

United Nations Development Programme

United Nations Development Programme

Country: China

Project Document

Project Title	Sector Plan for HCFC Phase-out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in China (Stage-I compliance with 2013 and 2015 targets)
UNDAF Outcome(s):	Outcome: Government and other stakeholders ensure environmental suitability, address climate change, and promote a green, low carbon economy
Expected CP Outcome(s): <i>(Those linked to the project and extracted from the CPAP/UNDAF Action Plan)</i>	Low carbon and other environment sustainable strategies and technologies are adapted widely to meet China's commitments and compliance with Multilateral Environment Agreements
Expected Output(s): <i>(Those that will result from the project and extracted from the CPAP)</i>	Achievement of HCFC consumption control targets for 2013 and reduction targets for 2015 through implementation of HCFC Phase-Out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) sector in China
Executing Entity:	Foreign Economic Cooperation Office, China Ministry of Environmental Protection (FECO/MEP)
Implementing Agency:	United Nations Development Programme (UNDP)

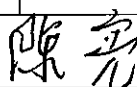
Project Summary

The XIXth Meeting of the Parties to the Montreal Protocol in September 2007, through its Decision XIX/6, adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs from 01 January 2013, at the Baseline Level (average of 2009 and 2010 consumption levels). The other control steps are reduction of 10% by 2015, reduction of 35% by 2020, reduction of 67.5% by 2025, reduction of 100% by 2030, allowance of 2.5% of baseline (annual equivalent) for period 2030-2040 and complete phase out by 2040. China is a party to the Montreal Protocol and must comply with the above targets.

During the 64th Meeting of the Executive Committee, Sector Plan for HCFC Phase-out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in China (Stage-I), addressing 2013 and 2015 targets, was approved by the Executive Committee with UNDP as the implementing agency. Total approved funding was US \$ 61,000,000. The ICR HPMP comprises of a combination of interventions such as technology transfer investments, policies and regulations, technical assistance, training, awareness and communications and management, coordination and monitoring to be implemented over five years from 2011 to 2016. Upon successful completion, the plan will result in sustainable reductions of 465 ODP tonnes of HCFC consumption in the ICR Sector by 2015, contributing to China's compliance with the 2013 and 2015 control targets for Annex-C, Group-I substances (HCFCs) under the Montreal Protocol. In addition, the project will result in direct CO2-equivalent emission reductions of about 7.66 million tones annually. The implementation of the project will follow the rules and procedures of National Execution (NEX). The Performance Based Payment (PBP) Mechanism will be applied for the implementation.

Programme Period:	2011 – 2016	Total resources required	61,000,000US\$
Key Result Area (Strategic Plan):		Total allocated resources:	_____
Atlas Award ID:	00063099	• Regular	_____
Start date:	1 December 2011	• Other:	_____
End Date:	31 December 2016	• MLF	61,000,000US\$
Management Arrangements	NEX	In-kind Contributions	-

Agreed by FECO/MEP:

 2011.12.05

Agreed by UNDP:

 2011.12.06

LIST OF ABBREVIATIONS

CFC	Chlorofluorocarbons
CP	Country Programme
CRAA	China Refrigeration and Air Conditioning Industry Association
CTC	Carbontetrachloride
ExCom	Executive Committee of the Multilateral Fund
FECO	Foreign Economic Cooperation Office
GWP	Global Warming Potential
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
IA	Implementing Agency
MEP	Ministry of Environmental Protection
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MOP	Meeting of Parties to the Montreal Protocol
MP	Montreal Protocol
MT	Metric Tonnes
ODP	Ozone Depleting Potential
ODS	Ozone Depleting Substances
PBP	Performance Based Payment
SBAA	Standard Basic Assistance Agreement
UNDP	United Nations Development Programme

1. SITUATION ANALYSIS

1. OBJECTIVE

The objective of this project is to assist Government of China implement the “Sector Plan for HCFC Phase-out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in China (Stage-I compliance with 2013 and 2015 targets)” under UNDP component of HPMP in line with overall strategy and implementation plan outlined in the HPMP document approved by the 64th Meeting of the Executive Committee. The extract of Annex XXVII to the report of the 64th Meeting of the Executive Committee containing the Agreement between the Executive Committee of the Multilateral Fund and Government of China for Stage I of HPMP is attached in Annex-1 to this document.

2. BACKGROUND

2.1 ODS Phase Out in China

China signed Vienna Convention for the Protection of the Ozone Layer in June 1989, Montreal Protocol on Substances that Deplete the Ozone Layer (hereinafter Montreal Protocol) in June 1991. As of May 2010, China has ratified all amendments to the Montreal Protocol. Chinese government compiled and approved “Country Program for Phase-out of Ozone Depleting Substances” (hereafter Country Program) in January 1993 and established phase-out strategies for major sectors of ODS production and consumption in 1995. In November 1999, Chinese Government updated the Country Program. According to Country Program, with the support of Multilateral Fund and international institutions, China has conducted more than 400 projects and 18 sector plans including chemical production sector, Automobile Air-conditioner Sector, Tobacco Sector, Industrial and Commercial Refrigeration and Air Conditioning, Extinguishing Sector, Solvent Sector, Household Appliance, Foam Sector etc. to phase out production and consumption of CFCs, Halons, CTC, TCA and Methyl Bromide subsequently. With two decades of hard work, China had completed the phase-out of the production and consumption of CFCs and Halons on July 1st 2007, two and a half year earlier than the phase-out schedule under Montreal Protocol. Until January 1st 2010, except for essential use, Chinese Government had completely eliminated the production and consumption of CFC, Halons, CTC and TCA (5 year ahead the schedule) to meet the requirement of Montreal Protocol, which is an outstanding contribution to Ozone Layer protection.

2.2 Evolution of HCFC Phase-out Management Plans

HCFCs, which have Ozone Depleting Potential (ODP) up to 15% of that of CFCs, are also classified as controlled substances under Annex-C, Group-I of the Montreal Protocol. HCFCs, therefore, have use restrictions and would eventually have to be phased-out. Initially, for developing countries, the scheduled phase-out date for HCFCs was 1 January 2040 with an interim control measure of freezing HCFC production and consumption at 2015 levels from 1 January 2016.

During the implementation of the CFC phase-out under the Montreal Protocol, HCFCs were approved as interim substitutes for CFCs in many of the projects and activities supported by the Multilateral Fund. Considering the increasing demand for HCFCs, and considering the imminent restrictions on HCFCs, including the 2016 freeze in consumption for Article-5 countries, it was necessary to address the technology and environmental issues arising from HCFC use reductions. Moreover, it was expected that actions to reduce HCFC consumption needed to be initiated sooner rather than later. Recognizing these challenges, the ExCom

approved at its 45th Meeting in 2005, funding for UNDP to carry out HCFC surveys in 12 countries, to assess the HCFC consumption and growth trends in these countries. China was one of the countries which requested to be a part of this survey. The key result of this survey was establishing the HCFC consumption profiles and projected growth rates in HCFC consumption in various sectors in China until 2015. As established in this survey, which was carried out during 2005-2007, China does not produce HCFCs and the domestic demand is entirely met through imports. The total imports of HCFCs in China during 2005 were 2,114 metric tonnes. At a conservative growth rates, this was projected to reach about 8,293 metric tonnes by 2015.

The 19th Meeting of the Parties to the Montreal Protocol in September 2007 adopted an accelerated phase-out schedule for HCFCs. The first control is the freeze on production and consumption of HCFCs from 01 January 2013, at the Baseline Level (average of 2009 and 2010 consumption levels). The second control step is the reduction of 10% from the Baseline Levels on January 1, 2015. Subsequent control steps are 35% reduction by 2020, 67.5% by 2025, 97.5% by 2030 and complete phase out from January 1 2040. The decision also directed the Executive Committee of the Multilateral Fund to assist Article-5 Parties in preparation of HCFC Phase-out Management Plans (HPMP).

2.3 HCFC Phase-out Management Plan of China

Hydrochlorofluorocarbons (HCFCs) are classified as controlled substances under Annex-C Group-I of the Montreal Protocol and are subject to the adjusted control schedule for Article-5 countries; to freeze the HCFC production and consumption at baseline levels from 2013 and reduction of 10% from baseline levels from 2015. There are more than 30 categories of HCFCs controlled in Montreal Protocol. Currently, only six of them are produced in China: HCFC-22, HCFC-123, HCFC-124, HCFC-133a (mainly used as feedstock), HCFC-141b and HCFC-142b. In addition, HCFC-225 from foreign market is also consumed in China. The production and consumption of HCFCs in China involves 7 sectors: HCFC Production Sector, PU Foam Sector, XPS Foam Sector, Room Air Conditioning Sector, Industrial and Commercial Refrigeration and Air Conditioning Sector, Solvents Sector and Servicing Sector.

Sector Plan for HCFC Phase-out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in China

China is currently the world's largest producer and consumer of HCFCs. Due to rapid economic development in the past two decades and resulting demand for consumer, commercial and industrial products in the Foams, Refrigeration, Air Conditioning and Solvents sectors, consumption of HCFCs in China has grown significantly. The significant increase in HCFC consumption will lead to additional environmental impacts on ozone depletion as well as on global warming due to the ozone depleting potential and global warming potential of HCFCs. In the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in particular, there has been a sustained growth in HCFC consumption of 12-15% annually in the past few years. The ICR sector consumption was over 40,000 metric tonnes. The sector contributes about US\$ 20 billion to the economy and employs over 100,000 persons in over 1,000 enterprises, many of which are small and medium-sized. This sector also has a large variety of products and applications, categorized into nine sub-sectors. The main constraint faced by the sector is the mature and proven availability of cost-effective and efficient alternative refrigerants and related technology and the ability to deploy alternative technologies for meeting the Stage-I targets, without undue burden on the industry and public. Considering the relatively short net available time of only 3-4 years to implement conversions, and considering the volume of HCFC

consumption needed to be reduced, this will be a considerable challenge. Extraordinary efforts will be needed to counter the momentum of growth in this sector.

To fulfil the country's compliance and to achieve the HCFC phase-out targets for stage-I, i.e. freezing the HCFC consumption at the average level of 2009-2010 from January 2013 and reduction of 10% of the baseline consumption from January 2015, the ICR HPMP of China was prepared and submitted for the consideration of the 62nd Meeting of the Executive Committee after due review and endorsement by the Government. The Executive Committee approved the ICR HPMP of China in 64th meeting for Stage-I in July 2011 at a funding level of US \$ 61,000,000. The agreement between the ExCom and Government of China indicated the ICR HPMP of China aims to phase out 223.72 ODP tons in 2013 and 240.28 ODP tons in 2015.

II. STRATEGY FOR ICR HPMP IMPLEMENTATION

The ICR HPMP for China proposes to address 2013 and 2015 targets through a combination of activities interventions in prioritized sub-sectors industries for phasing-out HCFCs used in the ICR sector. An overview of specific interventions that would be adopted is given below.

- Implementation of projects for converting compressor and sub-sectors using HCFCs in ICR sector that includes Unitary Air-Conditioners, Multi-Connected Air-Conditioners, Industrial and Commercial Water Chiller, Small Sized Water Chiller, Heat Pump Water Chiller, Compressor condensing unit & Freezer and cold-storage etc. to HCFC free alternatives.
- Development and enforcement of policy and regulatory interventions to control HCFC consumption levels to the targeted limits, thus, constraining growth of HCFCs and reduce dependence on HCFCs.
- Development and revision of technical standard and regulations for the industrial & commercial air-conditioner and refrigeration equipment production and compressor production.
- Providing technical support for conversion projects at enterprises and establishment of Industrial Information & Network System.
- Training for sector enterprises on alternatives and/or alternative technologies.
- Awareness and information outreach programs targeting consumers and other identified national stakeholders for achieving HCFC phase-out.
- Project Management and Coordination for sector plan and monitoring and verifying the implementation of ICR HPMP.

III. TIME FRAME/MONITORING MILESTONES

Overall time plan for implementation of the programs is given in the table 1 below:

MILESTONE/TIME FRAME	Half-Years (HY) beginning 1 July 2011										
	2011	2012		2013		2014		2015		2016	
	HY1	HY2	HY3	HY4	HY5	HY6	HY7	HY8	HY9	HY10	HY11
Conversion for compressor production lines											
Finalisation of overall implementation plan											
Signing of agreement between FECO and enterprises											
Project implementation											
Monitoring implementation against agreement milestones											
Conversion for air-conditioner and refrigeration equipment production lines as stipulated in the HPMP											
Finalisation of overall implementation plan											
Signing of conversion contracts between FECO and enterprises											
Project implementation											
Monitoring implementation against agreement milestones											
Policy and regulatory actions											
Development of related policy and regulations											
Implementation and enforcement											
Technical Support Programme											
Providing technical support to participating enterprises											
Technical Standards and Regulations											
Development of technical standards											
Implementation and enforcement											
MIS establishment											
Development of MIS											
Implementation and enforcement											
Awareness and Training											
Promoting awareness and training activities											
Monitoring											
Monitoring project implementation											
Verification											
Verification of 2013 and 2015 targets											
Project Management											
Finalisation of Implementation Plan for Project Management and Monitoring											
Project implementation and coordination											

IV. RESULTS AND RESOURCES FRAMEWORK (Table 2)

Applicable Goal (UNDAF):	Outcome: Low carbon and other environment sustainable strategies and technologies are adapted widely to meet China's commitments and compliance with Multilateral Environment Agreements				
	Indicator: Regulations, codes, guidelines, standards, and labels for energy efficiency and renewable energy developed and improved				
ATLAS Award ID:	00063099				
ATLAS Project ID:	00080423				
Intended Outputs	Output Targets for 2011 to 2016	Indicative activities	Responsible Parties	Inputs (US \$ 000)	
<p>Output: China's HCFC compliance targets for 2013 and 2015 achieved through ICR HPMP implementation</p> <p>Baseline: Average of 2009 and 2010 HCFC consumption</p> <p>Indicator: a freeze at the average of 2009 and 2010 levels from 01 January 2013 and a subsequent 10% reduction from the baseline level from 01 January 2015.</p> <p>Reduction of 224.5 ODP tons in 2013 and 240.3 ODP tons in 2015.</p>	<p>Targets : 2011 Completion of project implementation plan.</p> <p>Targets : 2012</p> <ul style="list-style-type: none"> - Submission and approval of Implementation Report for 2011 and Plan for 2012 and release of 2012 Tranche. - Detailed Plan for TA activities for 2012 and 2013. - Signed conversion contracts total of 3,000 metric tones (165 ODP tonnes) (of which about 600 metric tones prior to June 2012) <p>Targets : 2013</p> <ul style="list-style-type: none"> - Submission and approval of Implementation Report for 2012 and Plan for 2013 and release of 2013 Tranche. - Meeting the 2013 frozen target * <p>Targets : 2014</p> <ul style="list-style-type: none"> - Submission and approval of Implementation Report for 2013 and Plan for 2014 and Performance Verification Report for 2013. <p>Targets : 2015</p> <ul style="list-style-type: none"> - Submission and approval of Implementation Report for 2014 and Plan for 2015 and Performance Verification Report for 2014. Release of 2015 Tranche. - Meeting the 2015 reduction target ** <p>Targets : 2016</p> <ul style="list-style-type: none"> - Submission and approval of Implementation Report for 2015 and Performance Verification Report for 2015. 	<p>Investment Projects – Conversion of compressor; Conversion for air-conditioner and refrigeration equipment production lines as stipulated in the HPMP</p> <ul style="list-style-type: none"> - Completion of project implementation plan - Signature of conversion contracts with Beneficiary enterprises - Completion of conversion to HCFCs free alternatives 	FECO/MEP	51,000,000	
			<p>Technical Assistance</p> <ul style="list-style-type: none"> - Completion of plan for technical assistance activities - Technical assistance in implementing project component - Development and enforcement of policy and regulations - Development and implementation of technical standards - Project monitoring and progress reporting on annual basis - Verification on 2013 and 2015 targets achievement - Contingency 	FECO/MEP	5,120,000
			<p>Project Management and Monitoring</p> <ul style="list-style-type: none"> - Monitoring project implementation - Providing Technical, Financial and operational management - Project progress reporting and coordination support 	FECO/MEP	4,880,000
			Grand total		61,000,000

Note: * To be verified in 2014. ** To be verified in 2016.

V. ANNUAL WORK PLAN

The table 3 below presents the budgets for the **tranche 2011 and tranche 2012** available under the project. The payment schedule and indicators for tranche 2013, 2014 and 2015 will be finalized and agreed upon by UNDP and FECO/MEP during 2012. An Overall budget break-up for ICR HPMP for the period 2011-2016 will be also given in Annex-IV to this ProDoc afterwards.

AWARD ID	00063099							
PROJECT ID	00080423							
Project Title	Sector Plan for HCFC Phase-out in the Industrial and Commercial Refrigeration and Air Conditioning (ICR) Sector in China (Stage-I compliance with 2013 and 2015 targets)							
Executing Agency	Foreign Economic Cooperation Office, China Ministry of Environmental Protection (FECO/MEP)							
ATLAS Activity	Responsible Party	Source of funds	ATLAS Code	ATLAS Budget Description	2011	2012	2013	Total
Activity 1 : Investment Projects	FECO/MEP	63030	72100	Contractual Services	13,970,000	7,879,600	6,348,000	28,197,600
	Sub-Total				13,970,000	7,879,600	6,348,000	28,197,600
Activity 2 : Technical Assistance	FECO/MEP	63030	71300	Local consultants	115,000	115,000	0	230,000
	FECO/MEP	63030	71600	Travel	100,000	100,000	0	200,000
	FECO/MEP	63030	72100	Contractual Services	400,000	400,000	0	800,000
	FECO/MEP	63030	75700	Training, workshop and confer	135,000	135,000	0	270,000
	Sub-Total				750,000	750,000		1,500,000
Activity 3 : Project Management	FECO/MEP	63030	72100	Contractual Services (Project Management for FECO)	1,040,000	609,700	448,500	2,098,200
	FECO/MEP	63030	72100	Contractual Services (Executing for CRAA)	240,000	140,700	103,500	484,200
	Sub-Total				1,280,000	750,400	552,000	2,582,400
	Total				16,000,000	9,380,000	6,900,000	32,280,000

Note: During the project implementation, the budget as listed above could be adjusted between budget lines under each activity and/or the new budget line could be added while keep the same subtotal for each activity, if deemed necessary; the budget among the activities under each year could be adjusted through the budget revision to be agreed between UNDP and FECO/MEP.

VI. MANAGEMENT ARRANGEMENT

6.1 Implementation Modality

The agreement between the Chinese government and the ExCom will serve as the framework within which the ICR sector plan will be implemented. The project will be managed in accordance with National Execution (NEX) modality. The Government of China through its Foreign Economic Cooperation Office, Ministry of Environmental Protection (FECO/MEP) will be implementing project with support from UNDP. The MoU between UNDP and FECO/MEP which was signed on 8 January 2011 will serve as the guideline for the overall management on the project implementation. The Performance Based Payment (PBP) Mechanism will be applied for the implementation of ICR sector plan project as discussed in this ProDoc. Further details is outlined in the Implementation Plan attached as Annex - VI

6.2 Roles and responsibilities

UNDP is serving as the implementing agency to supervise the implementation of the sector plan, specifically including the following:

- Providing assistance for policy development, planning and management of sector programming as set out in these sectors, when required;
- Ensuring verification of performance and progress of disbursement in accordance with the Agreement between the Chinese government and the ExCom and with its specific internal procedures and requirements as set out in these sectors and assisting FECO in the implementation and assessment of the activities;
- Assisting FECO in the preparation of the ICR sector annual Implementation Plans as per Appendix 4-A in the agreement between Chinese government and the ExCom;
- Ensuring financial verification of the activities implemented;
- Reviewing and clearing the Project Implementation Manual(PIM) and all other TORs for TA activities and provide advice and assistance as needed;
- Monitoring the progress and carrying out supervision missions;
- Ensuring the Fund disbursed in accordance with the guidelines of the ExCom;
- Reporting the progress of implementation plan and submitting requests to the ExCom for future tranches;

FECO/MEP will be responsible for the overall implementation, coordination and management of the ICR Sector Plan, specifically including the following:

- Preparing and implementing the PIM and Annual Implementation plan;
- Implementing, supervising and monitoring the conversion activities;
- Developing policy framework, implementing regulatory actions, and conducting technical assistance activities during the implementation as planned;
- Executing Performance-Based contracts with enterprises participating in Stage I with assistance of CRAA, for technology conversions, and ensuring disbursement to the enterprises based on agreed performance targets;
- Preparing the annual implementation plan and progress reports as per provision of the agreement between the Chinese government and the ExCom; and the reports as required by UNDP.
- Facilitating performance verification and financial audit as required;
- Coordinating between various HCFCs consumption sectors at national level in such a way as to facilitate establishment of sector level HCFC consumption reliably;

- Ensuring coordination between all related stakeholders in the sector with assistance of CRAA;
- Carrying out commissioning procedure for establishing completion of enterprise level conversions with assistance of CRAA;

In connection with above all technical assistance activities will be further clarified through specific TORs to be developed and agreed between UNDP and FECO.

In addition CRAA will participate in the overall management and implementation of HCFCs phase-out in ICR industry. Please see Annex VI for areas of responsibility.

6.3 Target for stage I (2011-2015)

Table 4

	2011	2012	2013	2014	2015	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	19,269.0	19,269.0	17,342.1	n/a
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	18,865.4	18,865.4	16,978.9	n/a
Maximum allowable consumption of Annex C, Group I substances in the ICR sector (ODP tonnes)	n/a	n/a	2402.8	2402.8	2162.5	n/a
Total Phase-out (ODP tonnes)	n/a	n/a	224.5	n/a	240.3	464.8

Note: the figures above are as per the finalized agreement between the government of China and the Executive Committee of the Multilateral Fund for the reduction in consumption of Hydrochlorofluorocarbons.

6.4 Payment Schedule and Indicators

Fund Allocation for ICR Sector Plan (Stage I)

Table 5

Category	Brief Description	US \$
Investment (51,000,000)	Conversion cost for compressor production lines	5,000,000
	Conversion cost for air-conditioner and refrigeration equipment production lines as stipulated in the HPMP	46,000,000
Technical assistance (3,750,000)	Policy and regulatory actions	200,000
	Technical Support Programme	1,000,000
	Technical Standards and Regulations	1,000,000
	MIS establishment	250,000
	Awareness and Training	300,000
	Monitoring	500,000
	Verification	500,000
Project management for FECO		3,965,000

Executing fee for CRAA	915,000
Contingency	1,370,000
Grand total	61,000,000

Tranche 2011 (Table 6)

Payment Date (Indicative)	Disbursement (US\$)	Indicators/Milestones
First disbursement No later than 15 Dec 2011	16,000,000	-Detailed project implementation plan is finalized; -1 stakeholder consultation completed;
Second disbursement No later than 15 July 2012	1,500,000	Detailed Plan for TA activities for 2012 and 2013;
Third disbursement No later than 15 December 2012	7,880,000	Signed conversion contracts total of 3,000 metric tonnes (of which about 600 metric tonnes prior to June 2012);
	25,380,000	

Tranche 2012 (Table 7)

Payment Date (Indicative)	Disbursement (US\$)	Indicators/Milestones
First disbursement No later than 30 June 2013	6,900,000	-The annual progress report for tranche 2011 and funding for tranche 2012 have been approved by the ExCom; -Conversion contracts signed totalling 800 metric tonnes;

The payment schedule and indicators for tranche 2013, 2014 and 2015 will be finalized and agreed upon by UNDP and FECO/MEP during 2012.

VII. MONITORING FRAMEWORK AND EVALUATION

7.1 Monitoring & Verification

The reporting with respect to the project shall include the following reports: Implementation Report, Implementation Plan and Verification Report as specified in the Agreement between the MLF Executive Committee and the Government of China.

The activities of Monitoring & Verification include the following:

a) Performance Verification:

UNDP will prepare the TOR of Performance Verification in agreement with FECO/MEP. The Performance Verification will be carried out by a qualified agency/expert team according to the requirements stipulated in the agreement between the Chinese government and the ExCom. The Performance Verification shall establish:

- If the targets of HCFCs consumption and/or phase out which are defined in the agreement between the Chinese government and the ExCom have been achieved.
- If the selected participating enterprises have reduced or have phased out HCFCs consumption as planned.
- If the alternatives and/or alternative technologies have been applied as agreed in the selected participating enterprises.
- If the progress of the conversion at participating enterprises is as planned.
- If the technical assistance activities have been appropriately conducted and obtained achievements which are defined the annual implementation plan.

In accordance with the agreement between the Chinese government and the ExCom, the conversions are to be verified for a random sample of at least 5% of the manufacturing lines which had been completed their conversion in the year to be verified. On the understanding that the total aggregated HCFC consumption of the random sample of the manufacturing companies that completed conversion in the year to be verified, representing at least 10% of the sector consumption phased out in that year.

The Performance Verification is to be carried out for 2013, 2014 and 2015 and will be completed in accordance with the ExCom submission schedule.

b) Financial Audit:

In accordance with the agreement between UNDP and the Chinese government, an annual financial audit on UNDP National Executing (NEX) projects in China will be conducted by an independent contractor. According to the agreement, if the project annual expenditure exceeds the UNDP defined minimum the project will participate in the financial audit. The project will be audited at least one time during its project life cycle. The financial audit aims to verify:

- If the project fund has been appropriately applied which are in line with the agreement between UNDP and the Chinese government.
- If the project fund has been appropriately disbursed in the selected enterprises in accordance with the requirement defined in the contracts between the Chinese government and the enterprises.
- If the project has achieved certain progress which are defined in the project document

and the annual work plan.

The financial audit will be conducted between February and April each year. The invited auditing agency will formulate an auditing report to UNDP China Country Office and share with FECO. If there are any qualified issues which are verified in the financial audit, the related payment will be suspended until the issues to be worked out by the responsible parties and accepted by UNDP.

c) Review Meetings

Two official review meetings between UNDP, FECO/MEP and executing partners will be conducted in the year, one of them to be arranged prior to the submission date of implementation plan and progress report. The objective of the meetings will be to review progress of implementation and finalize the implementation plan. Additional meetings between UNDP and FECO/MEP to monitor the progress, identify any potential risks, work out solutions and to ensure the smooth implementation will be held when UNDP and/or FECO/MEP deem them necessary.

d) Monitoring & Evaluation

UNDP will carry out monitoring & evaluation of enterprises level activities aperiodically. Monitoring will include a continuous review of the various project components and will be intended to (i) measure the progress towards meeting the overall project objectives and (ii) alert implementing partners to potential problems in implementation and propose corrective measures. Monitoring visits can be undertaken jointly between UNDP and FECO/MEP on annual basis. Such visits could be done in connection with the official meetings/project activities involving both parties. An independent expert, if necessary, could be invited to join the visit.

7.2 Quality Management for Project Activity Results

OUTCOME: China's compliance in ICR sector with the 2013 HCFC consumption freeze and reduction of 224.5 ODP tons in 2013 and 240.3 ODP tons in 2015, achieved.		
Output: The following activities contribute to achieving the outcome above.		
<ul style="list-style-type: none"> • Conversion of HCFCs to alternatives and/or alternative technologies in manufacturing compressor and industrial & commercial refrigeration & air-conditioning sector achieved contributing to phase-out of 464.8 ODP tons. • Establishment and implementation of policy and regulations on HCFCs control. • Development and implementation of technical standard and regulations, management information system, and technical support activities etc. • Development and promotion of awareness and training. • Planning, monitoring & reporting on project implementation. 		
Result 1	Investment Project – Conversion for compressor production lines and air-conditioner and refrigeration equipment production lines as stipulated in the HPMP	Start Date: Dec 2011 End Date: Dec 2016
Purpose	Convert HCFCs to substitutes and alternatives technologies that are ODS free and minimize other impacts on the environment in manufacturing compressors and industrial & commercial refrigerators.	
Description	Signing conversion contracts with participating enterprises.	
Quality Criteria	Quality Method	Date of Assessment

Contracts between FECO/MEP and participating enterprises signed	Signed contracts between FECO/MEP and enterprise	June 2015
Result 2	Technical Assistance – Providing technical assistance to ensure the achievement of compliance in ICR sector and in particular the implementation of the conversion project.	Start Date: Dec 2011 End Date: Dec 2016
Purpose	Establishment and implementation of policy and regulations on HCFCs control, technical standards, MIS system etc.	
Description	<ul style="list-style-type: none"> • Establish the related policy and regulations on HCFCs control. • Test and identify new alternatives and/or alternative technologies. • Develop and/or update the technical standard. • Develop the management information system in ICR sector. • Promote training and awareness activities. • Technical inputs, including assistance from technical experts, for project implementation. • Monitoring on project implementation. 	
Quality Criteria	Quality Method	Date of Assessment
Policy and regulations on HCFCs control in ICR sector issued.	Policy and regulations on HCFCs control in ICR sector	December 2013
Technical standard and regulations updated.	Technical standard and regulations	December 2015
Management information system developed.	Management information system	December 2013
Training provided.	Report on project progress	December 2016
Awareness promoted.	Report on project progress	December 2016
Financial audit	Financial audit report	June of each year
Performance verification	Verification report	June of 2014 and 2016
Result 3	Project Management	Start Date: Dec 2011 End Date: Dec 2016
Purpose	Ensuring smooth technical and operational management of project, build partnership with project stakeholders and monitor performance.	
Description	<ul style="list-style-type: none"> • Technical, Financial and Operational management • Coordination and consultation with national stakeholders • Monitoring and reporting 	
Quality Criteria	Quality Method	Date of Assessment
Annual progress on technical and operational aspects achieved	Annual progress report by FECO/MEP and UNDP	31 December of each year
Project implemented as planned	Timely submission of Implementation Report and Plan, and Performance Verification Report (as required) to the Executive Committee.	Due date for submission to the relevant Executive Committee Meeting

VIII. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement (SBAA) between the Government of the People's Republic of China and the United Nations Development Programme, signed by the parties on 29 June 1979.

Consistent with the Article III of the SBAA, the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.

The executing agency shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the executing agency's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The executing agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

In addition, the following types of revisions may be made to this Project Document with the signature of the UNDP resident representative only, provided he or she is assured that the other signatories of the Project Document have no objections to the proposed changes:

1. Revision in, or addition of, any of the annexes of the Project Document;
2. Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation; and
3. Mandatory annual revisions that rephrase the delivery of agreed project inputs, or reflect increased expert or other costs due to inflation, or take into account agency expenditure flexibility.

IX: Annexes

ANNEX-I: RISK ANALYSIS

ANNEX-II: Agreement between the Government of China and Executive Committee of Multilateral Fund to the Montreal Protocol on HPMP (Stage-I) *(To be attached)*

ANNEX-III: Final revised version of ICR HPMP of China for Stage I (approved by 64th Excom) *(To be attached)*

ANNEX-IV: Provisional Budget of ICR HPMP of China for the period 2011 to 2016 *(To be finalized)*

ANNEX-V: Milestones, Indicators and Funding for Project Management

ANNEX-VI: Implementation Plan

ANNEX-I

RISK ANALYSIS

Description	Date identified	Type	Impact and Probability (Low 1 to High 5)	Counter Measures	Owner
Delay in completion of project deliverables	Project initiation date	Operational	Probability - 3 : Impact - 4	Close coordination with FECO/MEP and periodic monitoring of project tasks. Facilitating timely completion of tasks.	FECO/MEP UNDP
Delay in available cost-effective HCFC free options	Project initiation date	Operational	Probability - 3 : Impact - 4	Consultation with specialist technical experts on technical options, closely monitoring technical developments.	FECO/MEP UNDP
Delay in implementation of conversion on HCFCs	Project initiation date	Operational	Probability - 3 : Impact 4	Close coordination with FECO/MEP and periodic monitoring at participating enterprises. Facilitating timely monitoring & verification activities.	FECO/MEP UNDP
Delay in implementation of policies, regulations, technical standards etc	Project initiation date	Operational	Probability - 2 : Impact - 4	Close coordination with FECO/MEP and regulatory agencies on expeditious implementation of regulations	FECO/MEP UNDP

ANNEX-II

**AGREEMENT BETWEEN THE GOVERNMENT OF CHINA AND THE EXECUTIVE
COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN
CONSUMPTION OF HYDROCHLOROFLUOROCARBONS**

ANNEX-III

Final revised version of ICR HPMP of China for Stage I (approved by 64th Excom)

ANNEX-IV

Provisional Budget for ICR HPMP of China: 2011 to 2016

The provisional budget for ICR HPMP of China for the period 2011 to 2016 will be finalized in 2012 upon scheduling the payment of the tranches 2013, 2014 and 2015.

ANNEX-V

Milestones, Indicators and Funding for Project Management

The milestones, indicators, timelines and payments for Project Management component in accordance with tranche 2011 and 2012 are presented in the table below in columns B, C, D and E, respectively.

No.	Milestone	Indicator	Time Line	Amount in USD
A	B	C	D	E
1.	Finalisation of Project Document between FECO/MEP and UNDP	(a) ProDoc signing by two parties (b) Preparation for ICR HPMP launch	15 December 2011	1,280,000
2.	Submission of second tranche request to the Executive Committee	(a) Submission of Implementation Report for 2011, Implementation plan for 2012 and request for tranche for 2012 to the Executive Committee (b) At least one stakeholders' consultation meeting for ICR sector.	15 December 2012	750,400
3.	Submission of third annual tranche request to the Executive Committee	(a) Submission of Implementation Report for 2012, Implementation plan for 2013 and request for tranche for 2013 to the Executive Committee (b) Submission of Article-7 data for the year 2011 (c) At least one stakeholders' consultation meeting for ICR sector.	15 December 2013	552,000
	Total			2,582,400

Note: The milestones, indicators, timelines and payments for Project Management component in accordance with tranche 2013, 2014 and 2015 will be finalized in 2012.

ANNEX-VI Implementation Plan

1. Introduction

- a) In order to achieve the HCFC phase-out targets for stage-I, i.e. freezing the HCFC consumption at the average level of 2009-2010 from January 2013 and reduction of 10% of the baseline consumption from January 2015, the HCFC Phase-out Management Plan(HPMP) in the Industrial and Commercial Refrigeration and Air-conditioning (ICR) Sector in China has been submitted to 62nd MLF ExCom in November 2010 and got approved in 64th MLF ExCom in July 2011
- b) The agreement between Chinese government and the ExCom will serve as the framework within which the ICR sector plan will be implemented. The MoU between UNDP and FECO/MEP which was signed on 8 January 2011 will serve as the guideline for the overall management on the project implementation. The Performance Based Payment (PBP) Mechanism will be applied for the implementation of ICR sector plan project as discussed in this ProDoc.
- c) This overall Implementation plan will cover the parts of “Management and Supervision, Implementation Schedule, Payment Management, Verification and Monitoring”, representing the agreement between UNDP and FECO on the implementation of this ICR sector plan project.

2. Management and Supervision

- a) United Nations Development Programme (UNDP) is serving as the implementing agency to supervise the implementation of the sector plan, specifically including the following:
- I. Providing assistance for policy development, planning and management of sector programming as set out in these sectors, when required;
 - II. Ensuring verification of performance and progress of disbursement in accordance with the Agreement between China and the ExCom and with its specific internal procedures and requirements as set out in these sectors and assisting FECO in the implementation and assessment of the activities;
 - III. Assisting FECO in the preparation of the ICR sector annual Implementation Plans as per Appendix 4-A in the agreement between Chinese government and the ExCom;
 - IV. Ensuring financial verification of the activities implemented;
 - V. Reviewing and clearing the Project Implementation Manual(PIM) and all other TORs for TA activities and provide advice and assistance as needed;
 - VI. Ensuring technical verification undertaken by appropriate and independent technical experts;
 - VII. Monitoring the progress and carrying out supervision missions;
 - VIII. Ensuring the Fund disbursed in accordance with the guidelines of the ExCom;
 - IX. Reporting the progress of implementation plan and submitting requests to the ExCom for future tranches;
- b) MEP/FECO will be responsible for the overall implementation, coordination and management of the ICR Sector Plan, specifically including the following: (TBC, following agreement Appendix 5-A)

- I. Preparing and implementing the PIM and Annual Work plan;
- II. Implementing, supervising and monitoring the conversion activities;
- III. Developing policy framework, implementing regulatory actions, and conducting technical assistance activities during the implementation as planned;
- IV. Executing Performance-Based contracts with enterprises participating in Stage I with assistance of CRAA, for technology conversions, and ensuring disbursement to the enterprises based on agreed performance targets;
- V. Preparing the annual implementation plan and progress reports as per provision of the agreement between China and the ExCom;
- VI. Facilitating technical verification, performance verification and financial audit as required;
- VII. Coordinating between various HCFC consumption sectors at national level in such a way as to facilitate establishment of sector level HCFC consumption reliably;
- VIII. Ensuring coordination between all related stakeholders in the sector with assistance of CRAA;
- IX. Carrying out commissioning procedure for establishing completion of enterprise level conversions with assistance of CRAA;

c) China Refrigeration and Air-conditioning Industry Association (CRAA) will participate in the overall management and implementation of HCFCs phase-out in ICR industry and will be responsible for the following tasks:

- I. Providing comprehensive technical support to the overall phase-out and conversion of the industry;
- II. Assisting FECO in selecting and finalizing the enterprise that would participate in stage I conversions;
- III. Assisting FECO in monitoring and reporting the progress of the conversion at enterprise level;
- IV. Carrying out selected technical assistance activities, such as organizing workshops and information disseminations activities, arranging technical experts meeting, and training, etc., as and when requested by FECO;
- V. Ensuring selection of the appropriate alternative technology at enterprise level and ensuring their sustainable implementation consistent with the agreed schedule;
- VI. Assisting FECO in formulation and implementation of policy and regulatory interventions that would ensure reductions in the HCFC consumption required for compliance with the 2013 and 2015 targets;
- VII. Assisting FECO in developing the programme implementation manual (PIM);
- VIII. Providing up-to-date data information and statistics related to consumption of HCFC and alternatives, manufacturing, import and export volumes of the products containing HCFCs and alternatives and any other data related to the industry as maybe requested by FECO;
- IX. Assisting FECO in ensuring coordinating with related stakeholders during the implementation tasks mentioned above;

Note: all technical assistance activities will be further clarified through specific TORs to be developed and agreed between UNDP and FECO.

3. Target for stage I (2011-2015)

	2011	2012	2013	2014	2015	Total
Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	19,269.0	19,269.0	17,342.1	n/a
Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	18,865.4	18,865.4	16,978.9	n/a
Maximum allowable consumption of Annex C, Group I substances in the ICR sector (ODP tonnes)	n/a	n/a	2402.8	2402.8	2162.5	n/a
Total Phase-out (ODP tonnes)	n/a	n/a	224.5	n/a	240.3	464.8

Note: the figures above are as per the finalized agreement between the government of China and the Executive Committee of the Multilateral Fund for the reduction in consumption of Hydrochlorofluorocarbons.

4. Payment Schedule and Indicators

Tranche 2011

Payment Date (Indicative)	Disbursement (US\$)	Indicators/Milestones
First disbursement No later than 15 Dec 2011	16,000,000	-Detailed project implementation plan is finalized; -1 stakeholder consultation completed;
Second disbursement No later than 15 July 2012	1,500,000	Detailed Plan for TA activities for 2012 and 2013;
Third disbursement No later than 15 December 2012	7,880,000	Signed conversion contracts total of 3,000 metric tonnes (of which about 600 metric tonnes prior to June 2012);
	25,380,000	

Tranche 2012

Payment Date (Indicative)	Disbursement (US\$)	Indicators/Milestones
First disbursement No later than 30 June 2013	6,900,000	-The annual progress report for tranche 2011 and funding for tranche 2012 have been approved by the ExCom; -Conversion contracts signed totalling 800 metric tonnes;

Note: The payment schedule and indicators tranche 2013, 2014 and 2015 will be finalized based on the approval from the ExCom and the actual implementation. A further agreement between UNDP and FECO/MEP on the above-mentioned three tranches will serve as the amendment to be attached.

5. Monitoring & Verification

e) Performance Verification:

FECO/MEP will prepare the TOR of Performance Verification for UNDP's review and clearance. FECO/MEP will organize the qualified agency/expert team to conduct the verification according to the requirements stipulated in the agreement between the Chinese government and the ExCom. The Performance Verification aims to verify:

- If the targets of HCFC frozen, reduction and/or phase-out which are defined in the agreement between the Chinese government and the ExCom have been achieved.
- If the selected participating enterprises have stopped consuming HCFCs.
- If the alternatives and/or alternative technologies have been appropriately applied in the selected participating enterprises.
- If the progress of the conversion at selected enterprises have met the requirement as defined in the contracts between FECO/MEP and the enterprises.
- If the technical assistance activities have been appropriately conducted and obtained achievements which are defined the annual implementation plan.

In accordance with the agreement between the Chinese government and the ExCom, the conversions are to be verified for a random sample of at least 5% of the manufacturing lines which had been completed their conversion in the year to be verified. On the understanding that the total aggregated HCFC consumption of the random sample of the manufacturing companies that completed conversion in the year to be verified, representing at least lines representing at least 10% of the sector consumption phased out in that year.

The Performance Verification is to be completed by April and the verification report is to be submitted to FECO/MEP and UNDP no later than end of May in that year.

f) Financial Audit:

In accordance with the agreement between UNDP and the Chinese government, an annual financial audit on UNDP National Executing (NEX) projects in China will be conducted by an independent contractor. According to the agreement, if the project achieved the annual expenditure exceeded the UNDP defined minimum the project will participate in the financial audit. The project will be audited at least one time during its project life cycle. The financial audit aims to verify:

- If the project fund has been appropriately applied which are in line with the agreement between UNDP and the Chinese government.
- If the project fund has been appropriately disbursed in the selected enterprises in accordance with the requirement defined in the contracts between the Chinese government and the enterprises.
- If the project has achieved certain progress which are defined in the project document and the annual work plan.

The financial audit will be conducted between February and April each year. The Audit Report will be submitted to UNDP China Country Office and shared with FECO/MEP. If there are any qualified issues which are verified in the financial audit, the related payment

will be suspended until the issues to be worked out by the responsible parties and accepted by UNDP.

g) Review Meetings

Two official review meetings between UNDP, FECO/MEP and executing partners will be conducted in the year, one of them to be arranged prior to the submission date of implementation plan and progress report. The objective of the meetings will be to review progress of implementation and finalize the implementation plan. In addition, additional meetings between UNDP and FECO/MEP to monitor the progress, identify any potential risks, work out solutions and to ensure the smooth implementation will be held when UNDP and/or FECO/MEP deem them necessary.

h) Monitoring & Evaluation

UNDP will carry out monitoring & evaluation of enterprises level activities aperiodically. Monitoring will include a continuous review of the various project components and will be intended to (i) measure the progress towards meeting the overall project objectives and (ii) alert implementing partners to potential problems in implementation and propose corrective measures. Monitoring visits can be undertaken jointly between UNDP and FECO/MEP on annual basis. Such visits could be done in connection with the official meetings/project activities involving both parties. An independent expert, if necessary, could be invited to join the visit.