



**United Nations  
Environment  
Programme**

Distr.  
GENERAL

UNEP/OzL.Pro/ExCom/73/29  
14 October 2014

ORIGINAL: ENGLISH



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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

**WORLD BANK's WORK PROGRAMME AMENDMENTS FOR 2014**

## COMMENTS AND RECOMMENDATION OF THE FUND SECRETARIAT

1. The World Bank is requesting approval from the Executive Committee of US \$1,149,193 for its 2014 work programme amendments, plus agency support costs of US \$80,443 listed in Table 1. The submission is attached to this document.

**Table 1: World Bank'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 (IS) project</b>			
Jordan	Renewal of institutional strengthening (phase XI)	147,333	147,333
Subtotal for A1		147,333	147,333
Agency support costs (7 per cent for institutional strengthening):		10,313	10,313
Total for A1		157,646	157,646
<b>A2: Project preparation</b>			
Philippines (the)	Preparation of a HCFC phase-out management plan (stage II) (overarching strategy)	90,000	90,000
	Preparation for HCFC phase-out investment activities (stage II) (air-conditioning sector)	150,000	150,000
Subtotal for A2		240,000	240,000
Agency support costs (7 per cent for project preparation):		16,800	16,800
Total for A2		256,800	256,800
<b>SECTION BY: ACTIVITIES RECOMMENDED FOR INDIVIDUAL CONSIDERATION</b>			
<b>B1: Project preparation</b>			
China	Preparation for HCFC phase-out investment activities (stage II) (polyurethane) (PU) (foam)	412,500	*
	Preparation of a HCFC production phase-out management plan (HPPMP) (stage II)	349,360	*
Subtotal for B1		761,860	
Agency support costs (7 per cent for project preparation):		53,330	
Total for B1		815,190	
Grand total (A1, A2 and B1):		1,229,636	414,446

\*Project for individual consideration.

### SECTION A: ACTIVITIES RECOMMENDED FOR BLANKET APPROVAL

#### A1: Renewal of institutional strengthening project

##### Project description

2. The World Bank submitted the request for the renewal of the IS project for the country listed in Table 1. The description for this project is presented in Annex I to the present document.

##### Secretariat's comments

3. The Secretariat reviewed the request for the renewal of one IS project submitted by the World Bank on behalf of the above-mentioned Government against the guidelines and relevant decisions regarding eligibility and funding levels. The request was 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 plan (HPMP), the agency's progress report, and any relevant decisions of the Meeting of the Parties to the Montreal Protocol. It was noted that the country is in compliance with the ODS phase-out targets under the Montreal Protocol and has also submitted its country programme implementation report for 2013.

**Secretariat's recommendation**

4. The Secretariat recommends blanket approval of the IS renewal request for Jordan at the level of funding indicated in Table 1. The Executive Committee may wish to express to the Government the comments which appear in Annex II to the present document.

**A2: Project preparation**

Philippines (the): Preparation for HCFC phase-out investment activities (stage II) (air-conditioning sector) (US \$150,000)

Philippines (the): Preparation of a HCFC phase-out management plan (stage II) (overarching strategy) (US \$90,000)

**Project description**

5. The World Bank submitted a request for the preparation of stage II of the HPMP for the Philippines at the level of funding indicated in Table 1.

**Secretariat's comments**

6. In reviewing these requests, the Secretariat took into account the guidelines for funding the preparation of stage II of the HPMPs for Article 5 countries as contained in decision 71/42, reviewed stage I of the HPMP documents and noted the status of implementation of the HPMP as at the time of preparing the present document.

7. The Secretariat sought explanation for the request for preparatory funding for the refrigeration and air-conditioning sector (RAC), which had already been provided preparatory funding for stage I (for both the World Bank and UNDP), but not included in the final HPMP for stage I; clarification on why a separate project preparation request was being submitted for the refrigeration servicing sector for (US \$50,000) in the original submission when this should be part of the overarching strategy preparation; and a confirmation on what would be the target phase-out to be achieved for stage II of the HPMP in line with decision 72/18.

8. In response, the World Bank confirmed that stage II of the HPMP will address up to the 35 per cent reduction target in 2020 under the Montreal Protocol. The World Bank also explained that for the RAC sector, the funding of US \$60,000 that was approved for the World Bank for the RAC sector was returned in full at the 67<sup>th</sup> meeting. The funding for UNDP was utilized to undertake a survey of the sector, the report of which was included in the stage I HPMP submission. As the only agency responsible for the implementation of stage II in the Philippines, the World Bank needs to collect additional information to cover the complete RAC sector, update and verify the data already collected, identify baseline information for eligible enterprises, and develop proposals to convert these enterprises.

9. The World Bank reiterated the need for project preparation funds for the servicing sector, taking into account the consumption of HCFCs in the sector. However, in further discussion with the Secretariat, it agreed to develop the servicing sector within the overarching one, as has been done for stage I, and removed this request from their work programme.

10. A detailed costing for the activities for the RAC sector and the overarching strategy was provided by the World Bank. The Secretariat concluded that this costing met the requirements of decision 71/42.

### **Secretariat's recommendation**

11. The Fund Secretariat recommends blanket approval of the requests of the World Bank for project preparation for the HCFC phase-out management plan/HCFC phase-out investment activities (stage II) for the Philippines at the level of funding indicated in Table 1.

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

### **B1: Project preparation**

#### China: Preparation for HCFC phase-out investment activities (stage II) (PU foam) (US \$412,500)

#### **Project description**

12. The World Bank submitted a request for the preparation of investment activities related to stage II of the HPMP for the PU foam sector at a cost of US \$412,000, as originally submitted in line with UNDP's work programme amendments for 2014<sup>1</sup>.

13. Details of the activities that will be undertaken during the project preparation for this sector was provided in line with decision 71/42. Stage II of the HPMP for the PU foam sector will focus on two sub-sectors, solar water heaters and pipe insulation, as there are proven alternative technologies in these sub-sectors. The request together with other sector plans will enable China to meet the 35 per cent reduction target under the Montreal Protocol, and is envisaged to phase out 8,588 metric tonnes of HCFC-141b used in the PU foam sector.

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

14. In reviewing this request, the Secretariat took into account the guidelines for funding the preparation of stage II of the HPMPs for Article 5 countries as contained in decision 71/42, a review of stage I of HPMP documents as well as the status of implementation of the HPMP as at the time of preparing the present document. The Secretariat also noted that the World Bank received US \$685,000 at the 55<sup>th</sup> meeting for the preparation of a sector plan for the PU foam sector as part of stage I of the HPMP for China.

15. The activities included in the project preparation are policy reviews, workshops, surveys, consultations, preparation of the sector plan and implementation modality, and review of the results. A detailed costing for these activities was provided by the World Bank.

16. In its response regarding the policy aspect of the project preparation request, the World Bank explained that it is necessary in stage II to analyze how the policies on limiting HCFC consumption and prohibiting expansion of capacities were enforced at the local level, and determine their impact on the PU foam sector, which will address small and medium-sized enterprises (SMEs).

17. With regard to additional information that needs to be gathered for stage II, the World Bank mentioned that the solar water heaters and pipe insulation sub-sectors were not addressed in stage I. The new survey will cover a high proportion of SMEs which needs more resources and time to survey, thereby justifying the funding requested.

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<sup>1</sup> Document UNEP/OzL.Pro/ExCom/73/26.

**Secretariat's recommendation**

18. The Executive Committee may wish to approve the request for the World Bank for the project preparation for the HCFC phase-out investment activities (stage II) for the polyurethane foam sector for China at the level of funding of US \$412,500 plus agency support costs of US \$28,875.

China: Preparation for the HCFC production phase-out management plan (stage II) (US \$349,360)

**Project description**

19. The World Bank submitted a request for the preparation of stage II of the HPPMP for China at a cost of US \$349,360, as originally submitted. This request is also included in the World Bank business plan for 2015-2017 submitted to the 73<sup>rd</sup> meeting<sup>2</sup>. The submission included the coverage, time-lines and costs for the preparation of stage II that will enable China to phase out 35 per cent of HCFC production from the baseline level by 2020.

20. The activities included in the project preparation are policy reviews, workshops, surveys, consultations, preparation of the HPPMP and implementation modality, and review of the results. A detailed costing for these activities was provided by the World Bank. The World Bank reiterated that the activities identified are required for the preparation of stage II, and are not duplicating work that had been done previously.

**Secretariat's comments**

21. In reviewing these requests, the Secretariat took into account the guidelines for funding the preparation of stage II of the HPMPs for Article 5 countries as contained in decision 71/42, and a review of the specific conditions for the production sector. At the 55<sup>th</sup> meeting, the World Bank received US \$473,300 for the preparation of stage I of the HPPMP.

22. The Secretariat further noted that at its 71<sup>st</sup> meeting, the Executive Committee decided to remove the allocation related to the preparation of stage II of the HPPMP for China from the World Bank's business plan for 2014-2016 on the understanding that it could be reinstated at a later date for consideration by the Executive Committee (decision 71/23(b)). The World Bank submitted this request to allow continuity in the implementation of the HPPMP. According to the World Bank, it will take a minimum of 12 months to complete the preparation of stage II of the HPPMP (i.e., completion by end of 2015 - beginning of 2016), by which time stage I would be requesting its last tranche. Decision 71/42 provides that project preparation may be submitted for stage II of the HPMPs two years before the end date of stage I.

**Secretariat's recommendation**

23. The Executive Committee may wish to approve the request for the World Bank for the project preparation for stage II of the HCFC production phase-out management plan for China at the level of funding of US \$349,360, plus agency support costs of US \$24,455.

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<sup>2</sup> Document UNEP/OzL.Pro/ExCom/73/23.



**Annex I**

**INSTITUTIONAL STRENGTHENING PROJECT PROPOSALS**

**Jordan: Renewal of institutional strengthening**

<b>Summary of the project and country profile</b>		
Implementing agency:		World Bank
Amounts previously approved for institutional strengthening (US \$):		
Phase I:	Jul. 1992	170,000
Phase II:	May 1997	113,333
Phase III:	Jul. 1999	113,333
Phase IV:	Jul. 2001	133,333
Phase V:	Jul. 2003	147,333
Phase VI:	Jul. 2005	147,320
Phase VII:	Jul. 2007	147,333
Phase VIII:	Jul. 2009	110,500
Phase IX:	Dec. 2010	147,333
Phase X:	Dec. 2012	147,333
Total:		1,377,151
Amount requested for renewal (phase XI) (US \$):		147,333
Amount recommended for approval for phase XI (US \$):		147,333
Agency support costs (US \$):		10,313
Total cost of institutional strengthening phase XI to the Multilateral Fund (US \$):		157,646
Date of approval of country programme:		1993
Date of approval of HCFC phase-out management plan:		2011
Baseline consumption of controlled substances (ODP tonnes):		
(a) Annex A, Group I (CFCs) (average 1995-1997)		673.3
(b) Annex A, Group II (halons) (average 1995-1997)		210.0
(c) Annex B, Group II (carbon tetrachloride) (average 1998-2000)		40.3
(d) Annex B, Group III (methyl chloroform) (average 1998-2000)		18.2
(e) Annex C, Group I (HCFCs) (average 2009-2010)		83.0
(f) Annex E (methyl bromide) (average 1995-1998)		176.3
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)		59.40
(f) Annex E (methyl bromide)		3.60
Total:		63.00
Year of reported country programme implementation data:		2013
Amount approved for projects (as at May 2014) (US \$):		22,826,836
Amount disbursed (as at December 2013) (US \$):		20,105,581
ODS to be phased out (as at May 2014) (ODP tonnes):		2,239.0
ODS phased out (as at December 2013) (ODP tonnes):		1924.3

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

<b>Summary of activities</b>	<b>Funds approved (US \$)</b>
(a) Investment projects:	18,163,123
(b) Institutional strengthening:	1,377,151
(c) Project preparation, technical assistance, training and other non-investment projects:	3,286,562
Total:	22,826,836

### Progress report

2. In phase X of the IS project, the national ozone unit (NOU) in the Ministry of Environment (MoE) first focused its efforts on finalizing legal aspects and disbursement arrangements for implementing the IS project and the air-conditioning (AC) Sector Plan with the World Bank. A new grant agreement was required after the previous agreement, ODS II closed at the end of 2012. ODS III has been in place since May 2013 thanks to coordination efforts by the NOU with the Ministry of Planning and International Cooperation and the Prime Minister's office. In addition, during the time between grant agreements, the NOU ensured that day-to-day operations continued and fulfilled its monitoring and reporting obligations to the Montreal Protocol. Of critical importance to the Government of Jordan's ability to comply with Annex C obligations of the Montreal Protocol was the introduction of the HCFC quota system in early 2013. It has issued and enforced quotas for both 2013 and 2014. Other work conducted by the NOU included: organization and hosting of workshops for enterprises, other industry and trade groups and importers; facilitating the issuance of instructions for controlling ODS import and export of ODS and to broaden the quota system for HCFC control; issuance of 455 approvals for HCFC import; reporting to the Ozone and Fund Secretariats, organization of international ozone day celebrations; conducting field visits to HCFC-using industry; and participating in the Jordanian Customs department workshop on the open window system (ASYCUDA). During phase X, the NOU oversaw and managed the implementation of Multilateral Fund approved projects. The implementation of the air-conditioning sector plan under stage I of Jordan's HCFC phase-out management plan was initiated in 2013 and required intensive consultations with beneficiary enterprises. The methyl bromide phase-out project with GIZ was successfully completed during phase X, and the Petra project implemented in coordination with UNIDO is nearing completion. Finally, the NOU actively participated in the network meetings for West Asia, the 69<sup>th</sup> to 71<sup>st</sup> and 73<sup>rd</sup> meetings of the Executive Committee, the 33<sup>rd</sup> and 34<sup>th</sup> Open-ended Working Group Meetings and the 24<sup>th</sup> and 25<sup>th</sup> Meetings of the Parties (MOPs). The Head of the Jordan Ozone Unit served as the co-chair of the preparatory segment of the 24<sup>th</sup> MOP in November 2012.

### Plan of action

3. The eleventh phase of Jordan's institutional strengthening project covering the 2015-2016 period will prioritize HCFC phase-out from both the policy and regulatory perspective as well as the investment side as enterprises in the air-conditioning sector convert to non-HCFC alternatives ahead of the impending 10 per cent reduction obligation in 2015. In accordance with Jordan's commitment to the Executive Committee, the country intends to institute a ban on manufacturing with R-22 by the end of 2016. The IS project will therefore enable the NOU and MoE to pursue this regulatory measure with the appropriate cooperating ministries and private sector actors, and with technical support from the HPMP project management unit. With the methyl bromide consumption ban coming into force in 2015, phase XI of the IS project will concurrently support sustainable phase-out of both Annexes A and E substances, including ongoing monitoring of importers and industry, training of Customs officers and reinforcing institutions to track potential controlled uses ODS. Renewal of the IS project will allow the NOU to continue to enhance its ability to assure compliance to the Montreal Protocol for all controlled substances. Hence, regular annual monitoring, reporting and public awareness activities are included in the action plan, as is attendance by the NOU at key ozone-related meetings.



**Annex II**

**VIEWS EXPRESSED BY THE EXECUTIVE COMMITTEE ON RENEWAL OF  
INSTITUTIONAL STRENGTHENING PROJECT SUBMITTED TO THE 73<sup>rd</sup> MEETING**

**Jordan**

1. The Executive Committee reviewed the terminal report presented with the institutional strengthening project renewal request for the Hashemite Kingdom of Jordan and noted with appreciation the commitment that Jordan has shown to the Montreal Protocol over the years. In particular, the Committee congratulates Jordan for putting into place a licensing and quota system specific to HCFCs which appears, based on its data reporting, to have permitted the country to meet the target to freeze HCFC consumption in 2013. The Executive Committee looks forward to Jordan accelerating the implementation of HCFC phase-out in the HCFC-based manufacturing enterprises to complement the efforts made at the national level in meeting the compliance targets of the Montreal Protocol.



2014 BUSINESS PLAN  
WORK PROGRAM AMENDMENT



**WORLD BANK GROUP**

WORLD BANK IMPLEMENTED  
MONTREAL PROTOCOL OPERATIONS

Presented to the  
73rd Meeting of the Executive Committee  
of the Multilateral Fund

14 September 2014

## **WORK PROGRAM FOR WORLD-BANK IMPLEMENTED MONTREAL PROTOCOL OPERATIONS**

1. This proposed work program amendment for Bank-Implemented Montreal Protocol Operations is prepared on the basis of the 2014-2016 World Bank Business Plan which was approved by the Executive Committee at its 71<sup>st</sup> meeting.
2. The 2014-2016 World Bank Business Plan consists of investment and non-investment activities to assist Article 5 partner countries to meet their two HCFC reduction targets, the 2015 10% reduction and the 2020 35% reduction. The Business Plan includes, in addition to deliverables associated with previously approved and new investment activities, requests to extend support for implementation of existing institutional strengthening projects in 2 countries.
3. As part of the 2014-2016 Business Plan, the World Bank plans to submit new preparation fund requests for HCFC sector plans Stage II for Argentina, China, Indonesia, Jordan, the Philippines, Thailand and Vietnam, and project proposals for Argentina, China, Indonesia, Jordan, the Philippines, Thailand and Vietnam.
4. The 2014 World Bank Business Plan includes deliverables of five previously approved multi-year projects in four countries totaling US\$30.1 million to support national and sectoral HCFC phase-out work in China, Jordan, Thailand and Vietnam. Total deliverables, including investment, non-investment and preparatory activities amounts to US\$34.2 million (including agency support costs and core unit costs).

### **2014 Work Program – ExCom 73 Amendment**

5. The proposed 2014 Work Program Amendment being submitted for consideration at the 73<sup>rd</sup> Meeting of the Executive Committee, includes funding requests for Agency Core Unit Costs, one institutional strengthening renewal and four preparation activities for stage II HPMP for China and Philippines, outlined in Table 1 below. Detailed explanation on China's request for the two Stage II preparation activities are described in Annex 1: foam sector plan, and Annex 2: gradual production phase-out plan.

*Table 1: Funding Requests Submitted for Consideration  
at the 73<sup>rd</sup> Meeting of the Executive Committee*

<b>Country</b>	<b>Request (US\$)</b>	<b>Duration</b>	<b>Description</b>
China	412,500	1/2015 – 12/2015	Project preparation for Stage II foam sector plan, further to Decision 64/49
China	349,360	1/2015 – 6/2016	Project preparation for Stage II gradual production phase-out plan, further to Decisions 69/28 and 71/23
Jordan	147,333	1/2015 – 12/2016	Extension of Institutional Strengthening project (Phase XI)
Philippines	90,000	1/2015 – 12/2015	Project preparation for Stage II HPMP, further to Decision 68/36, and in accordance with Decision 71/42
Philippines	150,000	1/2015 – 12/2015	Project preparation for Stage II refrigeration sector plan (air-conditioning), further to Decision 68/36, and in accordance with Decision 71/42
Support Costs	80,444		
Global	1,725,000	1/2015 – 12/2015	Agency Core Unit Costs
<b>Total</b>	<b>2,954,637</b>		

## **Annex 1: Request for Project Preparation (PRP) for Stage II of HPMP for PU Foam Sector in China**

### **1. Background**

China's Polyurethane Foam sector plan (Stage I) aims to freeze the consumption of HCFCs in the sector to 5,392.2 ODP tons by 2013, and reduce the consumption of HCFCs to no more than 4,449.6 ODP tons by 2015. To realize these targets, the sector plan covers production line conversion, system house conversion, policy-making and technical assistance activities. The sector plan is funded by the Multilateral Funds at \$73,000,000 from 2011 to 2016 in five tranches, which will result in 14,685 MT of HCFC-141b to be eliminated.

To continue the phase-out of HCFCs and achieve the 2020 target of phasing out 35% of HCFC consumption from the baseline level, a Stage II sector plan aims to further reduce HCFC-141b consumption by at least 8,588 MT. This document presents the intended coverage, time-lines and costs for the preparation for Stage II.

### **2. Sector background and coverage**

#### **2.1 Sector Background**

The PU Foam Sector of China started phasing out of ODS in the 1990s. In 2001, the Executive Committee of the Multilateral Fund (hereafter referred to as the ExCom) approved the Sector Plan for Phase out of CFC-11 in the PU Foam Sector in China. Due to the advantages of insulation properties, safety in production and low price, HCFC-141b became one of the most widely used alternatives in the PU foam sector. As of today, PU foam sector has become one of the main HCFCs consumers in China, covering various sub-sectors, such as refrigerator and freezer, reefer containers, small household electric appliance, solar water heater, insulation pipe, insulation foam panels, and spray foam, etc. It is estimated that there are more than 3,500 PU foam enterprises all around the country, for which the majority are small-and-medium scale enterprises.

Since the year 2010, China has successively issued the Circular on Strict Control over the Establishment of Facilities Using HCFCs, and the Regulation on ODS Management. In 2013, as the implementation of the sector HPMP commenced the sector quota system was established for enterprises consuming more than 100 MT annually. In addition, the total supply of HCFC-141b was carried out by the production sector. This enables China to have a good control on the overall supply and have a better monitoring system on the HCFC-141b consumption in large enterprises. However, it is still a challenge to track HCFC-141b consumption in a large number of small enterprises. Additionally, the local EPB whose ODS management capacity was built under Stage I HPMP assuming increasing responsibility for implementing local regulations controlling ODS consumption in their administrative areas and enhancing monitoring efforts on HCFC consumption. More efforts are still required in order to have a better understanding of HCFC-141b consumption in small and medium scale enterprises.

#### **2.2 Implementation Progress of HPMP (stage I) and Lessons learnt**

In Stage I of the HPMP, the PU foam sector plan aims to phase out 14,685 MT of HCFC-141b, and to convert system houses to provide pre-blended polyol using alternative foaming agents to SMEs. Technical assistance activities including standards formulation, capacity building and training are also covered by the HPMP. The HPMP also supports formulation of policy and regulation to control use of HCFCs in the sector.

By August 2014, 47 conversion contracts were signed, when completed 12,114 MT of HCFC-141b will be phased out. Most enterprises choose cyclopentane or water as the substitute, depending on different characteristics of resulting foam products and their sub-sectors. Contracts to convert 6 system houses are to be signed soon to provide support for conversions by small and medium enterprises that lack the capability to produce handling the blending process by themselves. In order to facilitate the dissemination of alternative technologies, and to regulate the enterprises' safe production practices, corresponding technology and safety standards are being studied and prepared. In the remaining time of Stage I HPMP, about 2,000 MT of HCFC-141b will be phased out through conversion and policies. A technical support system will be considered to ensure sustaining conversion. A ban on using HCFC-141b in three sub-sectors such as small household appliances, reefer containers and refrigerators is undergoing study, and is expected to be issued by the year 2015.

The implementation of the HPMP shows that 1) policies such as quotas and bans play an important role in phase-out and securing the obtained progress; 2) it is important to establish a technical support system to avoid the risk of the conversion to the hydrocarbon technology and provide the support for the SMEs; 3) Strengthening the capacity of local authorities can greatly enhance the overall capability of the country to meet phase-out targets and help the sector achieve fair and sustainable phase-out, and 4) it is important to carry out the system house project to provide water or hydrocarbon pre-blended polyol to enable the small-and-medium scale beneficiary enterprises to undertake conversion away from HCFC-141b. Meanwhile, in the course of HPMP (stage I) implementation, some challenges are also identified. For instance, there are a large number of small and medium sized enterprises in the PU foam sector that comparatively lack of information on alternative technologies and possess limited financial and management capacity. Additionally, due to more and more adoption of HC technology to replace HCFC-141b, the issues on safe production and good practice need to be further emphasized.

### **2.3 Preparation of HPMP (stage II)**

The Stage II PU foam sector plan will focus on the two sub-sectors, which are solar water heater and pipe insulation sub-sectors as the alternative technologies are well proven in the two sub-sectors. Two substitutes, cyclopentane and water, will be applied in these two sub-sectors according to their suitability for specific products. The goal of Stage II of HPMP is to realize the scheduled HCFC cap of not more than 65% of the baseline level. With consideration of the whole country's compliance and the practicality of management, the PU foam sector will have to phase out a larger part of HCFC consumption, resulting in at least 8,588 MT of HCFC phase out. The actual phase-out amount to be captured by the PU foam sector will be determined when the survey results become available and an overall strategy for Stage II is decided. In order to properly develop the HPMP (stage II) for the PU foam sector, the preparation project will include, among others, information collection, policy review, field survey, data and technology analysis, cost calculation, exploration of project implementation modalities and formulation of HPMP. They are detailed as follows:

#### **Data Collection:**

##### **A. Collection of general information**

- Background information of the PU foam sector will be collected and updated through consultation with industrial associations, HCFC-141b producers, polyol suppliers, MDI suppliers, equipment suppliers, foam producers, and other related stakeholders.
- A brief review of activities undertaken so far under the HPMP (stage I) in the PU foam sector, focusing on lessons learnt and how these could be used for the future HCFCs phase-out.

- Consultation meetings for sub-sector and sector levels will be organized in order to formulate a data collection strategy accordingly.
- Development of the Term of Reference for surveys and data analysis.

**B. Development of questionnaire**

- Questionnaire for data collection will be designed and developed. Working meetings will be organized with industrial associations, manufacturers and experts to finalize the questionnaire.
- Consultation meetings with all relevant stakeholders will be organized to ensure common understanding of the data collection and the information required by the questionnaire.
- Training will be planned and provided to the staff participating in the data survey.

**C. Field survey and data analysis**

- Questionnaire will be distributed to ~150 enterprises with the aid of industry association and local authorities.
- Field visits to at least 40 PU foam enterprises mainly covering solar energy, pipe and panel sub-sectors as well as system house companies. A survey plan will be prepared. The field survey will be jointly carried out by the PMO/MEP, industrial associations, local EPBs and external experts, with a view to the eligibility of enterprises, the information on HCFC consumption in recent three years, production lines and applications, technical preference for replacing HCFCs, and any difficulties or challenges to be faced by enterprises in future conversions.
- Upon the data collected, the consumption of HCFC-141b in different sub-sectors and different scales of enterprises will be analyzed, and the situation of different blowing agents used in the PU foam sector will be concluded.

**Stage II PU foam sector plan formulation:**

**D. Policy review**

- Existing national and local policies and regulations will be reviewed.
- New policies and regulatory framework for HCFCs phase-out in the PU foam sector might be proposed.

**E. Review and analysis of substitute technologies**

- Consultation meetings will be held to update technology development and evaluate different alternative technologies, taking into consideration of any technical issues emerging in the process of conversion activities under HPMP (stage I)
- Research on development of both domestic and overseas alternative technologies in PU foam sector will be conducted. Updated information of alternative technologies to HCFC-141b in various sub-sectors will be collected and evaluated.

**F. Cost calculation**

- Information on the cost for different alternative technologies will be updated.
- Cost calculation methodology will be established, taking into account different scales of enterprises, especially the small and medium sized enterprises in the sector.

**G. Project implementation modality**

- Project implementation modalities will be proposed. In the Stage I of HPMP in PU foam sector, most beneficiaries are large or medium-sized enterprises. Given the fact that there are



a large number of small and medium sized enterprises in the sector, in Stage II, it is estimated that more of those enterprises will be involved in phase-out activities. Therefore, more implementation modalities, such as region-based phase-out and system house-leading phase-out may be taken into consideration.

- Phase-out priority for stage II will be identified on a sub-sector basis.

#### H. Formulation of the HPMP(stage II)

- Stakeholders meetings will be organized to review the draft of the sector plan, including proposed HCFC-141b phase-out strategy, technology options, proposed policy framework, cost calculation, proposed implementation modalities, and so on.
- The HPMP (stage II) for PU foam sector will be revised based on the feedback from aforementioned meetings, and be concluded for submission.

### 3. Timelines for preparation

Month	1	2	3	4	5	6	7	8	9	10	11	12
<b>Description</b>												
Inception meeting	X											
Field survey planning	X	X	X									
Data collection			X	X	X	X						
Data analysis				X	X	X	X	X				
Project preparation						X	X	X	X			
Stakeholder consultations		X				X		X	X	X	X	
Project document finalization								X	X	X	X	X

### 4. Project costs and break-down

The project preparation costs for sector projects can be given in the table below.

Particulars	Unit Price	Times or Person-days	Value in USD
Workshops (4 at provincial and 2 at national level)	10,000	6	60,000
National consultant (data collection)	200	300	60,000
Field survey	800	100	80,000
Technology Consultation (International survey of low carbon alternatives)	20,000	1	20,000
PU Foam Sector Plan Stage II Preparation	200	150	30,000
Development of implementation modality (International Consultants and Travel)			62,800
Review of Survey Result and Draft HPMP (International Consultants and Travel)			62,800
<b>Subtotal</b>			375,000
Contingency (10%)			37,500
<b>Total</b>			412,500

## **Annex 2: Request for Project Preparation (PRP) for Stage II of HPMP for HCFC Production Sector in China**

### **1. Background**

At the 19th Meetings of the Parties held in September 2007, the 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 the World Bank, one of the implementing agencies to the Multilateral Fund for the implementation of the Montreal Protocol, the Sector Plan for Phase out of HCFCs in the Production in China (phase I) was submitted to the 66th ExCom meeting for approval in July 2012, and was approved at 69th ExCom meeting with a funding of US\$95,000,000 grant. The objective of the HPMP in production sector in the first stage (2011-2015) is to ensure the HCFC production in China is frozen on an average level of 2009-2010 by 2013 and realizes 10% reduction from the freeze level by 2015. To realize these targets, the sector plan covers enterprise level phase-out, policy-making and technical assistance activities. According to the sector plan, around 47,256 MT of HCFCs, equivalent to 3,970 ODP tonnes, will be phased out by the year 2015.

In the second stage (2015-2020), to continue the phase-out of HCFCs and achieve the 2020 target of phasing out 35% of HCFC production from the baseline level, the HPMP (stage II) of production sector is to be prepared, and will continue to organize the investment activities, policy development, and technical assistance (TA) activities. This document presents the intended coverage, time-lines and costs for the preparation for Stage II.

### **2. Sector background and coverage**

#### **2.1 Sector Background**

China produces a variety of HCFC including HCFC-22, HCFC-141b, HCFC-142b, HCFC-123 and HCFC-124. The first three accounts for 99% of total production and are used primarily as refrigerants, foam blowing agents and feedstock. For HCFC-22, HCFC-141b and HCFC-142b, there are 16, 8 and 12 manufacturers, respectively. Total production capacity in 2010 was around one million tons. China HCFC production, excluding feedstock, was 445,887 tons in 2010. In terms of metric tons, HCFC-22 production is about 71% of the total production, follow by HCFC-141b (22%) and HCFC-142b (6%). Phasing out HCFC will pose a very significant challenge to China as HCFC production and consumption plays a critical role in China's economy in terms of raw materials consumed, sectors covered, volume produced and economic value.

#### **2.2 Implementation Progress of HPMP (stage I) and lessons learnt**

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 the ODS regulations, strict control of HCFC Production facilities and establishment of facilities, and introduced the quota management in the production sector. As a result of conversion activities carried out under the sector plan, collaborating with

policy measures as well as series of TA activities, China has realized the freeze target for 2013, and implementation of the production sector is also on track as per the commitments set out in the sector plan.

In terms of policy actions, the HCFC export/import license system was implemented and HCFC production and consumption quota system has been implemented since 7 August 2013. A national HCFC production quota of 426,540 MT (28,633 ODP) which includes 281,037 (18,560 ODP) for domestic use was issued for 2013 and 2014. According to the verification report on 2013 production conducted by the World Bank’s independent verification team, it shows that the overall production for controlled use and production for domestic sales are within the quotas issued.

### **HCFC production in 2009-2013 (ODP tonnes)**

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Baseline</b>
Production	28,200.60	30,043.30	32,106.07	34,413.51	26,599.33	29,122.00

For meeting the freeze target in 2013, mandatory production reduction was employed. By end of December 2013, 6 HCFC-141b enterprises and 6 HCFC-142b enterprises signed the phase-out contracts with FECO for their reduction from the 2010 level to baseline for a total amount of 10,427 MT of production reduction. Meanwhile, several TA activities were carried out to lay down a solid foundation for smooth implementation of phase-out activities in future. The reduction in 2013 would be at least 19,348 MT with an estimate of climate benefit of about 33 Million tons of CO<sub>2</sub>eq.

In order to address the 10% reduction in 2015, the bidding for HCFC production line closure projects has been initiated at earlier of August 2014, and the contracts with bid winners are expected to be signed by end of October 2014.

During the implementation of stage I so far, except the funding incentive to encourage the phase-out activities at the enterprise level, quota system is the most effective manner to ensure the China’s compliance with the Montreal Protocol. Combination of financial incentives and “tradable” production quota system has shown to be effective tools in enabling China to meet its compliance under the Montreal Protocol. Coordination among management of HCFC production, consumption and import & export is also the key element for China’s compliance with the Montreal Protocol.

## **3. Preparation of HPMP (stage II)**

### **3.1 Objective**

The objective of this assignment is to develop a HCFCs Production Phase-out Management Plan for stage II with funding request for China to ensure its production for controlled use will not exceed 18,929 ODP tons by 2020. The plan will include a production phase-out strategy for each HCFCs taking into account current and future demand of HCFCs and expected HCFCs consumption reduction from MLF funded activities in China and other A5 countries, in order to maintain a balance between global demand and supply of HCFCs.

### **3.2 Scope of works**

In order to properly develop the HPMP (stage II) for the production sector, the preparation work will mainly include:

- Review experience and lessons learned from implementation of Stage I HPPMP;

- Determine the demand of each HCFCs in China and other Article 5 countries during the past three years and in the future by reviewing all the HPMP agreements between the ExCom and other A5 countries;
- Conduct consultation with relevant industrial sectors in China and with key non-LVC countries regarding their phase-out policies and future demand of HCFCs;
- Review any potential industrial rationalization including closure in the HCFC production industry in China;
- Develop a comprehensive HCFC production phase-out strategy, reduction schedule, implementation modality, policies framework, technical activities for each HCFC taking into account the need to maintain a balance between the global supply and demand of HCFCs.
- Determine the funding needed for stage II, taking into account different kinds of influencing factor and key sensitivity parameters;

#### 4. Timelines for preparation

Overall time plan for implementation of the preparation project during the 18 months is given in the table below:

	Q1	Q2	Q3	Q4	Q5	Q6
Inception meeting	X					
Review current domestic demand and HPMP of other A5 countries		X	X			
Analysis on future demand for HCFCs in China and other A5 countries for stage II		X	X	X		
Funding needed for stage II			X	X	X	
Stage II HPPMP formulation				X	X	
Stakeholder consultations				X	X	X
Finalization of stage II HPPMP					X	X

#### 5. Project costs

The project preparation costs for sector projects can be given in the table below.

Particulars	Unit Price	Times or Person-days	Value in USD
Workshops	10,000	6	60,000
National consultant service (analysis on future demand , industry rationalization, global demand and supply, reduction schedule, cost calculation and project formulation)	200	150	30,000
Domestic travel for stakeholder consultation and enterprise visits	800	40	32,000
International travels and accommodation for Chinese experts	6,000	2	12,000
Consultation workshops with non-LVC in China	6,000	8	48,000
Communication, translation, printing, etc.			10,000
Development of Project Implementation Modality taking into account industrial rationalization and the global demand and supply			62,800
Review the consultant's report and finalize the HPPMP document			62,800
<b>Sub-total</b>			<b>317,600</b>
Contingency			31,760
<b>Total</b>			<b>349,360</b>