in bulk is planned to be banned from 1<sup>st</sup> January 2015.

## **2.4 Project monitoring**

Project monitoring activities have been ongoing and have involved coordination meetings among NOU and the UNIDO, visits to companies, meetings with importers, communication with a permanent commission created among different ministries, the NOU and national experts. These activities also include verification audits which are scheduled for 2014, 2016 and 2017 to ensure compliance with the targets set by the Montreal Protocol.

## **2.5 Financial progress**

The total amount of USD 1,286,740.0002 has been granted by means of four instalments (including the grant for the conversion project at MANAR and three HPMP tranches). So far, the grant for MANAR and two HPMP tranches have been approved to UNIDO, for a total of USD 1,251,740. Tranche III of the HPMP (USD 35.000) will be requested in 2017. As for the expenditures, almost 80% of the total grant received (or 77% of the total Stage I HPMP) have been already disbursed.

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<sup>1</sup> FAGOR is Article 2 owned company, thus not eligible for financial assistance from the Multilateral Fund (MLF)

<sup>2</sup> Excluding agency support costs of USD 96,506

### **3. Overarching strategy**

Stage II of HPMP aims at further reducing the HCFC consumption to 38.8 ODPt, precisely by 35% from the baseline of 59.7 ODPt, by 1<sup>st</sup> January 2020. To achieve that, the HPMP Stage II proposes a suite of policy, regulations, technical assistance, training, capacity building and investment activities, mainly focusing on foam and refrigeration manufacturing sectors and on servicing sector, bridging the efforts undertaken during Stage I.

#### **3.1 Foam manufacturing: phase-out of HCFC-141b used in pre-blended polyol systems (investment component)<sup>3</sup>**

The umbrella project aims to eliminate the remaining 7.9 ODPt of HCFC-141b used in pre-blended polyol systems for foam manufacturing by 1<sup>st</sup> January 2020. This project will cover at least 16 companies identified during HPMP preparation stage, that use HCFC-141b-based polyols for commercial refrigeration applications, sandwich panel production and for decoration.

#### **3.2 Servicing sector: phase-out of HCFC-22**

Phase-out activities in the servicing sector, covering fishing sub-sector (maintenance and recharging refrigeration units on fishing vessels and cold stores on shore), industrial refrigeration units in cold stores for agricultural and food sectors, and end-user residential and commercial air-conditioning units, are planned under Stage II. Among others, activities planned include training of technicians on new substances, certification, distribution of kits and an update of the manual on best practices in servicing; and will also tackle refrigerant recovery and recycling practices.

#### **3.3 Current HCFC consumption and its trend**

HCFCs are chemicals predominantly used in the foam manufacturing, refrigeration and servicing sectors in Morocco. Since there is no HCFC production in the country, these chemicals are imported. Data on HCFC consumption per sector are only available for the year 2008-2010. One of the activities within this PRP will be to analyse the HCFC consumption after year 2010 and define the exact trend in HCFC consumption.

### **3. Activities planned under PRP**

Activities planned under the framework of this PRP include:

- Data survey/s (survey/s preparation, data collection, evaluation and reporting) that will collect information on the current status and consumption of HCFCs in servicing sector using HCFC-22 including fishing sub-sector, industrial and commercial refrigeration sectors and end-user air conditioning, as well as on the ongoing refrigerant recovery and recycling practices. At the same time additional information on the current status and HCFC-22 consumption in the refrigeration manufacturing sector including the status of the baseline equipment will be explored.
- Analysis of HCFC-22 and HCFC-141b consumption trends
- Discussions and consultations with the government and stakeholders will be initiated in order to prepare the strategy and to select the most appropriate non-ODP and low-GWP technologies.
- Assessment of overall framework related to alternative technologies, in particular international standards on the use of flammable refrigerants (e.g. ISO, Ashrae, etc.)
- Investigation of the interest and potential for cooperation with stakeholders and technology providers.
- Review and suitability of available alternative technologies

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<sup>3</sup> PRP funding request to develop the strategy for this project has been submitted separately.

- Evaluation of climate co-benefits
- Preparation of detailed strategy and plan for implementation for Stage II of HPMP which will be developed based on collected information and lessons learnt from the implementation of Stage I.

Although a survey for the preparation of HPMP was already carried out and covered, among others, detailed collection of data on pre-blended polyols containing HCFC-141b and general consumption break-down on HCFC-22 in different sectors (fishing, refrigeration industry and maintenance) between 2006 and 2010, further data should be recorded to find out the current HCFC consumption (2011-2014) and its trend in order to develop an appropriate strategy of Stage II.

Further, new alternatives to HCFCs have emerged and these should be also considered. Thus, additional information on the availability and applicability of new alternatives to Moroccan conditions is necessary. The same concerns the need for more up-to-date information on the current status of sectors that are still using HCFCs to properly develop appropriate plan of action for the implementation of Stage II. This way an appropriate alternative technology, relevant costs and timeframe for implementation can be evaluated. Further, discussions with stakeholders will be undertaken to better estimate the market development and understand the needs; to raise awareness on the possible alternatives and the opportunities they provide. At the same time a consultation will be undertaken with the government on the potential supporting instruments that will extend the success of the efforts made under Stage I and will help ensure the success of Stage II HPMP.

Funds requested for this PRP will be used for activities required to develop an appropriate strategy of Stage II HPMP are presented Table 2.

**Table 2.** List of activities planned to be undertaken within the PRP

<b>Activity</b>	<b>Cost (USD)</b>
National Experts (3 W/m)	9,000
Survey/s on the HCFC-22 use in the servicing sector (survey preparation, data collection, evaluation, reporting)	12,000
International expert (2 W/m)	22,000
UNIDO Missions (3 missions)	6,000
Consultation Meetings (3 meetings)	9,000
Stage II of HPMP document preparation	8,000
Miscellaneous	4,000
<b>TOTAL</b>	<b>70,000</b>
<b>TOTAL (including 7% agency support costs)</b>	<b>74,900</b>

## Project Concept

<b>Country:</b>	<b>The Kingdom of Morocco</b>
<b>Title:</b>	Funding Request for Preparation of Investment Project in the Industrial Foam Sector Using HCFC-141b in Pre-blended Polyol Systems under Stage II of HPMP.
<b>Project Duration:</b>	12 months
<b>Project Budget:</b>	USD 107,000 (incl. 7% agency support costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	National Ozone Unit, Ministry of Industry, Trade and New Technologies

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### 1. Proposal background and compliance with previous decisions

UNIDO has received an official request from the Government of Morocco for the preparation of Stage II of HPMP, including an investment project, to address the 2020 phase-out targets in respect to the HCFC phase-out set by the Montreal Protocol.

In response to that and in accordance with Decision 65/42 and Decision 71/42, UNIDO is submitting a request for funding for the preparation of an umbrella project for the final phase-out of HCFC-141b used in pre-blended polyol systems in the PU foam manufacturing sector. According to the Agreement between ExCom and Morocco for the reduction in consumption of hydrochlorofluorocarbons, the remaining eligible consumption for HCFC-141b is 7.9 ODPt.

The number of investment activities to be implemented under the umbrella project is 16, at eligible companies manufacturing PU foam in different sub-sectors. Preliminary information on beneficiaries has been provided in the HPMP overarching strategy, as per Decision 61/47.

Since the consumption of HCFC-141b in pre-blended polyol is part of the baseline of Morocco, consumption of HCFC-141b in pre-blended polyol is also par to the report submitted according to Article 7 of the Montreal Protocol and is therefore part of the HCFC compliance targets of Morocco. All 16 companies using HCFC-141b in pre-blended polyol systems, including those second-stage conversion projects, are therefore eligible for full funding of eligible incremental costs as per Decision 60/44.

### 2. Investment project in the foam sector using HCFC-141b in pre-blended polyol systems

The umbrella investment project, planned as one of Stage II activities, aims to eliminate the remaining use of 7.9 ODPt of HCFC-141b in pre-blended polyol systems for foam manufacturing by 1<sup>st</sup> January 2020. The umbrella project will cover 16 investment activities at eligible companies identified during HPMP overarching preparation. These companies use HCFC-141b in pre-blended polyols for commercial refrigeration applications, sandwich panel production and for decoration (Table 1).

**Table 1:** Consumption of HCFC-141b in pre-blended polyol systems (2006-2009)

Enterprise	Year of establishment	II stage conversion (Y/N)	Consumption (Mt) / year			Application	
			2007	2008	2009		
1.	SIAFMO	1999	Y	0.5	0.5	0.5	PU Foam for commercial refrigeration
2.	COMAFRO	1986	Y	.	1.1	1.3	
3.	PROMAGHREB	1997	N	36	36	0	
4.	CFL	N.a.	Y	0.45	0.5	0.4	
5.	ENGEQUIFE	N.a.	Y	0.52	0.5	0.6	
6.	SMIFAM	1982	Y	0.7	0.8	0.8	
7.	AMF	1990	N	1.15	1.1	0.9	
8.	POLYTECH	N.a.	N	15.1	17.6	25.2	
9.	Alom du Nord	N.a.	Y	0.8	1.4	1.2	
10.	MAFIDEC (Frimac)	N.a.	Y	0.3	0.2	0.2	
11.	SONYAFROID	N.a.	Y	6.3	6.7	7.1	
12.	FIRST CLIM	N.a.	Y	4.5	4.8	5.1	
13.	LAHDAR	N.a.	Y	4.5	4.8	5.1	
14.	SCULTEX	N.a.	N	1.6	1.9	1.2	Soft foam for decoration
15.	PANAF	1985	Y	19	19	19	Sandwich panels
16.	INTERFER	N.a.	Y	5	3.99	4.9	
<b>Total Polyols (Mt)</b>				<b>96.42</b>	<b>100.89</b>	<b>73.5</b>	
<b>Total HCFC-141 (Mt)</b>				<b>227.12</b>	<b>218.99</b>	<b>192.6</b>	
<b>Total HCFC-141 (ODPt)</b>				<b>24.98</b>	<b>24.09</b>	<b>21.19</b>	

### 3. Activities planned under PRP

Although a survey for the preparation of HPMP was already carried out and covered, among others, collection of preliminary data on pre-blended polyols containing HCFC-141b (2007-2009), it is necessary to base the development of the investment projects on more recent information (2010-2014). Furthermore, the up-to-date assessment of the technology market including its development is required in order to identify the most sustainable alternative for the local market.

The following activities are planned to be undertaken within the framework of this PRP:

- Survey/s preparation, data collection, evaluation and reporting on:
  - HCFC-141b pre-blended polyols importers and distributors, including import figures and consumption trends;
  - Local standards related to products and alternative technologies;
  - Market assessment of alternative technologies in Morocco, including assessment of market trends.

Data sources will include, but will not be limited to, Governmental departments, enterprises, industry associations, distributors and importers. The survey is planned to be entrusted to a national experts under the supervision of UNIDO and the NOU.

- Data collection at each enterprise, including detailed consumption verification, assessment of baseline equipment, verification of other eligibility criteria;

- Review of the availability and applicability of new alternatives to Moroccan conditions to help select an appropriate alternative technology, evaluate its costs and timeframe for implementation;
- Discussions with companies will be undertaken to understand their needs and to raise awareness on the possible alternatives and the opportunities they provide. At the same time a consultation will take place with the government on the potential policy instruments that will support introduction of alternative technologies;
- Evaluation of climate co-benefits;
- Preparation of detailed strategy for the investment project under Stage II by UNIDO in cooperation with the Governmental institutions to allow Morocco achieve 2020 reduction target, in line with the priorities of the HPMP.

Funds requested for this PRP will be used for activities required to develop an appropriate strategy for the investment project under Stage II HPMP and are presented in Table 2.

**Table 2.** List of activities planned to be undertaken within the PRP

<b>Activity</b>	<b>Cost (USD)</b>
Survey/s of HCFC use in pre-blended polyol systems (survey preparation, data collection, evaluation, reporting)	5,000
Verification at company level (USD 3,400/company)	54,400
UNIDO Missions (2)	8,000
Consultation Meetings (1)	3,000
Study tour for technology selection	18,000
Preparation of project document for investment component, including technical assessment	10,000
Miscellaneous	1,600
<b>TOTAL</b>	<b>100,000</b>
<b>TOTAL (including 7% agency support costs)</b>	<b>107,000</b>

## Project Concept

<b>Country:</b>	<b>Oman</b>
<b>Title:</b>	Project preparation for stage II of HPMP
<b>Project Duration:</b>	12 months
<b>Project Budget:</b>	USD 33,000 (excl. 7% Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Co-implementing Agency:</b>	UNEP
<b>Cooperating Agency:</b>	Ministry of Environment and Climate Affairs

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### 1. Background

Funding requirement for the preparation of Stage-II HCFC Phase out Management Plan (HPMP) is being prepared in accordance with UNEP/OzL.Pro/ExCom/71/55. This request for funding is being submitted to ensure continuity of implementation of HPMP in Oman until the target, as set under the HCFC phase-out plan, is achieved. It is ensured that the document is being submitted in accordance with minimum requirement of 2 years since approval of Stage-1 as set under item 3.b of the guideline.

The HPMP for Oman was approved at the 65<sup>th</sup> Meeting of the Executive Committee, to ensure compliance of the Country with the 2013 Freeze- and 2015 10% reduction in HCFC consumption targets; for the principal amount of USD 434,120 to be implemented through different tranches as follows:

	2011	2012	2013	2014	2015	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	31.47	31.47	28.32	n/a
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	31.47	31.47	28.32	n/a
Lead IA UNIDO agreed funding(US \$)	314,120	0	0	0	35,000	349,120
Cooperating IA UNEP agreed funding (US \$)	65,000	0	0	0	20,000	85,000
Total agreed funding (US \$)	379,120	0	0	0	55,000	434,120

### 2. Achievement/ Progress of Stage-I

#### 2.1 Overview of HCFC Consumption

Based on the actual HCFC consumption of 30.7 ODP tonnes and 32.2 ODP tonnes reported for 2009 and 2010 respectively, the baseline for Oman was calculated as 31.47 ODP tonnes. An additional 1.10 ODP tonnes of HCFC-141b contained in imported pre-blended polyol systems was identified, resulting in a total of 32.57 ODP tonnes.

The projects approved under Stage I of the HPMP shall phase out 1.1 ODP tonnes in the



manufacturing sector and 3.54 ODP tonnes in the servicing sector.

## **2.2 Phase out activities in manufacturing sector**

- Technical assistance: Identified foam manufacturing companies, which cannot be assisted through investment projects due to their size and/or baseline consumption, were given advice on their conversion to non-ozone depleting, low GWP blowing agents.
- Investment project: National Heaters Industries Co. was selected to completely phase-out the use of HCFC from their production process (1.1 ODP tonnes of HCFC-141b) by converting to water-blown technology. A high-pressure water-blown foaming machine was procured and was shipped to the site in early 2014. Installation and 3-day training on the machinery was provided by the supplier in March 2014. The use of HCFC-141b has been fully phased out from National Heaters Industries Company.

## **2.3 Phase out activities in the servicing sector**

The following non-investment components were implemented by UNEP and UNIDO:

- Updating Policy and Regulations (UNEP). National Ozone Committee and legal and technical task force established and functional. The 3rd meeting of the National Ozone Committee was held in 11 May 2014 with participation of all concerned. The national procedures were developed for the implementation of the updated GCC regulation and enacted in December 2013. It is currently being enforced and became a model to follow by other countries in the region.
- (UNEP) ODS e-licensing system developed and being integrated as part of the e-system of the Ministry. The system is expected to enter into operation during the 1st half of 2015.
- (UNEP) National vocational curricula and certification programme reviewed and updated on HCFCs, alternatives and latest technologies.
- (UNEP) National codes on good practices for various refrigeration and A/C servicing drafted and being finalized in consultation with all stakeholders. Working group on the certification scheme established and met several times with last meeting on 12-13 May 2014. The draft outlines for the development of a certification scheme for both Omani and non-Omani RAC technicians developed and discussed and inputs received for finalization. Follow up meeting and train the trainers workshop on assessment under certification scheme, and on good practices, are planned during 7-11 September 2014.
- Technical assistance for the fisheries industry: UNIDO conducted a workshop on available HCFC alternatives in May 2014 and a follow-up workshop for decision makers is planned for September 2014.

The following investment component was implemented by UNIDO:

- Establishment of refrigerants reclamation center: National guidelines developed to promote the establishment of refrigerants reclamation centers. A workshop for potential reclaim center hosts and operators was held. Operating models were presented and discussed. One company submitted outline proposal in May 2013.
- Equipment for reclaim center: A reclamation machine and related cylinder evacuation and cleaning equipment were procured and will be delivered in the 3<sup>rd</sup> quarter of 2014.

## **2.4 Impacts on the environment**

- ODP reduction: 4.64 ODP tonnes
- Net annual reduction of CO<sub>2</sub> equivalent; 7,250 metric tonnes in the manufacturing sector and 116,498 metric tonnes in the servicing sector.

## 2.5 Co-financing

N/A

## 2.6 Financial Disbursement/ Obligation

Stage I disbursement, un-liquidated obligation and future commitment are provided in the table below:

Description	UNIDO			UNEP	Total
	Manufacturing	Servicing	Total	Servicing	
Funds under both tranches of Stage I	104,120	245,000	349,120	85,000	434,120
<b>Disbursements</b>					
Actual disbursement	104,059	42,157	146,215	8,750	231,857
Unliquidated obligation	-	124,702	124,702	29,500	29,500
Total disbursed & obligated	104,059	166,859	270,918	38,250	261,357
Percentage of total disbursed and obligated	99.9%	68.1%	77.6%	45%	60.2%

## 3. Over-Arching Strategy

### 3.1 Amount of HCFC to be phased out in Stage-II

The remaining eligible consumption of HCFCs in the manufacturing and servicing sectors is 27.93 ODP tones according to Appendix 2A: The Targets, and Funding, of the Agreement between the Executive Committee and the country when their stage I HPMP was approved.

Substance	ODP tonnes
HCFC-22	26.03
HCFC-141b	1.11
HCFC-142b	0.79
HCFC-141b in imported polyol	0
<b>Total</b>	<b>27.93</b>

The table below shows the latest data reported for 2013 and consumption trends over the period 2010- 2013.

Annex	Group	Chemicals	2010	2011	2012	2013	Baseline

C	I	HCFCs	32.2	34.82	54.95	28.87	31.5
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The latest sectoral data as reported for 2013 is shown in the table below. The decline in the servicing sector consumption of HCFC-22 is obvious thanks to the strict control measures taken by the country to control ODS import and improve servicing and maintenance practices. However, the relatively high consumption in the foam sector, which is attributed to the lack of feasible alternatives for the current uses as well as time and investments required by non-eligible foam enterprises to convert, will need to be addressed during stage II.

LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)						Year: 2013
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Total sector consumption
				Manufacturing	Servicing	
HCFC-141b		2.56				2.56
HCFC-141b in imported pre-blended polyol		4.87				4.87
HCFC1-42b		4.53				4.53
HCFC-123					0.14	0.14
HCFC-22		2.55			19.09	21.64
<b>TOTAL</b>		<b>9.64</b>			<b>19.23</b>	<b>28.87</b>

It is projected that this amount will be phased out through investment and non-investment activities and by other interventions as stipulated in overarching HPMP strategy document approved by the 65<sup>th</sup>ExCom, in the sectors as following:

- A) HCFC-22 phase-out in the servicing sector
- B) HCFC-141b and 142b Technical assistance

### 3.2 Activities to be undertaken to develop Stage-II document

The following activities shall be undertaken for the preparation of stage-II HPMP from the proposed funding:

- Data Collection and Surveys:
  - Collection, verification and validation of HCFC consumption in various sub-sectors of the manufacturing and servicing sector through survey of Government departments, traders, distributors and importers.

- Chemical use projections and consumption trends: The surveys will seek to understand how the markets have changed with regard to the consumption patterns of HFCs by end-users.
- Review of enforcement and management of policies and regulations in place: This is to ensure that policies and regulations put in place are working and to amend them if needed in the strategy.
- Review of availability of alternate technologies: Re-assess new technologies & solutions for possible adjustment of the program based on the availability of technically proven, commercially available, climate friendly alternatives.
- Review of technology needs in the fisheries service sector: this would help in the development of retrofit and/or replacement strategies for this sector.
- Development of a strategy and plan for implementation for investment projects as well as other servicing sector related activities.
- Evaluation of climate co-benefits: to take into account reductions already made in Stage I and make new projections.

### 3.3 Funding Requirement

In accordance with the established guidelines, the preparatory funds are requested for two collaborating agencies as follows:

Activities	Funding		Total
	UNIDO	UNEP	
Survey in the foam sector	3000		3000
Survey in the refrigeration servicing sector	5,000		5,000
Consultancy (international consultants including travel)	10,000	8,000	18,000
Consultancy (team of national consultants; and/or consulting company)		3,000	3,000
Stake holders meetings	5,000	6,000	11,000
Consultation meetings	4,000	3,000	7,000
Technical and legislative assistance	6,000	7,000	13,000
	<b>33,000</b>	<b>27,000</b>	<b>60,000</b>

## Project Concept

<b>Country:</b>	<b>The State of Qatar</b>
<b>Title:</b>	<b>Preparation of stage II of HCFC phase-out management plan (HPMP) of Qatar</b>
<b>Project Duration:</b>	24 months
<b>Project Budget:</b>	60,000 (excluding Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	UNEP
<b>National Counterpart:</b>	National Ozone Unit at Ministry of Environment of Qatar

### 1. Background

The Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, at its 65<sup>th</sup> Meeting held in Bali in November 2011, approved stage I of the HCFC phase-out management plan (HPMP) for Qatar for the period 2011 to 2015 to reduce HCFC consumption by 20 per cent of the baseline, at the amount of US \$ 1,726,600 for UNIDO and US \$ 310,000 for UNEP.

\$ 1,045,907 was approved for UNIDO and \$105,000 for UNEP for the First Tranche.

The Government of Qatar committed to the following control measures with the support of funding and technical assistance from the Multilateral Fund and implementing agency:

- (i) **Freeze the consumption of HCFCs in 2013 to the agreed baseline figure.**
- (ii) **Reduce consumption of HCFCs by 20% from 2015**

The Government has agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption calculated on the basis of an estimated baseline of 86.08 ODP tonnes, using actual consumption of 79.75 ODP tonnes reported for 2009 under Article 7 of the Montreal Protocol, and estimated consumption of 92.41 ODP tonnes for 2010.

The targets for Stage I of the HPMP are as follows:

	2011	2012	2013	2014	2015	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)			86.08	86.08	77.50	n/a
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)			86.08	86.08	68.86	n/a
Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)						45.81
Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)						0
Remaining eligible consumption for HCFC-22 (ODP tonnes)						27.64
Total phase-out of HCFC-141b agreed to be achieved under this agreement (ODP tonnes)						0
Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)						0
Remaining eligible consumption for HCFC-141b (ODP tonnes)						0.58
Total phase-out of HCFC-142b agreed to be achieved under this agreement (ODP tonnes)						12.05
Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)						0
Remaining eligible consumption for HCFC-142b (ODP tonnes)						0

The endorsement from the Government for the request of the Stage-II HPMP preparation with UNIDO as lead agency and UNEP as coordinating agency has been received.

The balances remaining from the PRP funding approved for UNIDO and UNEP for the preparation of the HCFC Phase-Out Management Plan (HPMP) of Qatar are given below.

MFS Project Code	Agency	Approved Funding	Funds Returned	Comment
QAT/PHA/55/PRP/11	UNIDO	55,000	(1,045)	Balance returned in 2012
QAT/FOA/60/PRP/16	UNIDO	80,000	(891)	Balance returned in 2013
QAT/PHA/55/PRP/12	UNEP	30,000	(1,000)	Balance returned in 2014

## 2. Progress in the implementation of the stage I (brief information)

Component	Progress in the Implementation	Responsible Agency
<b>Assistance to the Foam sector</b>		
Investment Projects at the Al Kawthar Insulation Factory, Qatar Insulation Factory & Orient Insulation Factory	UNIDO has purchased the equipment for both Qatar Insulation Factory & Orient Insulation Factory. Currently the equipment is under production. Al Kawthar Insulation Factory has closed and moved out of Qatar. UNIDO has not purchased any equipment intended for Al Kawthar.	UNIDO
<b>Updating Policy and Regulatory Activities</b>		
Establish and make functional National Ozone Committee and the legal and technical task forces National Legal consultant to develop the national procedures for implementing the updated GCC regulation. This includes: <ul style="list-style-type: none"> <li>• Legal consultancy services to assist the national committee in drafting, reviewing and finalizing all related bylaws and operational procedures for the enforcement of the ODS Legislation @ about US\$ 15,000 cost</li> <li>• Organization of consultation sessions and orientation seminars to facilitate the discussion of draft proposals and to disseminate the final approved version amongst different stakeholders including documentations and communications costs @ about US\$ 15,000</li> </ul>	<p>Implementation of this component was adjusted, compared to the suggested one in the HPMP project document, based on consultation with the government and advice from the high-level officials at the Ministry of Environment (MoE) of Qatar. The adjusted process includes:</p> <ol style="list-style-type: none"> <li>1. Forming internal team at the MoE to review the ODS Law 21/2007 in light of the new GCC ODS unified regulation (2012) and update it. <b>Progress:</b> Draft new legislation is prepared, reviewed, finalized and sent to the Cabinet of Ministers for endorsement. The regulation expected to be enacted before end of 2014</li> <li>2. Establish national taskforce to review the licensing/quota procedures and update it for enactment starting from Jan-2015 <b>Progress:</b> Respective departments at MoE worked out revised procedures and criteria for the ODS licensing/quota system in line with the Chemicals working procedures at the Ministry. The revised criteria for setting the quota system is developed in consultation with UNEP and is currently being circulated for comments from respective ministries/authorities for enforcement starting Jan-2015. Meanwhile the existing licensing/quota system continues. UNEP assisted NOU to implement specialized training session for local staff at the Ministry to ensure the proper registration/recording/review of ODS shipments documentation and correct reporting of ODS consumption. The workshop was held in April 2013 and another session organized by UNEP after 6 months. UNEP also organized specialized training customs inspectors, who are staff of MoE and located at different ports, about the control of ODS import, use of the advance identification kits and combat illegal trade.</li> <li>3. Local technical and legal departments at MoE to prepare the bylaws and new procedures <b>Progress:</b> This work will start once the new regulation is enacted end of 2014 and other ministries will be invited to comment on the relevant procedures like Ministry of Trade and Customs Authority</li> <li>4. MoE to organize a specialized awareness campaign for launching the new regulation and orient different stakeholders with the updated obligations and procedures</li> </ol>	UNEP

Component	Progress in the Implementation	Responsible Agency
	<p><b>Progress:</b> NOU and UNEP are currently working on developing a comprehensive awareness campaign for outreaching the new regulation once issued. the campaign which will start early 2015 will include:</p> <ul style="list-style-type: none"> <li>- Launching event</li> <li>- Specialized booklet bilingual (E/A) including all procedures and commitments</li> <li>- Series of specialized sessions to different groups i.e. government officials, traders, HVAC consultants, distributors/retailers, industry, large end-users, etc.</li> </ul> <p>The funds available to this component will be used for:</p> <ul style="list-style-type: none"> <li>- Preparing, translating and printing special booklets and documentation</li> <li>- Organization of launching workshop and technical sessions for different groups</li> </ul>	
<p>Developing and operating e-licensing system for control and monitor ODS trade in Qatar. This includes:</p> <ul style="list-style-type: none"> <li>• Development of TORs of the E-Licensing including requirements and needs of H/W &amp; S/W needs assessment as well assessment of local licensing flow-of-work and related procedures. This will be consultancy services and most likely to be split into two contracts one for local needs assessment and one for the system development</li> <li>• Development of the system and tailor it to match local requirements, definitions and procedures</li> <li>• Installation, training of local staff and conducting orientation sessions to importers and local authorities to promote its use</li> </ul>	<p><b>Progress</b> NOU and UNEP held several consultation meetings with the Chemicals Dept at MoE to review the existing process of the E-licensing for chemicals that includes ODS and suggest revision for a comprehensive ODS E-licensing system.</p> <p>MoE is currently implementing a project for revamping the current E-licensing system for the Management of Chemicals and Waste in Qatar and it will include separate section for ODS with different formats/procedures instead of the currently generic ones. UNEP assisted NOU to prepare an outline for the ODS E-licensing system. The system will include an online process for registration, licensing, quota, shipment clearance, monitoring trade and stocks, follow-up and reporting modules for all ODS and ODS-based products.</p> <p>The new system is planned to be completed by 2nd half of 2015 and put into operation by early 2016 after testing the system and facilitate adequate training on it.</p> <p>The funds available to this component will be used for:</p> <ul style="list-style-type: none"> <li>- Training local staff on the new ODS E-licensing system</li> <li>- Organize orientation sessions for the local traders, imported and customs agents on the use of the system</li> </ul>	UNEP
<b>Technical Assistance to the Servicing sector</b>		
<p>Development and introduction of National Standards and Codes including developing of:</p> <ul style="list-style-type: none"> <li>• Labeling requirement.</li> <li>• Record Keeping and reporting requirements.</li> <li>• Standards for equipments and installations operating with HC and Ammonia.</li> <li>• Codes for operating and servicing HC and Ammonia equipment.</li> <li>• Codes for handling and disposal of refrigerants' containers.</li> <li>• Guidelines for the establishment of refrigerants reclamation centers</li> </ul> <p>The above work includes the following costs:</p> <ul style="list-style-type: none"> <li>- Consultancy services for the development of the codes/standards/guidelines @ about US\$ 40,000 cost</li> <li>- Organization of local consultation meetings to review drafts and conclude final versions @ about US\$ 5,000</li> <li>- Orientation Seminars to promote the</li> </ul>	<p><b>Progress</b> NOU, in close cooperation with UNEP, and Standardization Department of Qatar, which is part of MoE, is discussing long term work-plan to review and update national relevant standards and codes. The plan includes:</p> <ol style="list-style-type: none"> <li>1- Forming national dedicated committee to review and update the relevant standards/codes concluded and currently waiting issue of the administrative order of its formation)</li> <li>2- Conduct national workshop for all stakeholders to identify priorities of work (planned beginning of 2015)</li> <li>3-Forming technical groups for each standard to be reviewed/developed (will be concluded after the outcomes of the workshop)</li> </ol> <p>The standards/codes agreed to be considered in the update/development process include:</p> <p>specifications for safety and environmental requirements for cooling systems and air-conditioning</p> <ul style="list-style-type: none"> <li>• Standard for refrigerants designation and compositions.</li> <li>• Standards for refrigerants containers</li> <li>• standards and requirements for labeling</li> <li>• standards and requirements for the recovery and reclamation of refrigerants</li> </ul> <p>A final consultation meeting is planned Sept-2014 to conclude the work-plan and start the work.</p>	UNEP

Component	Progress in the Implementation	Responsible Agency
introduction of the codes/guidelines amongst different stakeholders @ about US\$ 10,000	The funds available to this component will be used for: - Forming, operation and meetings of the technical teams - Organize the national workshop and different stakeholders meetings - International consultancy services to support the work	
Develop national Codes of Good Practice for different R&AC servicing professions and implement an associated certification program for both Qatari and non Qatari technicians. This will include: - Consultancy services for the development of the Code of Good Practice @ about US\$ 20,000 - Development of Certification Program Content i.e. Training Materials and Testing Modules in 2 languages at least (English/Arabic) or (English/Urdu) @ about US\$ 30,000	<p><b>Progress</b></p> <p>Over the last 2 years NOU and UNEP held several consultation meetings with Ministry of Labor, Qatar Technical School, Qatar Society of Engineers and other stakeholders aiming at identifying the best approach to establish the national code of practice for RAC technicians. The national technical institute, which was operational during the preparation of the project, was abolished and its technical departments were either transferred to some colleges or to Qatar technical school.</p> <p>The RAC specialty is no longer part of the curricula of Qatar Technical School due to lack of interest by locals in that profession. Finally, Qatar Petroleum is running a technical training center, which includes the RAC specialty, for its employee and governments/private sectors as well. The issue of the technical center needed to be sorted out prior to the development of the national code in order to have at least a pilot center to implement the certification program in its initial stage.</p> <p>Accordingly, NOU and UNEP agreed to adjusted the work-plan of this component to be as follows:</p> <p>The funds available to this component will be used for: - Forming, operation and meetings of the technical teams - Organize the national workshop and different stakeholders meetings - International consultancy services to support the work</p>	UNEP
National Training Program including: - Train the trainers Workshop for the proper conduction for the national certification program @ about US\$ 25,000 - Pilot Training on Good Practice under the national certification program for 1000 Technicians including training, testing and certification @ about US\$ 80,000	2nd tranche component which will follow after concluding the Code of practice.	UNEP
Specialized technical assistance and training on availability selection of alternatives for different R&AC stakeholders i.e. consultants/consultancy services, contractors, end-users, etc.	<p><b>Progress</b></p> <p>Although this component is 2nd tranche, a new sub-component is added to the technical assistance which is a National Scoping Study for long-term air-conditioning technologies.</p> <p>It was concluded while examining the needs to provide technical assistance to RAC sector in Qatar, that with the boom the country is witnessing in different sectors involved with RAC applications and technologies, there is a need to comprehensively assess potentials, challenges and opportunities of alternatives and future technologies in order to leapfrog high-GWP options and avoid energy penalties due to the harsh climatic conditions and un-suitability of some alternatives to operate efficiently in such ambient.</p> <p>The study will be financially covered by MoE and will be implemented by a national specialized institute while HPMP will contribute to it by covering only the cost of consultancy service for the development of the study ToRs and monitoring the quality of its conduction. Savings from other components are utilized for the consultancy cost since funds of this component is only available at the 2nd tranche</p>	UNEP
<b>National HCFC Reclamation Programme</b>		
Preparation of Tender documents and	UNIDO has recruited the experts and started developing a	UNIDO



Component	Progress in the Implementation	Responsible Agency
evaluation of bids for project implementation.	national action plan with the government of Qatar to establish a national tender for the host of the reclaim center. An assessment survey will be conducted towards 4 quarter of 2014. Based on the assessment and the outcome of the national tender, UNIDO will launch an international tender for the equipment.	
<b>Project Implementation, Monitoring &amp; Verification</b>		
Consultancy services (legal and technical) for project implementation	<p>The consultancy services for supporting the HPMP are not yet utilized by UNEP. However, UNEP &amp; UNIDO conducted 4 missions to Qatar during 2013 (April, Sept) and one mission in March 2014 another planned one in Sept-2014 to support the implementation of the HPMP where the following services/assistance provided:</p> <ul style="list-style-type: none"> <li>- Technical meetings with NOU and MoE officials to set operational work-plan for the HPMP project</li> <li>- Several consultation meetings with different stakeholders involved in the implementation of the HPMP i.e. Customs, Ministry of Labor, Qatar Technical School, Qatar Society of Engineers, Gulf Organization for Industrial Consulting (GOIC), Qatar Foundation, ASHRAE-Qatar and others.</li> <li>- Organization of the HPMP Launch workshop in margins with ASHRAE annual regional conference in Doha (Sept-13). the workshop was attended by around 100 officials from government and the private sector</li> <li>- Special training for local staff at the Ministry to ensure the proper registration/recording/review of ODS shipments documentation hence correct reporting of ODS consumption, along with 2-days training for customs inspectors, who are staff of MoE and located at different ports, about the control of ODS import, use of the advance identification kits and combat illegal trade (April-2013)</li> </ul> <p>There is a delay in signing the country agreement despite of the progress achieved. The delay is because of Change of ODS Officer of Qatar 3 times over the last 4 years in addition to change of the top management of the Ministry of Environment in 2013 (Minister and Under-Secretary) which resulted in a lot of difficulties in making the country contract signed on time. Lately, MoE has started to consider and sign all pending agreements and country contract is expected to be signed by Sept/October 2014 latest after completing the internal legal and administrative review process.</p>	UNEP
Project Implementation, Monitoring	3 workshops have been conducted in Qatar, several meetings have been held with enterprises to discuss the HPMP strategy and to discuss the best options available.	UNIDO
Verification	UNIDO has recruited an International expert to conduct the verification exercise in 3 <sup>rd</sup> Quarter 2014.	UNIDO

## Lessons Learned

- In a country with growing economy and development like Qatar with high reliance on building and construction sector and mega infrastructure project, there is strong need to link the HCFC-phase out strategy with national development strategy in order to reduce the climate impact and leapfrog to low-GWP alternatives and technologies. Agencies and NOU need to raise the level of outreach of the HPMP to high-political levels for appropriate incorporation of the strategy in the National Development Strategy of Qatar, for the next two decades, that was released in 2012.
- Building the capacities of local relevant institutions and experts in Qatar should be addressed within the activities of Stage-II in order to create national capacity capable of assisting local authorities in long-term phase out plans of HCFC;
- Long-term and low-GWP alternatives for high-ambient countries are still being examined, particularly by technology providers and equipment manufacturers. Since Qatar consumes nearly 80% of its consumption in the servicing sector, and is a recipient for the technology not a developer, there is a great risk of the local market

shifting towards high-GWP alternatives which is a trend being witnessed lately not only in Qatar but in the rest of the region. The lesson learned is that NOU and agencies should address the respective sectors as early as possible in a way that can minimize the climate impact on the HCFC phase-out strategy, special technical assistance programs need to be designed in this regard..

- There is high potential to promote the involvement of the national public and private sectors in Qatar in terms of exploring alternatives for Qatar operating conditions. Benefiting of local specialized institutions like Qatar Society of Engineers, Qatar Foundation, ASHRAE, etc. would help a lot in building bridges between private sector and the government and facilitate the consultation process of developing relevant strategies and adoption of them once released.
- With regards to the administrative and implementation related issues, it was noted during the last 4 years that contracts are delayed in being signed by the government which is due to several changes in ODS officers and improper hand-over arrangements. Despite the fact that this is beyond agencies control, it's advisable that both agencies consider long-term contracting arrangements for stage-II which require only amendment/extension between tranches and not new contracting process. It's also worth considering assisting the NOU during the HPMP in maintaining proper and detailed records of the project as well as empowering and building the capacity of the supporting staff to ensure sustainable smooth operation and implementation of the strategy and its related activities.

### 3. The Overarching Strategy

The Government of Qatar is following the Montreal Protocol schedule and has adopted a staged approach to achieve complete phase-out of HCFC by 2030. Stage I of the HPMP proposes to achieve a 10 per cent reduction by 2015. Implementation of Stage I activities of the HPMP in the country is focussing on the phase-out of HCFC-22 and HCFC-141b in the XPS foam sector. Based on 2010 data, 19.5 per cent of the HCFC consumption of Qatar is in the XPS foam sector, with the remainder in the servicing sector.

In order to manage the HCFC-22 service use in the country so that the demand does not shoot up and prolong the service tail, Stage I activities also included designing and implementing activities related to Policy and Regulations, technical assistance to the service sector and an effective recovery and reclaim project.

#### 3.1. HCFC consumption

2012 consumption by substance and distribution by sector/subsector was reported as follows:

Substance	Foam		Refrigeration Servicing	
	MT	ODP T	MT	ODP T
HCFC-22	88.00	4.84	1,380.00	75.90
HCFC-141b			17.41	1.92
HCFC-142b	132.00	8.58		
HCFC-123			35.70	0.71
Total (ODP T)		13.42		78.53
<b>Total (ODP T) for 2012</b>	<b>91.95</b>			

#### 3.2. Information to be collected

Stage II activities, as described in the original HPMP document are as follows:

### Stage II Activities

Stage	Substance/Sector	Activity
Stage II (Up to 2020 corresponds to 35 % of HCFC Baseline)	<b>All HCFC / Policy &amp; Regulation</b>	
		Local Ozone Committee and the legal and technical task forces
		Effective enforcement of ODS Regulation
	<b>HCFC-22 / Technical Assistance to the Servicing sector</b>	
		Implementation of National Standards and Codes
		Early retirement incentive program for large A/C applications
		Technical support on new alternatives and technologies
	<b>HCFC-22 / National HCFC Reclamation Programme</b>	
		Establishment of 2 <sup>nd</sup> Reclamation Center
	<b>All HCFC / HPMP Implementation and Monitoring</b>	
		Operation of Project Management Unit
		Consultancy services (legal and technical) for project implementation
		Monitoring and Verification of HPMP outputs and deliverables

Although Stage II should target 35% reduction by 2020 as set by the Montreal Protocol, the Government and Agencies will study and evaluate the possibility of achieving higher reductions during the preparation of the Stage II HPMP.

The activities for Stage II of the HPMP will build on the achievements of Stage I. The proposed activities and the information to be collected to implement the activities are described below.

**a) All HCFC / Policy & Regulation**

- Review and evaluate activities of the Local Ozone Committee and the legal and technical task forces undertaken during Stage I. Determine tasks to be undertaken during Stage II implementation.
- Review and evaluate policies implemented in Stage I and determine additional policies or need to strengthen existing policies to ensure consumption targets are met. In particular, there will be a focus on equipment and technology.
- Review and evaluate the effectiveness of revised procedures and criteria for the ODS licensing/quota system and how they are being enforced and strengthen the enforcement aspect.
- Operationalise the national certification program which includes HCFCs and alternatives and latest technologies, and establish new certification program for the HVAC contractors and servicing companies/workshop.

**b) HCFC-22 / Technical Assistance to the Servicing sector**

- Evaluate the effectiveness of the national Codes of Good Practice for different R&AC servicing professions and implementation of associated certification program for both Qatari and non-Qatari technicians. Determine what additional activities are necessary to sustain the implementation.
- Conduct a comprehensive survey in the RAC sector to collect HCFC consumption data and equipment details and age, particularly in the large A/C applications, to evaluate and subsequently design an early retirement incentive program for large A/C applications. Conduct a Needs Assessment for the phase-out of HCFC in the commercial refrigeration sectors (stores, transportation and outlets)
- Evaluate new and emerging technologies for their suitability of use in Qatar with inputs from international experts, through workshops and seminars.

- Determine the scope of consultancy, exposure and training on availability of alternatives for different sectors (small, medium, commercial).

**c) HCFC-22 / National HCFC Reclamation Programme**

Conduct a survey to evaluate the effectiveness of the HCFC-22 Reclaim Centre to be established in Stage I with a view to determining if a second Reclaim Centre is required to further reduce the use of virgin HCFC-22 and contribute to the reduction in consumption.

**d) All HCFC / HPMP Implementation and Monitoring**

- Continue supporting the operation of Project Management Unit
- Determine what additional consultancy services (legal and technical) are required for project implementation.
- Monitoring and Verification of HPMP outputs and deliverables

**3.3. Activities proposed under preparation request**

The activities proposed for preparation of the Stage II HPMP for Qatar are described above.

Information need to be compiled during the preparation of stage-II includes:

1. Review and update of the national survey on the HCFC consumption in the different servicing sectors
2. Needs Assessment for the phase-out of HCFC in the commercial refrigeration sectors (stores, transportation and outlets)
3. Review policies, procedures and mechanism related to registering contracting/servicing companies and examine introduction of certification program to HVAC contracting/servicing companies and workshops
4. Examine promoting long-term and low-GWP alternatives and technologies

The project preparation funding requested is as follows:

Activities	Proposed cost	Agency
National Survey of HCFC consumption to assess the technical needs for: <ul style="list-style-type: none"> <li>• proper implementation of the National R&amp;R program</li> <li>• Need for servicing equipment/tools needed by the different servicing sectors</li> </ul> Feasibility of implementing retrofit incentive program for large applications	20,000	UNIDO
<ul style="list-style-type: none"> <li>• Policy review and update and additional regulatory measures if required as described in 3.2 a) above.</li> <li>• Strategy development and consultations/coordination meetings</li> </ul> (This includes country contract and any needed international/national consultancy services)	20,000	UNEP
Strategy development and finalization (consultation meetings, stakeholders workshops, consultancy services etc)	20,000	UNIDO
	<b>60,000</b>	

## Project Concept

**Country:** The State of Qatar  
**Title:** Preparation of feasibility Study addressing District Cooling.  
**Sector:** Central Air-Conditioning (CAC)  
**Project Duration:** 12 months  
**Project Budget:** 30,000 (excluding Agency Support Costs)  
**Implementing Agency:** UNIDO  
**Coordinating Agency:** UNEP  
**National Counterpart:** National Ozone Unit at Ministry of Environment of Qatar

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## Background

The Montreal Protocol on Substances that Deplete the Ozone Layer (MP) was adopted in 1987 to phase-out Ozone Depleting Substances (ODSs) as a result of the agreement established under the Vienna Convention for the protection of the environment from adverse effects of ozone depletion. To date, the MP has been effective and successful in reducing the impact of human activities on the global environment and therefore described as one of the most successful environmental treaty.

One of the reasons for this success is the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) that, since 1991, provides financial assistance to Article 5 countries, or developing countries, to help achieve their phase-out obligations under the MP. Since 1992, UNIDO, as one of the implementing agencies of the Montreal Protocol, assists countries in developing and implementing projects with the aim to phase-out ODSs. So far, UNIDO has implemented over 1217 projects, which contributed to the phase out of 70,287 Ozone Depleting Potential tones (ODPt) of the world's total consumption of ODSs.

## Project Summary

The overall objective of UNIDO and UNEP is to assist the Government Qatar in phasing-out ozone depleting substances while providing additional benefits both for the climate and energy sectors.

The proposed methodology supports the efforts of the Government of Qatar and complements its activities under the HPMP. Further, it provides crucial technical assistance and capacity building measures assuring the country's compliance with obligations under the MP. At the same time it makes an important contribution to the ongoing efforts towards:

- Mitigation of climate change by reducing greenhouse gas (GHG) emission into the atmosphere; and
- Achieving energy efficiency.

Power consumption has been increasing in Qatar due to the increase in population, urbanization and industrialization. Power conservation and management have been investigated by many researchers in Qatar in order to meet the high and increasing demand of electricity. Different measures have been proposed in different sectors in order to conserve the energy consumption. In Qatar approximately 70 % of the total power consumption relates to air-conditioning and refrigeration during summer time. Hence, improving the performance of A/C units has been a subject for investigation. All proposed measures from public awareness to improved performance of the A/C unit are important, however the reduction in power consumption has been minimal so far and the increasing electricity demand in the years to come may even threat Qatar's capability to export oil. Hence, Qatar needs urgently assistance and advice on energy conservation; and district cooling is one of the solutions especially for newly established cities or for large residential compounds.

Whereas district heating is very common, distributed energy (heating and/or cooling) is now being implemented with very good results in terms of energy savings. District cooling can provide a reduction in energy consumption as high as 40 %, compared to individual and stand-alone A/C installations. Also, district cooling gives the opportunity of thermal storages, which will allow for operation during low electricity demand periods (night). In addition, district cooling systems have a longer lifespan than stand-alone A/C units and are more reliable and easier to maintain.

Within the implementation of the High-Ambient project, by UNEP and UNIDO, a specialized symposium for the potentialities of District Cooling systems to reduce dependency on HCFC and high-GWP alternatives was organized in Kuwait in May-2014, the event that gathered key-experts from the region and worldwide concluded and emphasised the important role of District Cooling industry in reducing domestic energy demand for A/C applications plus promoting long-term alternative technologies. The event also concluded that there are shortages of the specialized focussed studies in this regards that can deeply investigate options, suggest solutions and recommend policy measures.

On behalf of The Government of Qatar, UNIDO and UNEP are requesting Project Preparation Funds to undertake a comprehensive feasibility study assessing the most suitable technology for district cooling, legalization barriers, energy saving mechanisms, Governmental Co-financing mechanism, including the possibility of reducing energy subsidies. Further, there will be a need to hold several stakeholder consultation meetings with the industry and the involvement of the Government to show case the result of the feasibility study.

The requested funding level of USD 30,000 is fully in compliance with ExCom Decision 72/40.

The distribution of funds between UNIDO and UNEP is as follows:

Description	Activity Type	Responsible agency	Costs in (USD)
International Expert	Assessment of suitable technologies	UNIDO	15,000
	Energy saving mechanisms		
Workshop for national policy-makers and Consultancy service by a National Expert	Legalization Barriers	UNEP	10,000
	Development of terms of reference of comprehensively assessing the governmental Co-financing mechanism, including the possibility of reducing energy subsidies		
Preparation and Dissemination of final Feasibility Study	Develop through lesson learned a (check-list)	UNIDIO	5,000
	Dissemination of final feasibility study		
<b>Total</b>			<b>30,000</b>

**Project Concept**  
Investment Component submitted by UNIDO

Country: **Yemen**  
 Title: **Preparation of stage II of HCFC phase-out management plan (HPMP) of Yemen (Investment Component)**  
 Project Duration: **24 months**  
 Project Budget: **80,000 (excluding Agency Support Costs)**  
 Implementing Agency: **UNIDO**  
 Lead Agency: **UNEP (submitting separately Non-Investment & Monitoring Component)**  
 National Counterpart: **National Ozone Unit at Environment Protection Authority (EPA) of Yemen**

## 1. Background

The Executive Committee (ExCom) of the Multilateral Fund (MLF) of Protocol Montreal approved, in its 68th meeting, Stage-I of the national strategy of Yemen for phasing out Hydrochlorofluorocarbons (HCFC) named the HCFC Phase-out Management Plan (HPMP).

The first tranche of the HPMP project, as approved by the ExCom, incorporate balances from the project of National Phase-out Plan (NPP) of Yemen which corresponds to total of remaining balances from the 2 tranches of the NPP project of Yemen.

The phase-out commitments (targets) and funds allocations for each implementing agency across Stage-I (2013-2015) are included in below table.

Row	Particulars	2011	2012	2013	2014	2015	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	158.20	158.20	142.38	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	158.20	158.20	134.47	n/a
2.1	Lead IA UNEP agreed funding (US \$)		\$215,000		\$165,000		\$380,000
2.2	Support costs for Lead IA (US \$)		\$27,950		\$21,450		\$49,400
2.3	Cooperating IA UNIDO agreed funding (US \$)		\$410,000		0		\$410,000
2.4	Support costs for Cooperating IA (US \$)		\$28,700		\$0		\$28,700
3.1	Total agreed funding (US \$)		\$625,000		\$165,000		\$790,000
3.2	Total support costs (US \$)		\$56,650		\$21,450		\$78,100
3.3	Total agreed costs (US \$)		\$681,650		\$186,450		\$868,050
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)						62.18
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)						0
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)						93.92
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)						1.10
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)						0.00
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)						0.00
4.3.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)						0.00
4.3.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)						0.00
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)						1.00
4.4.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)						0.00

4.4.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)	0.00
4.4.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)	17.55

The balances remaining from the PRP funding approved for UNEP and UNIDO for the preparation of the HCFC Phase-Out Management Plan (HPMP) of Yemen are given below.

MFS Project Code	Agency	Approved Funding	Funds Returned	Comment
YEM/FOA/63/P	UNIDO	60,000	48,665	Returned to 72nd ExCom
YEM/PHA/55/PRP/29	UNIDO	70,000	1,156	Returned to 72nd ExCom
YEM/PHA/55/PRP/30	UNEP	125,000	(108,600)*	Returned to 72 and 73 ExCom

\* The large returned amount of fund is due to expiry of the country contract signed in at the start of the HPMP preparation without disbursing any payment to the country and inability to issue new contract to pay backdated completed activities after the submission and approval of the HPMP. NOU already used the services of local survey team during the preparation of Stage and had to compensate them partially from the IS resources.

The country endorsement letter for the preparation of Stage-II is enclosed with the UNEP submission.

## 2. Progress in the implementation of the stage I

#	Component	Progress in the implementation	IA
	<b>Policy Update and Enforcement</b>		
A	Supply of Identification sets: Supply of 12 identifiers at the 1st tranche using funds from the E-licensing component i.e. US\$ 45,000.	The process of supply of the refrigerants identifiers is started by UNEP and identifiers should arrive the country by end of 2014 latest	UNEP
B	Training Programme for 500 Officials (customs and other authorities) including Master Training+ Agreement with National Customs Institute (Training of 500 Officials through 25 training sessions @ US\$ 4,000 per session) (US\$ 2,000 cost to trainers/organizing committee personnel per session + US\$ 2,000 organization cost per each session), 20 sessions will be organized in 1st tranche and 5 sessions in 2nd tranche of HPMP@[Utilizing US\$ 20,000 out of the remaining balances of US\$82,788 of NPP 1st tranche, pursuant to understandings reached between MLFS and UNEP to use such recourses till end of 2014]	NOU in consultation with Customs Authorities and Yemen Standardization, Metrology & Quality Control Organization as well as Environment Protection Authority Branches in Governorates laid out a work plan to train 420 officials with the resources available in the 1 <sup>st</sup> tranche through 25 training sessions over the period of 2014-2015. The training program will start after signing the country contract with UNEP and release the first payment.	UNEP
	<b>Technical Assistance for Servicing Sector</b>		
A	National Campaign to combat fake/counterfeit refrigerants including supply of identification equipment to local market, training and hand-on sessions to specialists, traders and technicians as well as specialized awareness campaign (Equipment to be supplied by UNIDO).	NOU prepared a work-plan for the national campaign that includes the following: <ul style="list-style-type: none"> <li>Field Investigations on counterfeits cases of refrigerants &amp; analysis of such information</li> <li>Designing &amp; Printing of awareness messages depending on information collected</li> <li>Designing and execution of the Awareness Campaigns</li> <li>Designing &amp; printing of HCFCs quota &amp; licensing systems documents</li> <li>Launching of HCFCs licensing system on the level of each custom point (at least 2 persons will stay at each Custom Point for 10 days or more as the case needed)</li> </ul> The campaign will start after signing the country contract with UNEP and release the first payment.	UNEP



#	Component	Progress in the implementation	IA
B	<p><b>Fisheries Help-Center:</b> Technical Support to Fisheries sector including training, consultancy and technical assistance in minimizing leaks and selecting technologies</p>	<p>It was agreed between UNEP and NOU to use resources available in the 1<sup>st</sup> tranche to upgrade the capacity of local master trainers in Fisheries specialized training and develop dedicated materials in cooperation with reputable institute/firm. UNEP finalized a terms of reference for the task and identified an international consultant for the training. UNEP is currently negotiating with a training institute in Europe to host the training outside Yemen due to situation in the country. The selected institute is well equipped with relevant commercial refrigeration support training aids preferably related to the fisheries industry.</p> <p>The training program planned to be completed during first half of 2015.</p>	UNEP
C	<p>On-site Training Programme for 350 servicing companies/workshops in 15 provinces through 10 master trainers as continuation to the training program under the NPP with focus on HCFC related aspects (Total of 63 on-site sessions in 21 provinces @ US\$ 2,000 per session out of which US\$ 1,000 for personnel incentives and US\$ 1,000 for organizational cost only 48 session will be under 1st tranche and remaining 15 sessions will be at the 2nd tranche of the HPMP) [Utilizing US\$ 62,788 out of the remaining balances of US\$82,788 of NPP 1st tranche, pursuant to understandings reached between MLFS and UNEP to use such recourses till end of 2014]</p>	<p>NOU prepared a work-plan for the On-site Training Programme for Refrigeration Technicians that includes the following:</p> <ul style="list-style-type: none"> <li>• Master training for 10 Trainees</li> <li>• Ten on-site trainings in Sana'a and other 4 nearby provinces</li> <li>• Ten on-site trainings in Aden and other 3 nearby provinces</li> <li>• Eight on-site trainings in Hodiedah and other 3 nearby provinces</li> <li>• Eight on-site trainings in Mukalla and other 2 nearby provinces</li> <li>• Seven on-site trainings in Sayun and other 2 nearby provinces</li> <li>• Seven on-site trainings in Taiz and Ibb provinces</li> </ul> <p>The campaign will start after signing the country contract with UNEP and release the first payment.</p>	UNEP
	<p>Manage counterfeited refrigerants; supply of 100 units of identifiers (simple) @ \$ 1500 each</p>	<p>It was decided to purchase 20 advanced and 50 basic units Purchase Order signed 16 March 2014 for:</p> <p>20 pc Advanced Portable Refrigeration Identifiers – Model ULTIMA ID PRO RI-700 including Kit</p> <p>50 pc Portable Refrigeration Identifiers without printer - Model ULTIMA ID RI-2004-DX including Kit</p> <p>Delivered to Sana'a as of 6 August 2014, cleared through the customs on the same day and stored at the NOU</p>	UNIDO
	<p>Strengthening R&amp;R operation building on RMP/NPP:</p> <ul style="list-style-type: none"> <li>- Upgrade of 85 R&amp;R units supplied under RMP to handle HCFC-22 @ \$ 200 each</li> <li>- Supply of 200 Recycle Kits @ \$ 200</li> <li>- supply of additional 100 vacuum pumps @ \$ 300</li> <li>- Supply of 400 recovery cylinders (30 lb) @ \$ 100 each</li> </ul>	<p>Purchased leftover of 66 pc from the producer. No more upgrade kits commercially available.</p> <p>Purchase Order signed 18 March 2014 for:</p> <p>66 pc Upgrade Kit RR750 SP1</p> <p>66 pc Inlet filters for Upgrade Kit</p> <p>66 pc Filter drier for Upgrade Kit</p> <p>Delivered to Sana'a as of 6 April 2014, cleared through the customs on 29 May 2014 and stored at the NOU</p> <p>It was decided to purchase 100 recycle kits only</p> <p>Purchase Order signed 25 February 2014 for:</p> <p>100 pc External Filter Kits EK-63</p> <p>100 pc Double Stage Vacuum Pump VE-245 including 3 litres of spare VP oil</p> <p>Delivered to Sana'a as of 6 August 2014, cleared through the customs on the same day and stored at the NOU</p> <p>It was decided not to purchase this item since there is sufficient stock in the country from the NPP project. Funds</p>	UNIDO

#	Component	Progress in the implementation	IA
	- Supply of 2000 Acid test kits @ \$ 25 each	were relocated to identifiers to cover the increased cost.  It was decided to as a pilot purchase 100 pcs in order to test the acceptance by the sector Purchase Order signed 17 March 2014 for: 100 pcs Acidity Test Kits each composed of Model 45002 and Model 45006 Delivery to Sana'a expected as of mid-September 2014, custom clearance in preparation	
	Minimizing unnecessary emissions of R-22 and R-141b during servicing and facilitating retrofitting good practice through supply of 100 flushing units @\$650 each including specialized training on best, safe and sound environmentally cleaning/flushing practices and techniques	It was decided to as a pilot purchase 10 pcs in order to test the acceptance by the sector Purchase Order signed 17 March 2014 for: 10 pc Flushing Unit WKL-301 each incl. 5 drums of 5 litres of flushing liquid STAGFLUSH 10 pcs Contamination Detector Kit each incl. 5 units of 3 tube sets per type of detection Delivery to Sana'a expected as of mid-September 2014, custom clearance in preparation	<b>UNIDO</b>
	Storage and Distribution	Items cleared through the customs stored at NOU and prepared for distribution	<b>UNIDO</b>
<b>Project Implementation and Monitoring</b>			
<b>A</b>	Project implementation, management and coordination incl. monitoring and reporting (including verification at end of 1st tranche)	Since approval of the HPMP of Yemen by the 68 <sup>th</sup> ExCom (Dec-2012), UNEP/UNIDO tried to visit Yemen for developing the detailed work-plan and agree on the contractual arrangements. However, due to situation in the country both agencies couldn't get a security clearance for visit. Alternatively, several attempts made to meet the NOU of Yemen outside Yemen for finalizing the needed preparatory to start the HPMP.  Finally, UNEP and UNIDO managed to set a meeting with NOU at UNEP office in Bahrain (Nov-2013) where a work-plan was agreed. While UNIDO managed to start the procurement of the tools/equipment as per the HPMP approval, UNEP and the Country struggled to review the contractual arrangement given the new legal instrument that UNEP started to apply over the last couple of years.  The country contract is now under signature and first payment expected to be released by Sept-2014 which should enable the country to start the implementation on ground.  NOU prepared a plan to start work utilizing the service of local team to manage and monitor the implementation in different governorates under the supervision of NOU.	<b>UNEP</b>

### 3. The overarching strategy

#### Overarching Phase-out Strategy

A major part of Yemen's HCFC consumption is in the servicing sector. For Yemen to be able to achieve the 2013 freeze and then the 10% reduction in 2015, the over-arching strategy has put emphasis in Stage I on reduction of emissions from the servicing sector. Activities under Stage I have been designed to address the use of HCFCs in this sector through a combination of policy enforcement, curbing illegal trade with refrigerants and refrigeration training & assistance to servicing sector.

Under the subsequent Stages II and III, it is proposed to assist the commercial refrigeration equipment manufacturers to shift away from R-22 as the refrigerant and from R-141b in pre-blended polyol for foam insulation. This is expected to be achieved through conversion to technically mature and commercially

available technologies with zero ODP and low GWP.

With the country struggle to recover from recent political instability started in 2011, institutional activities in Yemen are still to reach normality. However, the government of Yemen showed commitments to the continuation of implementing ODS phase-out strategies and comply with the Montreal Protocol including the agreement between Yemen and the Executive Committee for the implementation of the HPMP.

The HPMP of Yemen includes the below Staged-approach targets:

### **Stage I**

As mentioned earlier, more than 99% of Yemen's HCFC consumption is in the servicing sector and this needs to be addressed immediately and continuously throughout the Phase Out stages. The progress in implementation of Stage I activities was discussed in Part 2. above.

### **Stage II**

For Stage II, evaluation of available technologies of non HCFC based refrigeration and insulation foam will be done and the feasibility of projects for the commercial refrigeration manufacturers will be assessed. It is hoped that commercially viable alternatives for small AC units will be available and the use of HCFC-22 in new / imported small units can be prohibited. Continuation of work in the service sector will be needed through strengthening the containment measures introduced in Stage I. If appropriate and necessary, reclaim centres will be established. Details of relevant activities shall be developed by the end of Stage I. In addition to that, by the middle of Stage II the country will start focusing on encouraging early retirement of large HCFC based applications particularly for commercial refrigeration and fisheries sectors where potential retrofitting programs will be included in stage-II of the HPMP.

**For Stage III**, it is expected that natural attrition with continued replacement by non-HCFC equipment and application of constantly declining quotas will reduce the demand and permit reductions consistent with the obligations.

## **3.1. HCFC consumption**

The 2013 consumption by substance and distribution by sector/subsector reported by the country as follows:

**Table 3.1.** HCFC Consumption by substance and sector in 2013

Substance	Foam		Refrigeration Servicing		Refrigeration Manufacturing	
	MT	ODP T	MT	ODP T	MT	ODP T
HCFC-22			2015.29	110.84	23.82	1.31
HCFC-141b			7.79	0.8569		
HCFC-142b	23.73	1.54				
HCFC-141 in pre-blended	143.46	N/A				
Total (ODP T)		1.54		111.7		1.31
<b>Total (ODP T) for 2013</b>	<b>114.55</b>					

The consumption in servicing sector continues to be dominant compared to the overall consumption of HCFC in Yemen. HCFC-22 is the major HCFC being used for different types of applications and demand need for servicing expect to increase given the repair needs associated with recovering from the local instability which is combined with violence and aggression in some areas. However, detailed assessment would need to be made during the preparation of Stage-II in order to reassess the servicing sectors given the development in the last 3 years.

The remaining consumption legible for funding as set by the agreement between the Yemen and the Executive Committee is as per Appendix-2 of the Agreement and summarized below.

**Table 3.2.** Remaining consumption eligible for funding as per Appendix 2 of the Agreement

Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)	62.18
Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)	0
Remaining eligible consumption for HCFC-22 (ODP tonnes)	93.92
Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)	1.10
Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)	0.00
Remaining eligible consumption for HCFC-141b (ODP tonnes)	0.00
Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)	0.00
Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)	0.00
Remaining eligible consumption for HCFC-142b (ODP tonnes)	1.00
Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)	0.00
Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)	0.00
Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)	17.55

The table below demonstrates the enterprises in the manufacturing sector that were identified in the HPMP document but that would have to be considered for Stage-II.

**Table 3.3.** Use of HCFC-141b in Pre-Blended Polyol for Insulation Foam

No	Company Name	Notes	2007	2008	2009	2010	2011
			R-141b use (kg)	R-141b use (kg)	R-141b use (kg)	R-141b use (kg)	R-141b use (kg)
1	Sterco	2 <sup>nd</sup> Conversion	4,600	5,200	6,200	8,600	3,660
2	Nagman		5,400	6,500	7,000	9,000	3,835
3	Alma'azabi	Need conversion surely	1,200	1,500	1,800	2,400	1,020
4	Altag Sana'a		6,000	7,000	10,500	11,000	4,690
5	AITag Aden		7,000	8,000	12,500	13,000	5,500
6	Sat Factory		28,000	30,000	45,000	61,000	24,000
7	Alarab & Al-Alam	United in UCRA for conversion to HC under NPP	0	0	0	0	0
8	Makah Factory		0	0	0	0	0
9	Specyal Factory		0	0	0	0	0
10	Almadenah Factory		0	0	0	0	0
11	Almukalah Factory		0	0	0	0	0
12	Shamsan		0	0	0	0	0
13	Cristal		0	0	0	0	0
14	Al-Hayat Factory	Converted to R-141b under NPP	0	0	0	0	0
15	Al-Naser Factory		0	0	0	0	0
16	Badeeb (Al-Bahr)		0	0	0	0	0
17	Super Steel Factory	These are PU producers need to be checked under the preparation project.	950	1,125	1,500	2,100	895
18	Masteel Factory		800	1,200	1,440	3,000	1,275
19	Al- Aggi Star		600	900	1,800	2,700	1,150
20	Al-Azab		10,000	20,000	23,500	26,000	11,075
21	Alsharafee		20,000	25,000	27,000	30,000	12,780
22	Bamco		17,650	21,000	23,400	27,900	12,870
23	Delta		6,000	7,000	9,000	11,000	5,000
24	Al-Zoom		18,000	20,000	23,000	26,000	11,700

No	Company Name	Notes	2007	2008	2009	2010	2011
			R-141b use (kg)	R-141b use (kg)	R-141b use (kg)	R-141b use (kg)	R-141b use (kg)
25	Akhwan Thabet		600	400	300	200	1,000
26	Abo- Hashem		750	1,100	1,300	1,900	700
27	Binta		0	0	0	0	0
<b>Total in MT</b>			<b>117.55</b>	<b>144.23</b>	<b>182.04</b>	<b>218.20</b>	<b>93.66</b>

There are 27 commercial equipment manufacturers using HCFC-141b in pre-blended polyol for insulation purposes. Their total consumption in 2013 was 143.46 MT.

### 3.2. Activities and funding proposed under preparation request

The activities for Stage II of the HPMP will build on the achievements of Stage I. The proposed activities and the information to be collected to implement the activities are described below.

- a) **All HCFC / Policy & Regulation**
- b) **HCFC-22 / Technical Assistance to the Servicing sector**
- c) **All HCFC / HPMP Implementation and Monitoring**

The a)-c) above are covered by the non-investment component for which preparatory request is submitted separately by UNEP.

- d) **Investment Activities (submitted under UNIDO WPA)**
  - Address the needs for the remaining PU foam phase-out users including spray foam and manufacturing facilities.
  - Assess the needs for phase-out of HCFC in the commercial refrigeration sector including
    - Large end-users
    - Small & Medium scale manufacturers of commercial refrigeration units
  - Assess the feasibility of establishing national reclamation program for refrigerants with focus on HCFC including a pilot program in some nearby manageable governorates.

The activities proposed for preparation of the Stage II HPMP for Yemen under the investment component are described above. The project preparation funding requested is as follows:

**Table 3.4.** Project preparatory funding request (submitted under UNIDO WPA)

Activities	Proposed cost	Agency
Preparation for investment project in foam and commercial refrigeration industry <ul style="list-style-type: none"> <li>• Update on the consumption in the manufacturing sector companies of R-141b pre-blended with polyol</li> <li>• Update on the eligibility of the companies vis-à-vis ownership and date of establishment</li> <li>• Assess feasibility of non-HCFC conversion technologies in PU foam and refrigeration equipment manufacturing with regard to commercial availability of climate-friendly alternatives</li> <li>• Assess feasibility of non-HCFC environmental friendly conversion technologies in spray foam/insulation</li> </ul>	<b>80,000</b>	UNIDO

## Project Concept

<b>Country:</b>	<b>Armenia</b>
<b>Title:</b>	Extension of Institutional Strengthening for the implementation of Montreal Protocol in Armenia – Phase IV
<b>Project Duration:</b>	24 months (April 2015 – March 2017)
<b>Project Budget:</b>	120,000 (excluding \$US 8,400 representing 7 % Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	Ministry of Nature Protection/ National Ozone Unit

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## Project Summary

The project aims at **institutional strengthening and capacity building of the** Ministry of Nature Protection/ National Ozone Unit and will ensure helping the Government meet its obligations under the Montreal Protocol on the substances that deplete the Ozone Layer, with a specific focus on HCFCs control.

In this context, the National Ozone Office will be assisted in monitoring and identification of Ozone-depleting substances consumption and up-dating the needed national policies and regulations.

The National Ozone Unit (NOU) working within the Ministry of Nature Protection, namely within the Department of Environmental Protection, is the responsible organism in the country to carry out the activities related to the Montreal Protocol. Its activities are supervised by the First Deputy Minister of Nature Protection and the National Ozone Focal Point.

The National Ozone Unit within the Ministry of Nature Protection of Armenia (MNP) is responsible for and oversees the implementation of the project in accordance with the objectives and activities. The NOU actively cooperate with ministries and inter-ministerial bodies as well as with advisory groups such as NGOs, RAC and others.

## Project Concept

<b>Country:</b>	<b>Syrian Arab Republic</b>
<b>Title:</b>	Extension of Institutional Strengthening for the implementation of Montreal Protocol– Phase V
<b>Project Duration:</b>	24 months (January 2015 to December 2017)
<b>Project Budget:</b>	120,000 (excluding US\$ 8,400 representing 7 % Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	NOU / Ministry of State for Environmental Affairs

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## Project Summary

The project aims at **institutional strengthening and capacity building of the** National Ozone Unit and will ensure helping the Government meet its obligations under the Montreal Protocol on the substances that deplete the Ozone Layer.

This project proposal will support the government structure responsible for ODS phase-out, the Ozone Unit (OU) for a period of 2 years of operation, to enable better control on the HCFCs phase-out process

It will ensure improved capacity of national OU, by allowing

- to further assure sustainability of the 100 % phase-out of CFCs, Halons, Carbon Tetrachloride and Methyl Chloroform through awareness activities development
- to ensure the overall national coordination for the on-going HCFCs phase-out process in Syria
- to promote the national HCFCs legislative measures to enable Syrian Arab Republic to meet the the 2015 ten percent reduction target of HCFCs consumption
- to improve the national monitoring system by extending its control on HCFCs
- to continue the cooperation with all parties to the Montreal Protocol and Participating in relevant meetings (MOP, OEWG, regional network meeting and other relevant joint meetings on Montreal Protocol related issues)

## Project Concept

<b>Country:</b>	<b>Mexico</b>
<b>Title:</b>	Extension of Institutional Strengthening for the implementation of Montreal Protocol in Mexico – Phase XII
<b>Project Duration:</b>	24 months (January 2015 to December 2017)
<b>Project Budget:</b>	247,000 (excluding US\$ 17,290 representing 7 % Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	SEMARNAT (Environment Ministry)

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## Project Summary

The project aims at **institutional strengthening and capacity building of the** National Ozone Unit in Mexico and will ensure helping the Government meet its obligations under the Montreal Protocol on the substances that deplete the Ozone Layer.

The NOU in México is considered as an integral part of the General Direction of Air Quality Management, and has a full commitment with the national administration, and has a direct contact with the vice ministry for environmental protection, mainly in order to direct the policies, strategies and priorities for México in the ozone layer protection activities.

NOU Mexico will continue to play a key role in achieving the HCFCs agreed phase-out schedule. The programme of activities relating to the Montreal Protocol forms part of Mexico's commitment to phase out the consumption of ODSs in a controlled and cost-effective manner. The National Ozone Unit is part of the Environmental and Natural Resources Secretariat (SEMARNAT) and cooperates closely with the General Directorate for Air Quality Management and Public Release and Transfer Registry. The Ozone Unit is the focal point for Montreal Protocol activities. The activities of the NOU are included in the governmental system called DAS-G. The NOU mainly coordinates the whole Montreal Protocol programme in the country and prepares the basis for legislative and regulatory measures to be adopted by the responsible government authorities with a view to the HCFCs phase-out targets.

The NOU is responsible for monitoring the ODS import and consumption data and has for this purpose developed the Information and Monitoring System (SISSAO). The OU will follow-up with priority the issue of initiating measures to improve the HCFCs control, to achieve the 10% reduction target in 2015 and to implement projects and quota system to allow meeting the 30% reduction target in 2018, as per the approved phase-out schedule in the HPMP.



## Project Concept

<b>Country:</b>	<b>Guatemala</b>
<b>Title:</b>	Verification reports of national consumption targets
<b>Project Duration:</b>	12 months
<b>Project Budget:</b>	US\$ 30,000 (excl. 7% Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	MARN - NOU

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### Project Summary

#### 1. Background

Funding requirement for the preparation of verification report of national program is being requested in accordance with UNEP/OzL.Pro/ExCom/72/22.

The HCFC Phase-out Management Plan for Guatemala was approved in July 2011 at the 64<sup>th</sup> Meeting of Executive Committee of the Multilateral Fund for the implementation of the Montreal Protocol. The project was approved in accordance with the Agreement between the Government and the Executive Committee for the period 2011 to 2020 to meet the 35 per cent reduction in HCFC consumption, and on the understanding that US\$332,500 was provided to address HCFC consumption in the refrigeration servicing sector to reach up to and include the 35 per cent reduction in 2020 in line with decision 60/44; US\$109,637 was provided for the investment component for the phase-out of 1.4 ODP tonnes of HCFC-141b used in the foam sector.

Decision 72/22: *'The Executive Committee decided to request relevant bilateral and implementing agencies to include in their respective amendments to the work programmes for submission to the 73<sup>rd</sup> meeting funding for verification reports of national consumption targets for the HCFC phase-out management plans for Angola, Armenia, Bhutan, Burundi, Cambodia, Chad, **Guatemala**, Haiti, Honduras, Lesotho, Maldives, Myanmar, Namibia, Nicaragua, Papua New Guinea, Paraguay, and the Republic of Moldova.'*

## Project Concept

<b>Country:</b>	<b>Honduras</b>
<b>Title:</b>	Verification reports of national consumption targets
<b>Project Duration:</b>	12 months
<b>Project Budget:</b>	US\$ 30,000 (excl. 7% Agency Support Costs)
<b>Implementing Agency:</b>	UNIDO
<b>Coordinating Agency:</b>	UTOH SERNA - NOU

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## Project Summary

### 1. Background

Funding requirement for the preparation of verification report of national program is being requested in accordance with UNEP/OzL.Pro/ExCom/72/22.

The HCFC Phase-out Management Plan for Honduras was approved in April 2011 at the 63<sup>rd</sup> Meeting of Executive Committee of the Multilateral Fund for the implementation of the Montreal Protocol. The project was approved in accordance with the Agreement between the Government and the Executive Committee for the period 2011 to 2020 to meet the 35 per cent reduction in HCFC consumption, and on the understanding that US\$ 630,000 was provided to address HCFC consumption in the refrigeration servicing sector to reach up to and include the 35 per cent reduction in 2020 in line with decision 60/44.

Decision 72/22: *'The Executive Committee decided to request relevant bilateral and implementing agencies to include in their respective amendments to the work programmes for submission to the 73<sup>rd</sup> meeting funding for verification reports of national consumption targets for the HCFC phase-out management plans for Angola, Armenia, Bhutan, Burundi, Cambodia, Chad, Guatemala, Haiti, Honduras, Lesotho, Maldives, Myanmar, Namibia, Nicaragua, Papua New Guinea, Paraguay, and the Republic of Moldova.'*