



**United Nations  
Environment  
Programme**

Distr.  
GENERAL

UNEP/OzL.Pro/ExCom/65/28  
18 October 2011

ORIGINAL: ENGLISH



---

EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Sixty-fifth Meeting  
Bali, Indonesia, 13-17 November 2011

**PROJECT PROPOSAL: CHINA**

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

Phase-out

- HCFC phase-out management plan: solvent sector (stage I, first tranche)

UNDP

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### China

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC phase out plan (Stage I) Solvent	UNDP (lead)

<b>(II) LATEST ARTICLE 7 DATA</b>	Year: 2010	19,990.7 (ODP tonnes)
-----------------------------------	------------	-----------------------

<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>								<b>Year: 2010</b>	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Tobacco fluffing	Total sector consumption
				Manufacturing	Servicing				
HCFC-123				11.7	2.59				14.29
HCFC-124									
HCFC-141b		5,727.57				495.66		11.66	6,234.89
HCFC-142b		1,172.6		6.5	344.26				1,523.36
HCFC-22	59.58	1,488.3		6,776.83	3,635.16				11,959.87
HCFC-225ca						1.4			1.4

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009 - 2010 baseline (estimate):	19,408.8	Starting point for sustained aggregate reductions:	19,408.8
<b>CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)</b>			
Already approved:	3,382.66	Remaining:	16,029.24

<b>(V) BUSINESS PLAN</b>		<b>2011</b>	<b>Total</b>
UNDP	ODS phase-out (ODP tonnes)	0	0
	Funding (US \$)	0	0

<b>(VI) PROJECT DATA</b>			<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>Total</b>
Montreal Protocol consumption limits			n/a	n/a	19,408.8	19,408.8	17,468.0	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	19,408.8	19,408.8	17,468.0	n/a
Project Costs requested in principle(US\$)	UNDP	Project costs	2,500,000	0	2,000,000	0	500,000	5,000,000
		Support costs	187,500	0	*	0	*	*
Total project costs requested in principle (US \$)			2,500,000	0	2,000,000	0	500,000	5,000,000
Total support costs requested in principle (US \$)			187,500	0	*	0	*	*
Total funds requested in principle (US \$)			2,687,500	0	0	0	0	0

\*To be determined subsequently

<b>(VII) Request for funding for the first tranche (2011)</b>		
Agency	Funds requested (US \$)	Support costs (US \$)
UNDP	2,500,000	187,500

<b>Funding request:</b>	Approval of funding for the first tranche (2011) as indicated above
<b>Secretariat's recommendation:</b>	For individual consideration

## PROJECT DESCRIPTION

1. UNDP, as the sector lead implementing agency, submitted stage I of the plan for the phase-out of HCFCs in the solvent sector in China, to achieve a reduction of 69 ODP tonnes of HCFCs by 2015. The cost of the sector plan had been agreed at the 64<sup>th</sup> meeting of the Executive Committee (decision 64/49), in conjunction with the level of phase out to be met in the solvent sector. This decision, in its sub-paragraph b, specified that a maximum level of funding of up to US \$5 million plus agency support costs for UNDP for the solvent sector could be considered at the 65<sup>th</sup> meeting.

### Background

2. The solvent sector is one of the HCFC consuming sectors in China in which the activities funded by the Multilateral Fund are planned to achieve compliance with the 2013 and 2015 HCFC controls of the Montreal Protocol. The industrial consumption sectors in China, i.e. all consumption sectors except for the servicing sector, have an estimated baseline consumption of 14,812 ODP tonnes; the solvent sector is comparatively small and contributes only 3.3 per cent to this baseline. The phase-out of 69 ODP tonnes from solvent sector activities by 2015 forms only 2.1 per cent of the total phase-out in all industrial consumption sectors in the same time frame. The four main sub-sectors in the solvent sector consist of the cleaning of medical devices, contributing 44 per cent to the consumption, metal cleaning and electronics cleaning both contributing about 20 per cent, as well as formulated solvents, covering the remainder of the consumption. These sectors are briefly described in the following sub-paragraphs:

- (a) In the disposable medical devices sub-sector, HCFCs are used as a cleaning agent for needle tubes or needle-making tools and, secondly, as a solvent to dilute silicon oil for the silicification process (covering of needles and syringe cylinders with silicon oil);
- (b) In the metal cleaning sub-sector, HCFCs are used to remove machining oils, grease and other pollutants from metal components and parts during surface processing and storage. Among the objects cleaned are compressor parts, valves, textile spinnerets, and micro temperature control parts;
- (c) In the electronic cleaning sub-sector, HCFCs are mainly used to clean sophisticated electronic and electro-mechanical components, LCDs and optical glasses, integrated circuit boards and assembly parts; and
- (d) In the solvent formulation sub-sector, HCFCs and other substances are mixed to produce cleaning agents for end users such as the medical devices sub-sector, enterprises involved in cut tobacco bulking, and other customers.

3. During the 64<sup>th</sup> Meeting of the Executive Committee, the project “Demonstration project for conversion from HCFC-141b-based technology to iso-paraffin and siloxane (KC-6) technology for cleaning in the manufacture of medical devices at Zhejiang Kindly Medical Devices Co. Ltd.” was approved in decision 64/48, phasing out the use of 3.1 ODP tonnes of HCFC-141b in the solvent sector in China. The solvent sector plan, which was forwarded to the Executive Committee as a basis for the discussions at the 64<sup>th</sup> Meeting, consistently included this project in the calculation of the overall phase-out in the sector, namely 69 ODP tonnes. Consequently, the sector plan described in this document is related to the phase-out of the remainder, namely 65.9 ODP tonnes of HCFC-141b.

### HCFC use in the sector

4. The HCFC use in the sector, the resulting sector baseline, the sector consumption target for 2013 and 2015 and the reduction out are shown in Table 1.

Table 1: Past and planned future consumption data for the solvent sector

Substance	2009	2010*	Baseline	2013	2015
Consumption (metric tonnes)					
HCFC-141b	4,352.00	4,612.00	4,482.00	4,482.00	4,127.00
HCFC-225ca	41.82	55.80	48.86	48.86	48.86
HCFC-225cb	0.10	0.00			
Total	4,393.92	4,667.80	4,530.86	4,530.86	4,175.86
Consumption (ODP tonnes)					
HCFC-141b	478.72	507.32	493.02	493.02	453.97
HCFC-225ca	1.05	1.40	1.22	1.22	1.22
HCFC-225cb	0.00	0.00			
Total	479.77	508.72	494.24	494.24	455.19
Phase-out**					
HCFC-141b	metric tonnes			272.72	354.50
	ODP tonnes			30.00	39.00

\* Based on estimated national consumption data

\*\* Including demonstration project approved at the 64<sup>th</sup> meeting

5. UNDP informed that in recent years, HCFC-141b consumption has grown rapidly in the solvent sector as a result of fast development of the disposable medical devices sub-sector between 2006 and 2008, where the average annual growth rate exceeded 8 per cent per year; in 2009, the growth was 5 per cent per year. The use of HCFC-225ca/cb has a general downward trend in the last years. In 2009, the combined use of both HCFC-225ca and HCFC-225cb was 78 per cent lower than in 2006. In the four sub-sectors, 500 enterprises using HCFCs for cleaning have been identified.

#### Sector structure and technology selection

6. Through a survey 412 enterprises were approached, of which 232 provided replies; these replies were used to establish a sector profile. In this group, the enterprises with a consumption above 100 mt comprised only 1.7 per cent of all enterprises, but were responsible for about 23 per cent of the consumption. Slightly more than 30 per cent of the overall consumption was related to the next two groups in size, which are enterprises between 10 and 50 mt of consumption, representing 23 per cent of all enterprises that responded, and those between 50 and 100 mt of consumption, representing less than 6 per cent of the responding enterprises. The remaining consumption lies with enterprises below 10 mt consumption per enterprise. Very small consumers of less than one mt represented 33 per cent of the respondents, but accounted only for 0.6 per cent of the total consumption.

7. Enterprises in all sub-sectors are using for a number of specific tasks substances/methods other than HCFC solvents. However, where HCFC solvents are being used, they cannot easily be replaced, since after a previous campaign to phase out ODS as solvents where possible, HCFCs are currently already limited to specific, challenging cleaning tasks. The solvent sector plan investigates a number of different alternatives to the currently used HCFC-141b, and follows these two principles in the selection of the most suitable alternative:

- (a) To select water-based and semi-water-based cleaning technologies as much as possible; and
- (b) To select, where necessary, non-ODS organic solvent cleaning technology.

8. The sector plan foresees phase-out in three sub-sectors: medical devices cleaning, metal cleaning and electronics cleaning. The selected technologies were for the disposable medical devices sub-sector a solvent "KC-6", a mixture of several solvents already described in detail in document UNEP/OzL.Pro/ExCom/63/26; the use of hydrocarbon solvents for metal cleaning and the use of water-based solvents for electronic cleaning.

### Second conversion

9. UNDP advised that a large share of the enterprises envisaged participating in stage I of the HPMP will carry out their second conversion with funding from the Multilateral Fund, since they have already participated in conversions from CFCs to HCFC-141b. The sector plan presents this as a common and unavoidable problem for the solvent sector. The document stresses that, in the Chinese solvent sector, the use of HCFC-141b was from the onset essentially an unavoidable option in order to phase out other ODS with a higher ozone depletion potential, especially CFC-113. In a number of cases, HCFC-141b was chosen if, in the particular case of CFC-113 phase-out, the use of water-based cleaning approaches proved insufficient for the needs of the industry in terms of cleaning performance, technical process, equipment investment and/or costs. It is further argued that HCFC-141b use in the solvent sector is almost exclusively a result of the phase-out of CFC-113, and thus a large share of double conversions in the sector plan are likely. Since the enterprises considered for conversion have been the leaders in the respective sub-sectors, and at the same time have been large solvent users for quite some time, they have consequently been active participants in earlier ODS phase-out activities. The HPMP argues that it is reasonable they become first-choice enterprises for HCFC-141b phase-out activities during stage I because of their level of consumption and ability to absorb the technology.

### Costs and implementation modality

10. The total cost provided in the solvent sector plan for a phase-out of 599.1 mt (65.9 ODP tonnes) of HCFC-141b, as originally submitted, was US \$11.9 million, consisting mainly of investment activities, with 9.1 per cent of non-investment activities including technical assistance and programme management unit (PMU). Stage I of the solvent sector plan will, through conversions facilitated by investment activities, phase out 627.3 mt of consumption by 2015. These activities are supplemented by a technical assistance component, which includes publicity awareness activities, information distribution to users, local environmental protection agencies and relative industry associations, as well as the strengthening of capacities in identifying, assisting and effectively supervising enterprises. Research and development into non-ODS alternatives is also to be carried out under the sector plan. Finally, policies, laws, and regulations will be formulated and promulgated during the implementation.

11. The submission contained a list of candidate enterprises for stage I of the phase-out plan for the solvent sector, including only enterprises with a consumption of more than 20 tonnes of HCFC-141b per year; these enterprises are also known to have strong technical, financial and management capabilities and are able to use relatively mature and cost effective alternative technologies. The list allows participation in the sector plan of enterprises in the main three solvent sub-sectors. The 16 enterprises on that list were mostly fully owned by Chinese nationals, while some enterprises had foreign ownership up to 30 per cent. Some enterprises exported negligible amounts of their products to non-Article 5 countries. The information provided in the list included the year of commencement of production, the 2009 consumption and the expected phase-out as well as, for several enterprises the amount of the equipment in the enterprise using HCFC solvent. These enterprises are from the three sub-sectors of disposable medical devices, metal cleaning and electronic cleaning, and have an aggregated potential reduction amounting to 981.5 mt of HCFC consumption. Similar to the plans submitted previously for the sector plans for other industrial sectors in China, the solvent sector plan did not contain detailed information about the baseline equipment available in each company. Instead, the plan informed that, after approval, enterprises participating in the programme will most probably be selected from the list described earlier.

### Future stages

12. For future stages, it is expected that more activities will be carried out in the years from 2016 into 2020 in the medical devices, electronics and metal cleaning sub-sectors, and to focus, from 2020 onwards, on activities in the solvent formulation sub-sector. Assuming satisfactory implementation, HCFC-141b consumption will be completely prohibited in the medical devices sub-sector in 2025, and in 2030 in the complete solvent sector.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

13. The Secretariat sought a number of technical clarifications regarding the solvent sector plan as submitted by UNDP on behalf of China:

- (a) UNDP advised that the consumption of HCFC-225ca/cb will be frozen at a level of 48.86 mt or less from 2013 onwards, with no change in 2015;
- (b) Prompted by the Secretariat regarding easily replaceable HCFC-141b consumption in the solvent sector in light of a long-standing regulatory approach to minimize its use, UNDP replied that the conversion from HCFCs to alternative technologies in the solvent sector is complex, and the solution will vary by sub-sector and specific application. UNDP does not see cost-effective alternatives established in the market today;
- (c) UNDP advised that the activities foreseen in the original submission, at a proposed funding level of US \$11.9 million plus agency support costs, would remain unchanged and would be incorporated in a budget of US \$5 million. In the budget, the share of technical assistance will remain at the same level as before, i.e. 10 per cent added to the total investment cost of the proposal, resulting in overall cost of US \$5 million as agreed in decision 64/49;
- (d) UNDP informed the Secretariat that phase-out activities for HCFC-225ca/cb will only be considered in future stages, since the consumption is only 1.22 ODP tonnes and the uses are in very specific cleaning applications. UNDP also advised that continuous monitoring, development and dissemination of alternatives will be undertaken to allow the enterprises to convert as soon as mature and cost-effective alternatives become available; and
- (e) The sector plan had raised concerns regarding the flammability of hydrocarbon solvents, but considered the flammability of a solvent called KC-6 as acceptable. As for more detailed explanations, UNDP replied that hydrocarbons, mostly heptane, octane and their isomers have lower volatility and longer dry times, a lower flash point, a lower threshold of explosion and higher flammability than KC-6. Consequently, UNDP considers them to pose a higher risk in a manufacturing environment, especially in enclosed workshops.

14. The Secretariat and UNDP had discussed how best to incorporate the new solvent sector plan in the existing Agreement. As a result, it was suggested that China submits a new draft Agreement to replace the existing one approved at the 64<sup>th</sup> meeting, with modifications to include the solvent sector. A draft Agreement is enclosed as Annex I to this document.

15. The Agreement approved with decision 64/49 included in its Appendix 5-A: "monitoring institutions and roles" information that "The details of the monitoring arrangements will be prepared by the Government of China separately and submitted for agreement by the Executive Committee, for subsequent inclusion in this Appendix 5-A." UNDP, as a lead agency for the HPMP of China, did not submit the related information to the Fund Secretariat. The Secretariat and UNDP discussed the issue further, and the Secretariat advised the agency that, given the fairly generic nature of the Agreement, the monitoring institutions and roles form the tool through which the Government of China as well as the Executive Committee will see the necessary information regarding the progress in implementation of the HPMP and in reaching its objectives. The Secretariat further pointed out that monitoring institutions and roles could be sector specific, but need to be able to provide with sufficient accuracy sector consumption data and information about the progress in implementing the Agreement through the implementation of

the activities. The Secretariat also informed UNDP that in the view of the Secretariat the information has to be submitted in time to allow the Secretariat to review, and possibly comment before the Executive Committee could discuss the matter and consider approving the related language. Finally, the Secretariat informed UNDP that the issue of monitoring institutions and roles has some urgency and needs to be completed in the near future. The draft decision below is intended to facilitate the related process.

## RECOMMENDATION

16. The Executive Committee may wish to consider:

- (a) Approving, in principle, the solvent sector plan under stage I of the HCFC phase-out management plan (HPMP) for China for the period 2011 to 2015, at the amount of US \$5,000,000 plus agency support costs for UNDP;
- (b) Deducting 65.9 ODP tonnes of HCFCs from the starting point for sustained aggregate reduction in HCFC consumption;
- (c) Approving the draft Agreement between the Government of China and the Executive Committee for the reduction in consumption of HCFCs, as contained in the Annex I to this document, to replace the previous Agreement approved at the 64<sup>th</sup> meeting in decision 64/49;
- (d) Requesting the Fund Secretariat, once the baseline data were known, to update the Agreement, including Appendix 2-A, with the figures for maximum allowable consumption, and to notify the Executive Committee of the resulting change in the levels of maximum allowable consumption accordingly; and
- (e) Approving the first tranche of the solvent sector plan under stage I of the HPMP for China and the corresponding implementation plan for 2011-2012 at the amount of US \$2,500,000 plus agency support costs of US \$187,500 for UNDP.

-----

## Annex I

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

1. This Agreement represents the understanding of the Government of China (the “Country”) and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A (“The Substances”) to a sustained level of 17,468.0 ODP tonnes by 1 January 2015 in compliance with Montreal Protocol schedules, with the understanding that this figure is to be revised one single time, once the baseline consumption for compliance has been established based on Article 7 data.

2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 (“Maximum allowable total consumption of Annex C, Group I substances”) of Appendix 2-A (“The Targets, and Funding”) in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances that exceeds the level defined in rows 4.1.3, 4.2.3, 4.3.3, 4.4.3, 4.5.3, and 4.6.3 (remaining eligible consumption).

3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees, in principle, to provide the funding set out in row 3.1 of Appendix 2-A (“The Targets, and Funding”) to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (“Funding Approval Schedule”).

4. The Country agrees to implement this Agreement in accordance with the HCFC phase-out sector plans submitted and the commitments specified in Appendix 8-A. In accordance with sub-paragraphs 5(a)(ii) and 5(b)(i) of this Agreement, the Country will accept independent verification of completion of the conversion of manufacturing capacity as well as achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A of this Agreement.

5. The Executive Committee will not provide the Funding in accordance with the Funding Approval Schedule unless the Country satisfies the following conditions at least eight weeks<sup>1</sup> in advance of the applicable Executive Committee meeting set out in the Funding Approval Schedule:

- (a) For the release of any tranche:
  - (i) That the Country had met the Targets set out in row 1.2 of Appendix 2-A for all relevant years. Relevant years are all years since the year in which this Agreement was approved. Years for which no obligation for reporting of country programme data exists at the date of the Executive Committee meeting at which the funding request is being presented are exempted;
  - (ii) That the meeting of these Targets has been independently verified, unless the Executive Committee decided that such verification would not be required; and

---

<sup>1</sup> Tranches with requested level of funding of more than US \$5 million should be submitted in full 12 weeks in advance to the applicable Executive Committee meeting in line with decision 20/7.



- (iii) That, for all submissions from the 68<sup>th</sup> Meeting onwards, confirmation has been received from the Government that an enforceable national system of licensing and quotas for HCFC imports and, where applicable, production and exports is in place and that the system is capable of ensuring the Country's compliance with the Montreal Protocol HCFC phase-out schedule for the duration of this Agreement;
- (b) Conditions to be met as a precondition for the release of tranches for a sector plan:
  - (i) For sector plans with activities that include the conversion of manufacturing capacity, the Country has submitted a verification report of a random sample of at least 5 per cent of the manufacturing lines which had 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 lines represents at least 10 per cent of the sector consumption phased out in that year;
  - (ii) That the Country had submitted annual implementation reports in the form of Appendix 4-A ("Format of Implementation Reports and Plans") covering each previous calendar year; that it had achieved a significant level of implementation of activities initiated with previously approved tranches; and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and
  - (iii) That the Country has submitted an annual implementation plan for the respective sector in the form of Appendix 4-A ("Format of Implementation Reports and Plans") covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement, and will also establish and maintain a system to monitor the consumption in the different sectors, to ensure compliance with the sector consumption limits set out in rows 1.3.1, 1.3.2, 1.3.3 and 1.3.4 of Appendix 2-A. The details of the monitoring arrangements will be prepared by the Country separately and submitted for approval by the Executive Committee, for subsequent inclusion in Appendix 5-A.

7. The Executive Committee agrees that the Country may have the flexibility to reallocate the approved funds, or part of the funds, within the funding foreseen for each sector according to the evolving circumstances to achieve the smoothest reduction of consumption and phase-out of the Substances specified in Appendix 1-A:

- (a) Should the Country decide during implementation of this Agreement to introduce alternative technologies other than those proposed in the sector plans submitted, or implement differently as proposed in those sector plans, this would require approval of those changes as part of an annual implementation plan. The documentation can also be provided as part of a revision to an existing annual implementation plan, to be submitted eight weeks prior to any meeting of the Executive Committee. Such a request would include a description of the changes in activities to implement the new alternative technology, the calculation of the associated incremental costs and the impact on the climate. The Country agrees that potential savings in incremental costs related to the change of technology would decrease the overall funding level under this Agreement accordingly;

- (b) Reallocations categorized as major changes must be documented in advance in an Annual Implementation Plan and approved by the Executive Committee as described in sub-paragraph 5(b)(iii) above. The documentation can also be provided as part of a revision to an existing annual implementation plan, to be submitted eight weeks prior to any meeting of the Executive Committee. Major changes would relate to:
  - (i) Issues potentially concerning the rules and policies of the Multilateral Fund;
  - (ii) Modifications to any clause in this Agreement;
  - (iii) Changes in the annual levels of funding allocated to individual bilateral or implementing agencies for the different tranches on a sector level;
  - (iv) Provision of funding for programmes or activities not included in the current endorsed annual implementation plan with a cost greater than 20 per cent of the total cost of the last approved tranche or US \$2.5 million, whichever is lower; and
  - (v) Removal of activities in the annual implementation plan with a cost greater than 20 per cent of the total cost of the last approved tranche or US \$2.5 million, whichever is lower;
- (c) Reallocations not categorized as major changes may be incorporated in the approved annual implementation plan, under implementation at the time, and reported to the Executive Committee in the subsequent annual implementation report; and
- (d) Any remaining funds will be returned to the Multilateral Fund upon completion of the last tranche of the Agreement.

8. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNDP has agreed to be the lead implementing agency (the “Lead IA”), and the Government of Germany, the Government of Japan, UNIDO, UNEP and the World Bank have agreed to be cooperating agencies (“Cooperating IAs) in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of any of the agencies taking part in this Agreement.

9. The Lead IA will be responsible for ensuring co-ordinated planning, implementation and reporting of all activities under this Agreement across all relevant sectors, including but not limited to independent verification as per sub-paragraph 5(b)(i), and implementing the activities related to the role as the Lead IA described in Appendix 6-A and the activities as a sector Lead IA described in Appendix 6-B. The World Bank will be responsible for carrying out the independent verification as per sub-paragraph 5(a)(ii), and implementing additional activities regarding its role as a sector Lead IA described in Appendix 6-D. The Government of Germany, UNIDO and UNEP will be responsible for carrying out the activities in the respective Sector Plans described in Appendices 6-C, 6-E and 6-F, respectively, and their subsequent revisions as per sub-paragraph 5(b)(iii) and paragraph 7. The Government of Japan as the “Cooperating IA” will be responsible for carrying out the activities described in Appendix 6-G. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IAs with the fees set out in rows 2.1.2, 2.2.2, 2.2.4, 2.3.2, 2.4.2, 2.5.2, 2.5.4, 2.6.2 and 2.7.2 of Appendix 2-A.

10. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amount set out in Appendix 7-A in respect of each ODP kg of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement, and take related decisions. Once these decisions are taken, this specific case will not be an impediment for future tranches as per paragraph 5 above.

11. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decision that may affect the funding of any other consumption sector projects or any other related activities in the Country, with the sole exception of funding for a solvent sector plan, which may be appended to this Agreement at a later time.

12. The Country will comply with any reasonable request of the Executive Committee, the Lead IA, the sector Lead IAs and the Cooperating IAs to facilitate implementation of this Agreement. In particular, it will provide the Lead IA, the sector Lead IAs and the Cooperating IAs with access to the information necessary to verify compliance with this Agreement.

13. The completion of stage I of the HPMP and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption level has been specified in Appendix 2-A. Should there at that time still be activities that are outstanding, and which were foreseen in the Sector Plan, and its subsequent revisions as per sub-paragraph 5(b)(iii) and paragraph 7, the completion will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per sub-paragraphs 1(a), (b), (d), (e) and (g) of Appendix 4-A will continue until the time of the completion unless otherwise specified by the Executive Committee.

14. All of the conditions set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

## APPENDICES

### APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	11,962.3
HCFC-123	C	I	6.6
HCFC-124	C	I	6.6
HCFC-141b	C	I	5,923
HCFC-142b	C	I	1,508.9
HCFC-225	C	I	1.0
Total			19,408.9

**APPENDIX 2-A: THE TARGETS, AND FUNDING**

Row	Particulars	2011	2012	2013	2014	2015	Total
<b>Consumption targets</b>							
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	19,408.8	19,408.8	17,468.0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	n/a	19,408.8	19,408.8	17,468.0	n/a
1.3.1	Maximum allowable consumption of Annex C, Group I substances in the ICR sector (ODP tonnes)	n/a	n/a	2,360.0	2,360.0	2,124.0	n/a
1.3.2	Maximum allowable consumption of Annex C, Group I substances in the XPS foam sector (ODP tonnes)	n/a	n/a	2,540.0	2,540.0	2,286.0	n/a
1.3.3	Maximum allowable consumption of Annex C, Group I substances in the PU foam sector (ODP tonnes)	n/a	n/a	5,310.0	5,310.0	4,340.0	n/a
1.3.4	Maximum allowable consumption of Annex C, Group I substances in the RAC sector (ODP tonnes)	n/a	n/a	4,109.0	4,109.0	3,698.0	n/a
1.3.5	Maximum allowable consumption of Annex C, Group I substances in the solvent sector	n/a	n/a	493.0	493.0	454.0	n/a
<b>Funding industrial and commercial refrigeration and air conditioning (ICR) sector plan</b>							
2.1.1	Sector Lead IA (UNDP) agreed funding (US \$)	25,380,000	6,900,000	8,495,000	11,075,000	9,150,000	61,000,000
2.1.2	Support costs for UNDP (US \$)	1,903,500	*	*	*	*	*
<b>Funding extruded polystyrene (XPS) foam sector plan</b>							
2.2.1	Sector Lead IA (Germany) agreed funding (US \$)	459,023	3,707,977	600,000	600,000	633,000	6,000,000
2.2.2	Support costs for Germany (US \$)	51,260	*	*	*	*	*
2.2.3	Sector co-operating agency UNIDO agreed funding (US \$)	21,372,000	6,900,000	3,398,000	5,730,000	6,600,000	44,000,000
2.2.4	Support costs for UNIDO (US \$)	1,602,900	*	*	*	*	*
<b>Funding polyurethane rigid (PU) foam sector plan</b>							
2.3.1	Sector Lead IA (World Bank) agreed funding (US \$)	38,859,000	5,520,000	13,592,000	4,079,000	10,950,000	73,000,000
2.3.2	Support costs for World Bank (US \$)	2,914,000	*	*	*	*	*
<b>Funding room air conditioning (RAC) sector plan</b>							
2.4.1	Sector Lead IA (UNIDO) agreed funding (US \$)	36,430,000	9,200,000	8,495,000	9,625,000	11,250,000	75,000,000
2.4.2	Support costs for UNIDO (US \$)	2,732,250	*	*	*	*	*
<b>Funding service sector plan, including enabling programme</b>							
2.5.1	Sector Lead IA (UNEP) agreed funding (US \$)	1,579,000	598,000	1,104,000	1,173,000	786,000	5,240,000
2.5.2	Support costs for UNEP (US \$)	176,703	*	*	*	*	*
2.5.3	Sector cooperating agency (Japan) agreed funding (US \$)	80,000	80,000	80,000	80,000	80,000	400,000
2.5.4	Support costs for Japan (US \$)	10,400	*	*	*	*	*
<b>Funding national co-ordination</b>							
2.6.1	Overall Lead IA (UNDP) agreed funding (US \$)	360,000	-	-	-	-	360,000
2.6.2	Support costs for UNDP (US \$)	27,000	-	-	-	-	27,000
<b>Funding solvent sector plan</b>							
2.7.1	Overall Lead IA (UNDP) agreed funding (US \$)	2,500,000	0	2,000,000	0	500,000	5,000,000
2.7.2	Support costs for UNDP (US \$)	187,500	0	*	0	*	*
<b>Overall funding</b>							
3.1	Total agreed funding (US \$)	127,019,023	32,905,977	37,764,000	32,362,000	39,949,000	270,000,000
3.2	Total support cost (US \$)	9,605,513	*	*	*	*	*
3.3	Total agreed costs (US \$)	136,624,536	*	*	*	*	*

**APPENDIX 2-A: THE TARGETS, AND FUNDING - continuation**

Phase-out and remaining eligible consumption		
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)	1,444.1
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)	36.0
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)	10,482.2
4.2.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)	0.0
4.2.2	Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)	0.0
4.2.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)	6.6
4.3.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)	0.0
4.3.2	Phase-out of HCFC-124 to be achieved in previously approved projects (ODP tonnes)	0.0
4.3.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)	6.6
4.4.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)	1,681.34
4.4.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)	16.66
4.4.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)	4,225.6
4.5.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)	260.8
4.5.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)	6.7
4.5.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)	1,241.4
4.6.1	Total phase-out of HCFC-225 agreed to be achieved under this Agreement (ODP tonnes)	0.0
4.6.2	Phase-out of HCFC-225 to be achieved in previously approved projects (ODP tonnes)	0.0
4.6.3	Remaining eligible consumption for HCFC-225 (ODP tonnes)	1.0

\* to be determined subsequently

**APPENDIX 3-A: FUNDING APPROVAL SCHEDULE**

1. The Funding Approval Schedule consists of several tranches. Under this Agreement, a tranche is defined as the funding set out in each year for each sector plan or the national co-ordination, respectively, as specified in Appendix 2-A.
2. Funding for the future tranches will be considered for approval at the last meeting of the year specified in Appendix 2-A.

#### APPENDIX 4-A: FORMAT OF IMPLEMENTATION REPORTS AND PLANS

1. The Lead IA, on behalf of the Country, will submit at least eight weeks<sup>2</sup> prior to the third meeting of the Executive Committee in any given year, for consideration at that meeting, the following reports to the Multilateral Fund Secretariat:

- (a) A verification report of the consumption of each of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(a)(ii) of the Agreement. If not otherwise decided by the Executive Committee, such a verification has to be provided together with each tranche request and will include verification of the consumption for all relevant years as specified in sub-paragraph 5(a)(i) of the Agreement for which a verification report has not yet been acknowledged by the Committee;
- (b) For each sector plan a narrative report, with data provided by calendar year, regarding the progress since the year prior to the previous report, reflecting, for each sector, the situation of the Country in regard to phase-out of the Substances, how the different activities contribute to it, and how they relate to each other. The report should include ODS phase-out as a direct result from the implementation of activities, by substance, and the alternative technology used and the related phase-in of alternatives, to allow the Secretariat to provide to the Executive Committee information about the resulting change in climate relevant emissions. The report should further highlight successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Annual Implementation Plan(s), such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes. The narrative report will cover all relevant years specified in sub-paragraph 5(a)(i) of the Agreement and can in addition also include information on activities in the current year;
- (c) For each sector plan, a written description of the activities to be undertaken until and including the year of the planned submission of the next tranche request as per sub-paragraph 5(b)(iii). The description should highlight the interdependence of the activities, and take into account experiences made and progress achieved in the implementation of earlier tranches; the data in the plan will be provided by calendar year. The description should also include a reference to the overall plan and progress achieved, as well as any possible changes to the overall plan that are foreseen. The description should further specify and explain in detail such changes to the overall sector plan. This description of future activities can be submitted as a part of the same document as the narrative report under sub-paragraph (b) above;
- (d) For each sector plan with activities that include the conversion of manufacturing capacity, a verification report related to completed conversion as per sub-paragraph 5(b)(i) of the Agreement;
- (e) For each sector, quantitative information for all annual implementation reports and annual implementation plans, submitted through an online database. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(b) and (c)

---

<sup>2</sup> Tranches with requested level of funding of more than US \$5 million should be submitted in full 12 weeks in advance to the applicable Executive Committee meeting in line with decision 20/7.

above), the annual implementation plan and any changes to the overall plan, and will cover the same time periods and activities; and

- (f) An Executive Summary of about five paragraphs, summarizing the information of the above sub-paragraphs 1(a) to 1(e).

#### **APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES**

1. The details of the monitoring arrangements will be prepared by the Government of China separately and submitted for agreement by the Executive Committee, for subsequent inclusion in this Appendix 5-A.

#### **APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY**

1. The Lead IA for stage I of the HPMP is UNDP. It will be responsible for a range of activities, including at least the following:

- (a) Activities related to national co-ordination;
- (b) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's HPMP;
- (c) Assisting the Country in preparation of the Implementation Plans and subsequent reports as per Appendix 4-A;
- (d) Providing independent verification to the Executive Committee that the Targets have been met (except for overall consumption targets specified in row 1.2 of Appendix 2-A) and associated annual activities have been completed as indicated in the Implementation Plan consistent with Appendix 4-A. This independent verification can consist of a compilation of sector-specific independent verification carried out by the respective sector Lead IAs;
- (e) Ensuring that the experiences and progress is reflected in updates of the overall sector plan and in future annual implementation plans consistent with Appendix 4-A;
- (f) Fulfilling the reporting requirements for the annual implementation reports, annual implementation plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;
- (g) Ensuring that appropriate independent technical experts carry out the technical reviews;
- (h) Carrying out required supervision missions;
- (i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Implementation Plan and accurate data reporting;
- (j) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (k) Providing assistance with policy, management and technical support when required.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the HPMP results as per sub-paragraph 5(b)(i) of the Agreement and sub-paragraph 1(d) of Appendix 4-A. The Lead IA can delegate the task described in this paragraph to the respective sector Lead IA on the understanding that such delegation will not interfere with the Lead IA's responsibility to carry out the verification of the HPMP results.

#### **APPENDIX 6-B: ROLE OF UNDP**

1. UNDP, as the sector Lead IA for the industrial and commercial refrigeration (ICR) sector and the solvent sector, will be responsible for a range of activities described in those sector plans, including at least the following:

- (a) Providing assistance for policy development, planning and management of sector programming as set out in these sectors, when required;
- (b) Ensuring verification of performance and progress of disbursement in accordance with this Agreement and with its specific internal procedures and requirements as set out in these sectors and assisting the Country in the implementation and assessment of the activities;
- (c) Assisting the Country in the preparation of the ICR sector annual Implementation Plans as per Appendix 4-A;
- (d) Preparing reports to the Lead IA on these activities as per Appendix 4-A; and
- (e) Ensuring financial verification of the activities implemented.

2. UNDP will also act as sector Lead IA for any sector related obligations arising from any HCFC consumption sectors not specifically mentioned in this Agreement, with responsibilities closely resembling those under paragraph 1 above.

#### **APPENDIX 6-C: ROLE OF THE GOVERNMENT OF GERMANY**

1. The Government of Germany, as the sector Lead IA for the extruded polystyrene foam (XPS) sector, will be responsible for a range of activities described in that sector plan, including at least the following:

- (a) Providing assistance for policy development, planning and management of sector programming as set out in the XPS foam sector plan, when required;
- (b) Ensuring verification of performance and progress of disbursement in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's XPS foam sector plan and assisting the Country in the implementation and assessment of the activities;
- (c) Assisting the Country in the preparation of XPS foam sector annual implementation plans as per Appendix 4-A;
- (d) Providing reports to the Lead IA on these activities as per Appendix 4-A; and



- (e) Ensuring financial verification of the activities implemented.

#### **APPENDIX 6-D: ROLE OF THE WORLD BANK**

1. After consultation with the Country and taking into account any views expressed, the World Bank will select and mandate an independent entity to carry out the verification of the consumption of the Country as specified in row 1.2 of Appendix 2-A, as per sub-paragraph 5(a)(ii) of this Agreement and sub-paragraph 1(a)(i) of Appendix 4-A.

2. The World Bank, as the sector Lead IA for the polyurethane foam (PU) sector, will be responsible for a range of activities described in that sector plan, including at least the following:

- (a) Providing assistance for policy development, planning and management of sector programming as set out in the PU sector plan, when required;
- (b) Ensuring verification of performance and progress of disbursement in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's PU sector plan and assisting the Country in the implementation and assessment of the activities;
- (c) Assisting the Country in the preparation of PU sector annual implementation plans as per Appendix 4-A;
- (d) Providing reports to the Lead IA on these activities as per Appendix 4-A; and
- (e) Ensuring financial verification of the activities implemented.

#### **APPENDIX 6-E: ROLE OF UNIDO**

1. UNIDO, as the Lead IA for the refrigeration and air conditioning (RAC) sector, and as Cooperating IA of the XPS sector, will be responsible for a range of activities described in those sector plans, including at least the following:

- (a) Providing assistance for policy development, planning and management of sector programming as set out in the RAC and XPS sector plans, when required;
- (b) Ensuring verification of performance in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's RAC sector plan and assisting the Country in the implementation and assessment of the activities;
- (c) Ensuring progress of disbursement in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's RAC and XPS sector plans;
- (d) Assisting the Country in the preparation of RAC sector annual implementation plans as per Appendix 4-A;
- (e) Providing reports to the Lead IA on these activities as per Appendix 4-A; and
- (f) Ensuring financial verification of the activities implemented.

#### **APPENDIX 6-F: ROLE OF UNEP**

1. UNEP, as the sector Lead IA for the refrigeration servicing sector, will be responsible for a range of activities described in that sector plan, including at least the following:
  - (a) Providing policy development assistance when required;
  - (b) Assisting the Country in the implementation and assessment of the activities under its responsibility and refer to the Lead IA of the HPMP to ensure a co-ordinated sequence in the activities;
  - (c) Assisting the Country in the preparation of service sector annual implementation plans as per Appendix 4-A;
  - (d) Providing reports to the Lead IA on these activities as per Appendix 4-A; and
  - (e) Ensuring financial verification of the activities implemented.

#### **APPENDIX 6-G: ROLE OF THE GOVERNMENT OF JAPAN**

1. The Government of Japan, as a Cooperating IA for the refrigeration servicing sector, will be responsible for a range of activities described in that sector plan, including at least the following:
  - (a) Providing policy development assistance when required;
  - (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the sector Lead IA to ensure a co-ordinated sequence in the activities;
  - (c) Providing reports to the sector Lead IA on these activities as per Appendix 4-A; and
  - (d) Ensuring financial verification of the activities implemented.

#### **APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY**

1. In accordance with paragraph 10 of the Agreement, the amount of funding provided may be reduced by US \$160 per ODP kg of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met.

#### **APPENDIX 8-A: COMMITMENTS UNDERTAKEN BY THE COUNTRY WITH RESPECT TO CONVERSION IN THE RAC SECTOR**

1. During stage I of the HPMP, the Country agrees to convert at least 18 manufacturing lines for the production of RAC equipment to hydrocarbon technology as part of the RAC sector plan.

-----