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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Eighty-fifth meeting  
Montreal, 25-29 May 2020  
Postponed to 19-22 July 2020\*

**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 (stage II):  
UNDP, UNEP, UNIDO, World Bank,  
Germany, Italy and Japan
- Extruded polystyrene foam sector plan – third tranche  
UNIDO and Germany
- Polyurethane rigid foam sector plan – second tranche  
World Bank
- Industrial and commercial refrigeration and air-conditioning  
sector plan – third tranche  
UNDP
- Solvent sector plan - third tranche  
UNDP

\* Due to coronavirus disease (COVID-19)

\*\*Reissued for technical reasons on 11 May 2020

## HCFC PHASE-OUT MANAGEMENT PLAN (STAGE II) (UNDP, UNEP, UNIDO, World Bank, Germany, Italy and Japan)

### Overarching strategy of stage II of the HPMP for China

#### Background

- Between its 76<sup>th</sup> and 78<sup>th</sup> meetings, the Executive Committee approved stage II of the HCFC phase-out management plan (HPMP) for China with associated sectors plans, and at its 79<sup>th</sup> meeting, approved its Agreement with the Government of China for the implementation of stage II of the HPMP.
- The HCFC consumption limits and targeted phase-out amounts for the period of 2016 to 2026 associated with the six sector plans of stage II, are shown in Table 1.

**Table 1. HCFC consumption limits and phase-out in sector plans for stage II of the HPMP for China (ODP tonnes)**

Maximum allowable consumption							
Sector plan	2016-17	2018-19	2020-21	2022	2023-24	2025	2026
National	16,978.9	15,048.1	11,772.0**	n/a	n/a	n/a	n/a
XPS*	2,286.0	2,032.0	1,397.0	1,397.0	762.0	165.0	0.0
PU*	4,449.6	3,774.5	2,965.7	2,965.7	1,078.4	330.0	0.0
ICR*	2,162.5	2,042.4	1,609.9**	n/a	n/a	n/a	n/a
RAC*	3,697.7	2,876.0	2,259.7**	n/a	n/a	n/a	n/a
Solvent	455.2	395.4	321.2	321.2	148.3	55.0	0.0
Servicing and enabling component	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Phase-out by sector							
Sector plan	2018	2020	2023	2025	2026	Total	Reduction by baseline (%)
XPS*	254.0	635.0	635.0	597.0	165.0	2,286	100 in 2026
PU*	675.1	808.8	1,887.3	748.4	330.0	4,449.6	100 in 2026
ICR*	120.1	432.5	n/a	n/a	n/a	552.6	33 in 2020
RAC	821.7	616.3	n/a	n/a	n/a	1,438	45 in 2020
Solvent	59.8	74.2	172.9	93.3	55.0	455.2	100 in 2026
Servicing and enabling component		734.0	n/a	n/a	n/a	734.0	n/a
<b>Total</b>	<b>1,930.7</b>	<b>3,300.8</b>	<b>2,695.2</b>	<b>1,438.7</b>	<b>550.0</b>	<b>9,915.4</b>	

\* XPS= extruded polystyrene foam; PU= polyurethane foam; ICR=industrial and commercial refrigeration and air-conditioning; RAC=room air-conditioning manufacturing and heat pump water heaters.

\*\* This is the national maximum allowable consumption for 2020 only; for the period 2021 to 2026, it will be determined during submission of stage III of the HPMP.

- At the 82<sup>nd</sup> and 83<sup>rd</sup> meetings, on behalf of the Government of China, UNDP, UNEP, UNIDO, the World Bank and the Governments of Germany and Japan submitted requests for the third tranches of the XPS foam (US \$8,000,000), ICR (US \$12,000,000), and solvent (US \$5,549,492) sector plans, and the refrigeration and air-conditioning servicing sector and enabling programme (US \$3,850,000); and for the second tranche of the PU foam (US \$10,600,000) sector plan. Details on the consideration of these funding tranches and decisions taken by the Executive Committee are included in Annex I to the present document.

4. At the 84<sup>th</sup> meeting, upon consideration of the funding tranche requests of sector plans of stage II of the HPMP for China that were submitted by relevant bilateral and implementing agencies on behalf of the Government of China, the Executive Committee decided (decision 84/69):

- (a) With regard to stage II of the HPMP:
  - (i) To request the relevant bilateral and implementing agencies, on behalf of the Government of China, to submit, at the 85<sup>th</sup> meeting, the 2020 funding tranche requests for the PU foam, XPS foam, ICR and the solvent sector plans of stage II of the HPMP;
  - (ii) To approve the revised Appendix 2-A, “The Targets and Funding”, of the Agreement between the Government of China and the Executive Committee for stage II of the HPMP approved at the 79<sup>th</sup> meeting, as contained in Annex XXII to the report of the 84<sup>th</sup> meeting (UNEP/OzL.Pro/ExCom/84/75), to reflect the revised maximum allowable total consumption of HCFCs in row 1.2 and the revised total funding in rows 3.1, 3.2 and 3.3 and the sector funding and support costs;
  - (iii) To request the Government of China, through the relevant bilateral and implementing agencies, to submit, no later than eight weeks prior to the 86<sup>th</sup> meeting, a revised plan of action that included related activities and information on the technology selected, and associated funding tranches to extend through 2026 stage II of the RAC, ICR, and refrigeration and air-conditioning servicing sectors and enabling programme, and, for the RAC and ICR sector plans, the maximum allowable sectoral consumption levels of HCFC as described in rows 1.3.1 and 1.3.4;
  - (iv) Also to request the Government of China, through the relevant bilateral and implementing agencies, to submit, at the 86<sup>th</sup> meeting, figures for potential revisions to Appendix 2-A for:
    - a. Row 1.2 specifying the maximum allowable total consumption of HCFCs in 2021–2026 to reflect the information under sub-paragraph (a)(iii), above;
    - b. The XPS foam, PU foam and solvent sector funding tranches for 2021-2026 in rows 2.2.1 to 2.2.4, 2.3.1 to 2.3.2 and 2.6.1 to 2.6.2, respectively; and
    - c. Tonnages associated with lines 4.1.1 to 4.6.3 to reflect the information in sub-paragraphs (a)(iii), above;
  - (v) Further to request the Government of China to update the information on necessary revisions to reflect the present decision for the approved XPS foam, PU foam and solvent sector plans;
  - (vi) To approve US \$1,000,000, plus agency support costs of US \$120,000 for UNEP, for the refrigeration and air-conditioning servicing sector and enabling programme, consistent with the revised Appendix 2-A referred to in sub-paragraph (a)(ii), above;

- (vii) To request UNDP as the lead implementing agency of the overall stage II of the HPMP, on behalf of the Government of China, to submit, at the 86<sup>th</sup> meeting, a draft revised Agreement between the Government of China and the Executive Committee reflecting only the relevant outcomes approved at the 84<sup>th</sup> meeting or those relevant to sub-paragraphs (a)(iii) and (a)(iv), above, and the revised plan of action for the RAC, ICR and refrigeration and air-conditioning servicing sectors and enabling programme also due for submission at the 86<sup>th</sup> meeting; and
- (b) To request the World Bank, on behalf of the Government of China, to submit at the 86<sup>th</sup> meeting a revised proposal for stage II of the HCFC production phase-out management plan (HPPMP) for the country.

Submission to the 85<sup>th</sup> meeting

5. In line with decision 84/69(a)(i), relevant bilateral and implementing agencies re-submitted requests for the third tranches of the XPS foam, ICR, and solvent sector plans, and for the second tranche of the PU foam sector plan. A summary of the funding so far approved and the funding being requested at the 85<sup>th</sup> meeting is shown in Table 2.

**Table 2. Funding tranche requests of sector plans of stage II of the HPMP (US \$)**

Sector plan (lead and co-operating agency)	Tranches approved	Funding requested
XPS (UNIDO, Germany)	16,514,867	9,890,431
PU (World Bank)	7,045,027*	2,067,012
ICR (UNDP)	33,368,756	2,095,775
RAC (UNIDO, Italy)	31,562,981	0**
Solvent (UNDP)	6,599,127	12,946,782
Servicing and enabling programme (UNEP, Germany, Japan)	6,329,132	0***
<b>Total</b>	<b>101,419,890</b>	<b>27,000,000</b>

\* Only one tranche approved in the PU foam sector plan.

\*\* Tranche request not submitted to the 85<sup>th</sup> meeting.

\*\*\* US \$1,000,000 approved for UNEP only at the 84<sup>th</sup> meeting

Overview of progress

- 6. An overview of the main achievements in the implementation of stage II of the HPMP include:
  - (a) Establishment and continuous implementation of the licensing and quota system to control the overall compliance in each one of the manufacturing sectors, including the application of quota permits to enterprises consuming more than 100 metric tonnes (mt) of HCFCs per year resulting in compliance with all the manufacturing sector consumption limits during the years of implementation;
  - (b) *XPS foam sector:* The contract between the Foreign Environmental Cooperation Centre (FECO) and UNIDO was signed in September 2017. Eleven XPS foam enterprises (with a total consumption of 4,522 mt of HCFC-22 and HCFC-142b) were identified and 10 of them (4,297 mt of HCFCs) were verified, signed contracts with FECO for conversion to CO<sub>2</sub>-based technology and received disbursements. Of these enterprises, two (1,133 mt) have completed the conversion and passed project acceptance, four (1,908 mt) have completed test trials with the alternative technology, and four (1,256 mt) have signed procurement contracts with suppliers. All these enterprises will complete their conversions between 2020 and 2021;

- (c) *PU foam sector:* The contract between FECO and the World Bank was signed in January 2019. A total of 43 PU foam enterprises submitted project applications to participate, and upon verification of their baseline information, 11 enterprises (with a total consumption of 1,189 mt of HCFC-141b) were selected and have signed contracts with FECO for conversion to water blown, hydrofluoroolefin (HFO) or hydrocarbon (HC) foam blowing technology. Four enterprises (587 mt) completed trial production with water of HFO, three enterprises (192 mt) are procuring materials for trial production, and four enterprises converting to HC (410 mt) are procuring equipment. Conversions of seven enterprises to water-based or HFO technology will be completed in 2020, and conversions of four enterprises to HC no later than the end of 2021;
- (d) *ICR sector:* Contracts were signed with 12 enterprises for the conversion of 18 manufacturing lines to phase out 2,557.42 mt of HCFC-22, after verification of the baseline consumption and capacity of these lines. Four lines (673.96 mt) have completed national acceptance; two lines (349.24 mt) have started trial production; 10 lines (1,295.30 mt) have completed the design and procurement contract; one line (147.34 mt) has completed design; and one additional line (91.58 mt) that has completed the design and procurement, needs to re-locate the workshop, which will delay completion of the conversion by June 2021;
- (e) *RAC sector:* The second tranche agreement between FECO and UNIDO was signed in June 2019. Thirteen technical assistance (TA) activities were developed, including the preparation of terms of reference for these activities that will be initiated through a public bidding in 2020;
- (f) *Solvent sector:* Twenty-four eligible enterprises have signed contracts with FECO, with a total phase-out of 1,176.19 mt of HCFC-141b. Seventeen enterprises have finished equipment installations and trial production, three have installed all the equipment and are ready to proceed with trial production; one enterprise has completed equipment procurement; and the remaining three enterprises are in the process of testing new alternatives, and are expected to request a revision to their previously submitted implementation plan with project completion extended to December 2021. The second batch of 27 enterprises (mostly SMEs) with annual consumption above 5 mt of HCFC-141b, have been identified; 26 SMEs have completed baseline verifications (consumption of 372 mt of HCFC-141b) and have submitted proposals for conversion, and one SME is pending verification of consumption. Signature of conversion contracts with these enterprises for implementation will depend on availability of fund beyond 2020; and
- (g) *Refrigeration servicing sector:* The project cooperation agreement (PCA) for the second tranche of the refrigeration servicing sector and enabling components between FECO and UNEP was signed in September 2018, and funds were transferred in October 2018. Agreements with three pilot cities (Guangzhou, Shenzhen and Tianjin) were finalised; a capacity building workshop on enforcing ODS regulations for local EEBs was conducted; proposals submitted by 15 training centres were reviewed and contracts were signed after the verification of their capabilities; and 497 trainers and technicians have been trained. The terms of reference for developing the codes for the servicing and maintenance of air-conditioning units and water chillers were finalised and the contracts with the relevant institute for the development of these two codes were signed in mid-2019, the first set of codes were completed in December 2019. The Agreement for the Government of Germany's component of the first tranche was signed, and one beneficiary (Chaoshifa supermarket chain) for the demonstration of a CO<sub>2</sub> transcritical system application was identified; six trainers and six managers/engineers from the cold chain and supermarket sub-sector participated in a study tour on the application of low-GWP refrigerants. The

survey on HCFC recovery was completed, and the survey report for the analysis of the barriers for the management of HCFC recovery in the refrigeration servicing sector and the market mechanism study on HCFC recovery was reviewed and revised for final publication; and awareness-raising activities were continued. Activities to strengthen the management of the import/export of ODS in China through the ODS Import and Export Management Office (I/E Office) were completed, and included: training of 100 representatives from ODS import and export enterprises, 55 customs officers and 70 officers from the Commerce Department on import and export management matters, customs management on ODS import and export, international cooperation on combatting ODS illegal trade, ODS trade in sensitive regions, ODS transit routes, and typical case analysis on current ODS illegal trade. New training materials were also prepared for distribution before the end of 2019.

### Disbursement of funds

7. As of March 2020, of the US \$101,419,890<sup>1</sup> approved under the first and second tranches, US \$72,481,302 has been disbursed from implementing agencies to FECO, and US \$48,708,399 has been disbursed from FECO to beneficiaries,<sup>2</sup> as summarized in Table 3.

**Table 3. Level of disbursement per sector (as of March 2020)**

Sector plans		Tranche 1	Tranche 2	Total
<b>XPS foam sector plan (UNIDO/Germany)</b>				
Funds approved		7,514,867	9,000,000	16,514,867
Disbursements from implementing agencies to FECO	Amount (US \$)	6,763,380	7,955,822	14,719,202
	Disbursement ratio	90.0%	88.4%	89.1%
Disbursements from FECO to beneficiaries	Amount (US \$)	5,568,028	5,018,609	10,586,637
	Disbursement ratio	74.1%	55.8%	64.1%
<b>PU foam sector plan (World Bank)</b>				
Funds approved		7,045,027	-	7,045,027
Disbursement from the World Bank to FECO	Amount (US \$)	5,636,022	-	5,636,022
	Disbursement ratio	80.0%	0.0%	80.0%
Disbursement from FECO to beneficiaries	Amount (US \$)	3,885,805	-	3,885,805
	Disbursement ratio	55.2%	0.0%	55.2%
<b>ICR sector plan (UNDP)</b>				
Funds approved		13,368,756	20,000,000	33,368,756
Disbursements from UNDP to FECO	Amount (US \$)	13,368,756	20,000,000	33,368,756
	Disbursement ratio	100.0%	100.0%	100.0%
Disbursements from FECO to beneficiaries	Amount (US \$)	11,886,644	10,915,257	22,801,901
	Disbursement ratio	88.9%	54.6%	68.3
<b>RAC sector plan (UNIDO)</b>				
Funds approved		15,562,981	16,000,000	31,562,981
Disbursement from UNIDO to FECO	Amount (US \$)	4,309,022	4,740,000	9,049,022
	Disbursement ratio	27.7%	29.6%	28.7%
Disbursement from FECO to beneficiaries	Amount (US \$)	3,454,396	-	3,454,396
	Disbursement ratio	22.2%	0.0%	10.9%

<sup>1</sup> This value does not include US \$1,000,000 approved at the 84<sup>th</sup> meeting for the third tranche of the refrigeration servicing sector plan.

<sup>2</sup> The milestones for disbursing funding for the XPS foam, PU foam, ICR, RAC and solvent sector plans include: signing the conversion contract (30 per cent payment); completion of design and procurement contract (20 per cent payment); completion of prototype manufacture, conversion of lines and performance test (30 per cent payment); and trial production, training, and equipment disposal upon project acceptance (20 per cent payment).

Sector plans		Tranche 1	Tranche 2	Total
<b>Solvent (UNDP)</b>				
Funds approved		2,821,937	3,777,190	6,599,127
Disbursement from UNDP to FECO	Amount (US \$)	2,796,937	3,741,089	6,538,026
	Disbursement ratio	99.1%	99.0%	99.1%
Disbursement from FECO to beneficiaries	Amount (US \$)	2,796,937	3,638,223	6,435,160
	Disbursement ratio	99.1%	96.3%	97.5%
<b>Servicing (UNEP/Germany/Japan)*</b>				
Funds approved		3,679,132	2,650,000	6,329,132
Disbursement from implementing agencies to FECO	Amount (US \$)	1,870,274	1,300,000	3,170,274
	Disbursement ratio**	50.8%	49.1%	50.1%
Disbursement by FECO	Amount (US \$)	1,324,500	220,000	1,544,500
	Disbursement ratio	36.0%	8.3%	24.4%
<b>Total all sectors</b>				
Funds approved by the Executive Committee		49,992,700	51,427,190	101,419,890
Disbursements to FECO	Amount (US \$)	34,744,391	37,736,911	72,481,302
	Disbursement ratio	69.5%	73.4%	71.5%
Disbursements from FECO to beneficiaries	Amount (US \$)	28,916,310	19,792,089	48,708,399
	Disbursement ratio	57.8%	38.5%	48.0%

\* An additional US \$1,000,000 was approved at the 84<sup>th</sup> meeting.

\*\* Reference for disbursement in the servicing sector.

8. As at the time of submission of the tranche requests (twelve weeks before the 85<sup>th</sup> meeting), the rate of disbursement of funding from FECO to beneficiaries was above 20 per cent in the XPS foam, PU foam, ICR, and solvent sectors.

#### Estimated HCFC consumption in 2019

9. The current tranches being considered at the 85<sup>th</sup> meeting refer to the year 2018, for which it was independently verified that reported HCFC consumption in China was in compliance with the maximum allowable consumption limits set out for each sector in rows 1.3.1, 1.3.2, 1.3.3, 1.3.4 and 1.3.5 of Appendix 2-A of the Agreement between the Government and the Executive Committee for stage II of the HPMP.<sup>3</sup> In addition, the Government of China submitted through UNDP, for information purposes, a preliminary estimation of the HCFC consumption per sector for 2019, showing that China continued to be in compliance with the sector consumption limits set out in the Agreement (Table 4). The production and consumption data will be reported under Article 7 of the Montreal Protocol by end of September 2020.

**Table 4. Preliminary estimation of HCFC consumption per sector in China in 2019**

Substance	XPS foam	PU foam	ICR	RAC	Solvent	Servicing	Aerosol	Total
HCFC-22	28,000.00		36,000.00	51,000.00		58,440.55	1,656.00	175,096.55
HCFC-141b		34,290.15			3,500.00		580	38,370.15
HCFC-142b	7,000.00		90			972.22		8,062.22
HCFC-123			553			405.17		958.17
HCFC-124						46.06		46.06
HCFC-225ca					39.09			39.09
Total (mt)	35,000.00	34,290.15	36,643.00	51,000.00	3,539.09	59,864.00	2,236.00	222,572.24
<b>Total</b>	<b>1,995.00</b>	<b>3,771.92</b>	<b>1,996.91</b>	<b>2,805.00</b>	<b>385.98</b>	<b>3,286.54</b>	<b>154.88</b>	<b>14,396.23</b>
<b>Allowable***</b>	<b>2,032.00</b>	<b>3,774.50</b>	<b>2,042.40</b>	<b>2,876.00</b>	<b>395.40</b>	<b>*n/a</b>	<b>**n/a</b>	<b>15,048.10</b>

\* No annual consumption target established for the refrigeration servicing sector.

\*\* Aerosol sector is not part of stage II of the HPMP.

\*\*\* Maximum allowable level of consumption.

<sup>3</sup> Refer to paragraphs 8 to 11 of document UNEP/OzL.Pro/ExCom/84/42.

### Revision of the Agreement for stage II

10. In line with decision 84/69(a)(vii), UNDP as the lead implementing agency of the overall stage II of the HPMP will submit to the 86<sup>th</sup> meeting, a draft revised Agreement reflecting only the relevant outcomes approved at the 84<sup>th</sup> meeting or those relevant to decision 84/69(a)(iii) and (a)(iv), and the revised plan of action for the RAC, ICR, and refrigeration and air-conditioning servicing sectors and enabling programme.

11. The Secretariat notes that the revised draft Agreement will include the adjustment to the agency support cost from 6.5 to 7 per cent of the second tranches approved for UNDP and UNIDO, in line with decision 81/45(a), which was not updated in the revised Appendix 2-A of the Agreement approved at the 84<sup>th</sup> meeting

### Tranche progress reports and funding requests

12. Detailed stand-alone progress reports on the implementation of the XPS foam, PU foam, ICR, and solvent sector plans and requests for funding for the second or third tranches of those sector plans are attached to the Note by the Secretariat. Each report provides a progress report on the implementation of the ongoing tranche; the level of fund disbursement; an implementation plan for the next tranche; comments by the Fund Secretariat; and the recommendation. The Secretariat notes that the Government of China has been in compliance<sup>4</sup> with the HCFC consumption targets established for each sector, that substantive progress and funds disbursement have been achieved in all sectors, that all technical and cost issues have been resolved, and that these tranches had been previously considered at the 82<sup>nd</sup>, 83<sup>rd</sup> and 84<sup>th</sup> meetings.

### Sustainability of the HCFC phase-out

13. In explaining how the policy framework and enforcement will be strengthened to ensure sustained phase-out of HCFCs in the XPS foam, PU foam, ICR and solvent sectors, the relevant lead implementing agencies indicated that in line with decision 82/65, the Government of China submitted to the 83<sup>rd</sup> meeting the review of the current monitoring, reporting, verification and enforcement systems under the HCFC consumption and production phase-out management plans (HPMP and HPPMP),<sup>5</sup> including the action plan to strengthen legislation and its implementation. In line with decision 83/41(e),<sup>6</sup> the Government also submitted a report to the 84<sup>th</sup> meeting detailing the progress made in the implementation of activities related to the current monitoring, reporting, verification and enforcement systems under the HPMP and HPPMP.

### Update on the work plan for the refrigeration servicing and air-conditioning sector and enabling programme in line with decision 84/69(a)(vi)

14. Upon a request, UNEP provided a work plan and budget associated with the US \$1,000,000 for the refrigeration and air-conditioning servicing sector and enabling programme approved at the 84<sup>th</sup> meeting. The Secretariat reviewed the implementation plan in line with the overall strategy approved at the 76<sup>th</sup> meeting, and noted that some activities were not directly linked to the strategy for the refrigeration and air-conditioning servicing sector (e.g., research related to atmospheric monitoring for ODS, standards for product testing, research on management of ODS destruction and disposal). Following discussions, the Secretariat was informed that a revised action plan for the refrigeration and air-conditioning servicing sector and enabling programme, with specific activities and associated funding levels will be submitted to the 86<sup>th</sup> meeting in line with decision 84/69(a)(vii). At that meeting, the Executive Committee would be able to consider the revised sector plan.

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<sup>4</sup> Based on verified consumption in 2018 and estimated consumption in 2019.

<sup>5</sup> UNEP/OzL.Pro/ExCom/83/11/Add.1.

<sup>6</sup> UNEP/OzL.Pro/ExCom/84/22/Add.1.



Financial report for project implementation and monitoring unit (PMU) expenditures under the HPMP and HPPMP

15. At the 80<sup>th</sup> meeting, the Executive Committee requested the Secretariat to work with the Government of China through UNDP, as the lead implementing agency of the HPMP, and through the World Bank, as the lead implementing agency of the HPPMP, to develop, by the 81<sup>st</sup> meeting, a financial reporting format for annual PMU expenditures in relation to the production and consumption sectors (decision 80/80).

16. At the 81<sup>st</sup> meeting, the Secretariat proposed a draft reporting format for the PMU to be used for both stage I and stage II of the HPMP and HPPMP, where PMU expenditures would be reported separately for each stage, and the format would be filled by the agencies annually as part of the tranche progress reports. Upon consideration of the format, the Executive Committee decided (decision 81/46):

- (a) To request UNDP, in cooperation with the sector lead implementing agencies, to use the financial reporting format for the PMU expenditures contained in Annex X to the final report of the 81<sup>st</sup> meeting in their annual tranche progress reports, starting in 2019;
- (b) To request the implementing agencies to consider whether there was a need to amend their respective agreements with the Government of China with a view to ensuring that the financial reporting on PMU expenditures was sufficiently detailed to satisfy the requirements of their respective financial reporting to the Executive Committee; and
- (c) To review the financial reporting format for the annual PMU expenditures at the first Executive Committee meeting of 2020.

17. In line with decision 81/46(a), UNDP had submitted the PMU expenditures for stage I and stage II of the HPMP as of December 2018.<sup>7</sup> Updated information on the cumulative PMU expenditures for stage I and stage II as of December 2019 was submitted by 22 April 2020, as presented in Annex II of the present document.

18. In line with decision 81/46(b), the lead implementing agencies for each sector plan also confirmed at the 84<sup>th</sup> meeting that there was no need to amend their respective agreements with the Government of China.

19. In line with decision 81/46(c), the Secretariat notes with appreciation the effort made by the Government of China to report the PMU expenditures in the harmonized format; the reports provide an understanding of the items being funded under the PMU for each of the sector plans and the common costs shared by the sectors, addressing to a great extent the issues previously identified at the 80<sup>th</sup> and 81<sup>st</sup> meetings. Based on this, the Secretariat considers that the current format is adequate for the continued reporting of PMU expenditures, noting that the funding allocated to the PMU would be modified in light of the revised plans of action for each of the six sector plans of stage II of the HPMP to be submitted to the 86<sup>th</sup> meeting.

**Secretariat's recommendation**

20. The Executive Committee may wish to request UNDP, in cooperation with the sector lead implementing agencies, to continue using the financial reporting format for the project implementation and monitoring unit expenditures contained in Annex X to the final report of the 81<sup>st</sup> meeting in their annual tranche progress reports.

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<sup>7</sup> Annex III of document UNEP/OzL.Pro/ExCom/84/42.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### China

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II) XPS foam sector	Germany and UNIDO (lead)	77 <sup>th</sup>	100 % in 2026

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	14,382.12 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)						Year: 2018
Chemical	Aerosol	Foam	Refrigeration		Solvent	Total sector consumption
			Manufacturing	Servicing		
HCFC-22	101.20	1,595.00	4,840.00	3,290.20		9,826.40
HCFC-123			11.06	8.75		19.81
HCFC-124				-0.12		-0.12
HCFC-141b	52.80	3,759.14			374.00	4,186.24
HCFC-142b		325.00	5.85	18.00		348.85
HCFC-225ca					0.43	0.43
HCFC-225cb					0.69	0.69

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	19,269.00	Starting point for sustained aggregate reductions:	18,865.44
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	12,161.02	Remaining:	6,704.42

(V) BUSINESS PLAN		2020	Total
UNIDO	ODS phase-out (ODP tonnes)	187.35	187.35
	Funding (US \$)	10,582,761	10,582,761
Germany	ODS phase-out (ODP tonnes)	0	0
	Funding (US \$)	0	0

<b>(VI) PROJECT DATA</b>			<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020*</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>Total</b>
Montreal Protocol consumption limits			17,342.1	17,342.1	17,342.1	17,342.1	12,524.9	12,524.9	12,524.9	12,524.9	12,524.9	6,262.4	6,262.4	n/a
Maximum allowable consumption (ODP tonnes)			2,286.0	2,286.0	2,032.0	2,032.0	1,397.0	1,397.0	1,397.0	762.0	762.0	165.0	0.0	n/a
Agreed funding (US \$)**	UNIDO	Project costs	7,514,867	8,732,614	0	0	9,890,431							
		Support costs	526,041	567,620	0	0	692,330							
	Germany	Project costs	-	267,386	0	0	0							
		Support costs	-	31,877	0	0	0							
Funds approved by ExCom (US \$)		Project costs	7,514,867	9,000,000	0	0								16,514,867
		Support costs	526,041	599,497	0	0								
Total funds requested for approval at this meeting (US \$)		Project costs					***9,890,431							9,890,431
		Support costs					692,330							

\*The third (2018) tranche was submitted to the 82<sup>nd</sup>, 83<sup>rd</sup>, and 84<sup>th</sup> meetings and deferred for consideration at the 85<sup>th</sup> meeting (decisions 82/71(b), 83/55 and 84/69(a)).

\*\*Total adjusted value of stage II of the HPMP for the XPS foam sector plan and the funding level of tranches between 2020 and 2026 will be submitted by the Government of China to the 86<sup>th</sup> meeting (decision 84/69).

\*\*\*Considered at the 84<sup>th</sup> meeting at a value of US \$8,000,000, plus agency support costs of US \$560,000 for UNIDO, and deferred to the 85<sup>th</sup> meeting at the adjusted value (decision 84/69).

<b>Secretariat's recommendation:</b>	For individual consideration
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## PROJECT DESCRIPTION

21. On behalf of the Government of China, UNIDO as the lead implementing agency, has resubmitted<sup>8</sup> a request for funding for the third tranche of the extruded polystyrene (XPS) foam sector plan of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$9,890,431, plus agency support costs of US \$692,330 for UNIDO only.<sup>9</sup> The submission includes a progress report on the implementation of the second tranche of the XPS foam sector plan, together with the tranche implementation plan for 2020 to 2022.

### Progress report on the implementation of the second tranche of stage II

22. The contract between the Foreign Environmental Cooperation Center (FECO) and UNIDO for the implementation of stage II of the XPS foam sector plan was signed in September 2017. The first group of 11 XPS foam enterprises has undergone verification of their baseline information (i.e., non-Article-5 ownership, baseline equipment, HCFC consumption and financial data). Ten of these enterprises were selected and have already signed contracts with FECO for conversion to CO<sub>2</sub> with other low global-warming potential (GWP) co-blowing agents<sup>10</sup>; conversion at two enterprises has been completed, and the conversion of the remaining eight will be completed during 2020 and 2021. The status of progress of the 10 enterprises is presented in Table 1.

**Table 1. Status of progress of XPS foam enterprises selected in the first and second tranches**

Status of implementation	Number of enterprises	HCFC consumption in 2016*		Value of contracts (US \$)
		mt	ODP tonnes**	
Project completed (passed project acceptance)	2	1,133.07	65.15	5,877,210
Test trials completed	4	1,907.83	109.70	10,631,300
Procurement contracts with suppliers signed	4	1,255.90	72.21	7,754,620
<b>Total</b>	<b>10</b>	<b>4,296.80</b>	<b>247.06</b>	<b>24,263,130</b>

\* 2016 is the year used as reference for HCFC consumption for stage II of the HPMP.

\*\* A mixture of HCFC-22 and HCFC-142b at a ratio of 75:25 (measured in metric tonnes (mt)), is used as foam blowing agent.

### *Technical assistance (TA) activities*

23. TA activities implemented from 2017 to 2019 include two workshops on alternative technologies in the XPS foam sector; technical support by the implementation support agency (ISA) to FECO and the enterprises with day-to-day operations and on-site baseline and performance verifications; selection of an accounting firm to review financial material submitted by beneficiaries and conduct on-site verifications; public awareness activities to facilitate HCFC phase-out in the XPS foam sector; and a study tour of government departments, XPS foam producers and equipment suppliers in Germany and Switzerland to exchange information on alternative technologies that could contribute to the implementation of stage II of the HPMP.

### Level of fund disbursement

24. As of February 2020, of the US \$16,514,867 approved so far, US \$10,586,637 (64.1 per cent) had been disbursed by FECO to beneficiary enterprises. Table 2 presents the overall status of disbursements.

<sup>8</sup> Previously submitted for consideration at the 82<sup>nd</sup>, 83<sup>rd</sup>, and 84<sup>th</sup> meetings; the Executive Committee decided to defer consideration to the 85<sup>th</sup> meeting (decisions 82/71(b), 83/55 and 84/69(a)).

<sup>9</sup> As per the letter of 20 February 2020 from the Ministry of Ecology and Environment of China to UNIDO.

<sup>10</sup> Alcohol for XPS board thickness below 60 mm; CO<sub>2</sub> and small amounts of HFC-152a (GWP<200) for XPS board thickness above 60 mm.

**Table 2. Status of disbursements for the XPS foam sector plan (as of February 2020)**

Description		Tranche 1	Tranche 2	Total
Funds approved (US \$)	UNIDO	7,514,867	8,732,614	16,247,481
	Germany	0	267,386	267,386
	<b>Total</b>	<b>7,514,867</b>	<b>9,000,000</b>	<b>16,514,867</b>
Disbursements from implementing agencies to FECO (US \$)	UNIDO	6,763,380	7,859,353	14,622,733
	Germany*	0	96,469	96,469
	<b>Total</b>	<b>6,763,380</b>	<b>7,955,822</b>	<b>14,719,202</b>
	Disbursement ratio	90.0%	88.4%	89.1%
Disbursements from FECO to beneficiaries (US \$)	UNIDO	5,568,028	4,922,140	10,490,168
	Germany*	0	96,469	96,469
	<b>Total</b>	<b>5,568,028</b>	<b>5,018,609</b>	<b>10,586,637</b>
	Disbursement ratio	74.1%	55.8%	64.1%

\*According to the implementation requirements, the Government of Germany's disbursements will be issued directly to beneficiaries and goods/service providers.

### Implementation plan for the third tranche of stage II

25. FECO will continue enforcing the quota permits for XPS foam enterprises consuming more than 100 mt of HCFCs per year; complete the conversion of the eight enterprises with ongoing conversions; undertake monitoring and supervision of phase-out activities; organize meetings to assist beneficiary enterprises in finalizing their conversions; and cooperate with local Ecology and Environment Bureaus (EEBs) to conduct monitoring and enforcement activities for sustainable phase-out. FECO will not carry out any new TA activities, but will continue to implement those covered by the first and second tranches. Table 3 presents the budget for the activities to be carried out during the implementation of the third tranche.

**Table 3. Budget for the third tranche of the XPS foam sector plan in China**

Activity	Budget (US \$)
Conversion of XPS foam enterprises to CO <sub>2</sub> technology	9,375,139
Project monitoring including:	515,292
- Project staff: programme management, support, financial, procurement legal support (US \$269,527)	
- Operating costs: daily operating expenses, domestic travel, meetings, office facilities and equipment (US \$166,871)	
- Consulting services: experts for project evaluation, financial and technical verification, technical review, bidding evaluation, contractual staff for special events (US \$78,894)	
<b>Total</b>	<b>9,890,431</b>

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

#### HCFC consumption

26. Consumption of HCFCs in the XPS foam manufacturing sector in 2018 was 34,000 mt (1,920 ODP tonnes), and estimated consumption of HCFCs in 2019 was 35,000 mt (1,995 ODP tonnes), both lower than the 35,339 mt (2,032 ODP tonnes) allowable consumption in the Agreement between the Government of China and the Executive Committee, as shown in Table 4.

**Table 4. Consumption of HCFCs in the XPS foam sector**

Description		2014	2015	2016	2017	2018	2019
Consumption*	mt	39,200	30,100	35,500	38,500	34,000	35,000
	ODP tonnes	2,249	1,761	2,043	2,213	1,920	1,995
Maximum	mt	43,051	38,746	38,746	38,746	34,441	34,441

Description		2014	2015	2016	2017	2018	2019
allowable consumption**	ODP tonnes	2,540	2,286	2,286	2,286	2,032	2,032
Phase-out target	mt	n/a	4,305	n/a	n/a	4,305	n/a
	ODP tonnes	n/a	254	n/a	n/a	254	n/a

\*2014-2018: As per the country programme implementation report. 2019: Preliminary estimation.

\*\*As per the Agreement signed at the 67<sup>th</sup> meeting for stage I up to 2015, and as per the Agreement signed at the 79<sup>th</sup> meeting for stage II from 2016 to 2019.

27. In 2015, the economic growth rate in China was lower than in the previous years, resulting in lower rates of industrial production and overall reduction in the consumption of HCFCs. Subsequently, the demand for XPS foam products for insulation increased with an associated increase in the consumption of HCFCs. Reductions in HCFC consumption since 2017 have been achieved through the conversion of XPS foam enterprises, strict implementation of the HCFC production quota, the domestic sales quota issued for each producer and HCFC consumption quotas for manufacturing enterprises using more than 100 mt.

28. The Secretariat notes that the current tranche request was originally scheduled in 2018, and that the consumption targets for 2017 and 2018 were achieved. The Government of China also submitted a preliminary estimation of HCFC consumption in the XPS foam sector for 2019 at 1,995 ODP tonnes, which is in compliance with the 2019 consumption target. The Government of China confirmed through UNIDO that compliance would be achieved by employing procedures similar to those used in stage I to control and report annual HCFC consumption and production.

#### Status of progress

29. The Secretariat noted the efforts by the Government of China, the Government of Germany and UNIDO to complete the conversion of the two foam enterprises with a total consumption of 65.15 ODP tonnes of HCFCs, and to accelerate the conversion of the remaining enterprises with a total consumption of 181.91 ODP tonnes (i.e., a total of 247.06 ODP tonnes). Noting that a reduction of 635 ODP tonnes is required by 2020 in line with the Agreement with the Executive Committee, the Secretariat enquired how those additional reductions (i.e., 387.94 ODP tonnes) would be achieved.

30. UNIDO explained that stage II of the XPS foam sector plan would eliminate a total of 2,286 ODP tonnes of HCFCs through the conversion of eligible enterprises and the self-funded conversion of ineligible ones. This reduction will be supported by TA activities that will strengthen the industry's technical capacity and facilitate the adoption of low-GWP alternatives. Compliance targets will be achieved on a yearly basis, through the conversion of XPS foam enterprises and TA activities, supported by policy and regulatory interventions in place (e.g., HCFC production quota and domestic sales quota issued for each producer, HCFC consumption quotas for eligible and non-eligible enterprises using more than 100 mt, control of the supply of HCFCs to be sold to the domestic market, and HCFC consumption quota for non-eligible enterprises). In addition, enterprises consuming less than 100 mt of HCFCs annually for controlled uses must register with provincial EEBs, which are responsible for their daily supervision and inspections to ensure compliance with regulations.

31. Considering the reduction of funding in subsequent tranche requests, the Government of China will adjust the action plan of the XPS foam sector plan in line with decision 84/69. The Government is considering focusing on the implementation and development of policies and regulations, on the research and development of alternative technologies, the conversion of enterprises, and on supervision.

#### Project management unit (PMU)

32. UNDP as lead agency of the overall stage II of the HPMP provided a cumulative report on PMU expenditures, in line with decision 81/46(b). Based on that report, the expenditures related to the PMU for stage II of the XPS foam sector implemented by UNIDO are summarized in Table 5.

**Table 5. PMU cumulative expenditures for stage II of the XPS foam sector plan in China**

Items	Description	2017-2019 (US \$)
Sector-specific costs	Project staff	333,197
	Domestic travel	55,943
	International travel	3,821
	Domestic meetings	26,684
	International meetings	0
	Consulting service	44,224
<b>Sub-total (sector-specific costs)</b>		<b>463,869</b>
Operational costs	Shared costs (support staff, computers, internet, printing, office operation and maintenance)	559,227
<b>Total disbursement *</b>		<b>1,023,096</b>

\* Additional expenditure from the Government of China (e.g., operational costs as well as in-kind) are not included in the table.

### Interest

33. Information on the interest accrued in 2019 on the funding approved for the sector plans of the HPMP for China is provided at every last meeting of the year following the commissioning of a financial audit. Accordingly, this information will be submitted to the 86<sup>th</sup> meeting.

### Conclusion

34. The Secretariat notes that China continues to be in compliance with the Montreal Protocol and its Agreement with the Executive Committee with regard to the XPS foam sector plan, including the reduction target agreed for 2018, and the confirmation by the Government that the 2019 consumption target would also be achieved. There is significant progress in the implementation of the first two tranches of stage II, including the completion of the conversion of two enterprises, substantial progress on the conversion of another eight enterprises to be completed between 2020 and 2021, and several TA activities. Four of the ongoing conversions would rely on funds from the subsequent tranche to enable their completion. The level of disbursement to beneficiary enterprises is over 55.8 per cent of the funds approved in the second tranche. Given the imminent HCFC reductions in the Agreement by 2020, the funding from the third tranche is required to continue implementing investment projects and policy and regulatory measures, to ensure that HCFC consumption in the sector is reduced and maintained below the maximum allowable consumption in the Agreement. In line with decision 84/69, the Government of China will adjust the action plan for the XPS foam sector and all other HCFC phase-out sector plans to be submitted to the 86<sup>th</sup> meeting.

## **RECOMMENDATION**

35. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the second tranche of the extruded polystyrene (XPS) foam sector plan of stage II of the HCFC phase-out management plan (HPMP) for China; and
- (b) Approving the third tranche of the XPS foam sector plan of stage II of the HPMP for China, and the corresponding 2020-2022 tranche implementation plan, at the amount of US \$9,890,431, plus agency support costs of US \$692,330 for UNIDO.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### China

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II) PU foam sector	World Bank (lead)	77 <sup>th</sup>	100 % in 2026

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	14,382.12 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)						Year: 2018
Chemical	Aerosol	Foam	Refrigeration		Solvent	Total sector consumption
			Manufacturing	Servicing		
HCFC-22	101.20	1,595.00	4,840.00	3,290.20		9,826.40
HCFC-123			11.06	8.75		19.81
HCFC-124				-0.12		-0.12
HCFC-141b	52.80	3,759.14			374.00	4,186.24
HCFC-142b		325.00	5.85	18.00		348.85
HCFC-225ca					0.43	0.43
HCFC-225cb					0.69	0.69

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	19,269.00	Starting point for sustained aggregate reductions:	18,865.44
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	12,161.02	Remaining:	6,704.42

(V) BUSINESS PLAN		2020	Total
World Bank	ODS phase-out (ODP tonnes)	250.68	250.68
	Funding (US \$)	2,211,703	2,211,703



<b>(VI) PROJECT DATA</b>			<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>Total</b>
Montreal Protocol consumption limits			17,342.1	17,342.1	17,342.1	17,342.1	12,524.9	12,524.9	12,524.9	12,524.9	12,524.9	6,262.4	6,262.4	n/a
Maximum allowable consumption (ODP tonnes)			4,449.6	4,449.6	3,774.5	3,774.5	2,965.7	2,965.7	2,965.7	1,078.4	1,078.4	330.0	0.0	n/a
Agreed funding (US \$)*	World Bank	Project costs	7,045,027	0	0	0	2,067,012							
		Support costs	493,152	0	0	0	144,691							
Funds approved by ExCom (US \$)		Project costs	7,045,027	0	0	0								7,045,027
		Support costs	493,152	0	0	0								493,152
Total funds requested for approval at this meeting (US \$)		Project costs					**2,067,012							2,067,012
		Support costs					144,691							144,691

\*Total adjusted value of stage II of the HPMP for the PU foam sector plan and the funding level of tranches between 2020 and 2026 will be submitted by the Government of China to the 86<sup>th</sup> meeting (decision 84/69).

\*\*Considered at the 84<sup>th</sup> meeting at a value of US \$10,600,000, plus agency support costs of US \$689,000 for the World Bank, and deferred to the 85<sup>th</sup> meeting at the adjusted value (decision 84/69).

<b>Secretariat's recommendation:</b>	For individual consideration
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## PROJECT DESCRIPTION

36. On behalf of the Government of China, the World Bank as the designated implementing agency has submitted a request for funding for the second tranche of the polyurethane (PU) rigid foam sector plan of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$2,067,012, plus agency support costs of US \$144,691.<sup>11</sup> The submission includes a progress report on the implementation of the first tranche and the tranche implementation plan for 2020-2022.

### Progress report on the implementation of the first tranche of stage II

#### *Regulatory activities*

37. In October 2018, the Ministry of Ecology and Environment (MEE) issued the ban on using HCFC-141b as blowing agent in the refrigerator and freezer, reefer container, and electric water-heater sub-sectors as of January 1, 2019. Any violation of the ban will be penalized according to the provisions in the Regulation on Ozone Depleting Substances (ODS) Management.

#### *Investment projects*

38. The contract between the Foreign Environmental Cooperation Office (FECO) and the World Bank for the implementation of the PU rigid foam sector plan (stage II) was signed on 8 January 2019. A total of 43 enterprises have submitted project applications to participate. Upon verification of their baseline information (i.e., non-Article-5 ownership, baseline equipment, HCFC consumption and financial data), 11 PU foam enterprises consuming 1,189 metric tonnes (mt) of HCFC-141b were selected as beneficiaries and have signed contracts with FECO for conversion to water-blown, hydrocarbon (HC) or hydrofluoroolefin (HFO) technology.

39. To date, four enterprises that selected HC technology are conducting equipment procurement. Out of the remaining seven enterprises, which selected water-based or HFO technology and will not require new equipment, three are conducting material procurement for testing and four have completed trial production with the selected alternative technology and passed the on-site verifications conducted by the implementation support agency (ISA). Conversions to water-based or HFO technology will be completed in 2020, and conversions to HC – no later than the end of 2021. The status of progress of the conversions of the 11 enterprises is presented in Table 1.

**Table 1. Status of progress of the PU foam enterprises selected in the first tranche**

Technology selected	Status of implementation - ongoing conversions	No. of enterprises	HCFC consumption in 2016*		Value of contract (US \$)
			mt	ODP tonnes	
Water-based or HFO	Trial production completed	4	586.93	64.57	2,934,660
	Material procurement in process	3	192.09	21.13	1,798,100
HC	Equipment procurement in process	4	410.15	45.12	3,448,264
<b>Total</b>		<b>11</b>	<b>1,189.17</b>	<b>130.81</b>	<b>8,181,024</b>

\* 2016 is the reference year for HCFC consumption for stage II of the HPMP in China.

#### *Technical assistance (TA) activities*

40. TA activities have been implemented, and include a workshop to launch the implementation of stage II of the HPMP in the PU foam sector organized in April 2017; training workshops for the 11 beneficiaries on sub-project implementation procedures, the application of alternative technologies,

<sup>11</sup> As per the letter of 24 February 2020 from the Ministry of Ecology and Environment of China to the World Bank.

potential safety risks and safety measures; technical support by ISA to FECO on, *inter alia*, operational management, on-site verifications, project document preparation and design of TA activities.

41. FECO organized a study tour to the United States of America, including visits to HFO suppliers, with the goal of sharing information on: the progress and perspectives of HCFC-141b phase-out in China, market updates on the new applications of HFO-based technology, and HFC control measures taking place in both countries.

#### Level of fund disbursement

42. As of February 2020, of the US \$7,045,027 approved, US \$5,636,022 was disbursed by the World Bank to FECO, and US \$3,885,805 (55 per cent of the total funding approved) was disbursed by FECO to beneficiary enterprises, as shown in Table 2.

**Table 2. Status of disbursements for the PU foam sector plan (as of February 2020) (US \$)**

<b>PU foam sector plan</b>	<b>Tranche 1</b>
Funds approved	7,045,027
Disbursements from the World Bank to FECO	5,636,022
Disbursement ratio	80.0%
Disbursements from FECO to beneficiaries	3,885,805
Disbursement ratio	55.2%

#### Implementation plan for the second tranche of stage II

43. To achieve the HCFC consumption target established in its Agreement with the Executive Committee for 2020 (i.e., 26,960.9 mt or 2,965.70 ODP tonnes), the Government of China would need to phase out 7,352 mt (808.72 ODP tonnes) of HCFC-141b from the 2019 consumption target. This target will be ensured through the completion of the 11 conversion projects and the implementation of TA activities and policy actions, including the ban on the consumption of HCFC-141b as a blowing agent in the insulation-pipe and solar water-heater manufacturing sub-sectors by 1 January 2021, the enforcement of the quota permits for PU foam enterprises that consume more than 100 mt of HCFCs per year, and the reduction of the consumption quota in 2020. No additional enterprises phase-out activities will start in 2020. FECO will focus on preparing the revision of stage II of the PU foam sector plan in accordance with decision 84/69.

44. Table 3 presents the budget for the activities to be carried out during the implementation of the second tranche.

**Table 3. Budget for the second tranche of the PU foam sector plan in China**

<b>Activity</b>	<b>Budget (US \$)</b>
Conversion of PU foam enterprises to water-based, HFO and HC technology	1,959,330
Project monitoring including:	107,682
- Project staff – programme management, support, financial, procurement legal support (US \$30,905)	
- Domestic travel (US \$4,846)	
- Domestic meetings (US \$4,307)	
- Consulting services (US \$3,876)	
- Operating costs – daily operating expenses, support staff, office facilities and equipment (US \$63,748)	
<b>Total</b>	<b>2,067,012</b>

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

## COMMENTS

HCFC consumption

45. Consumption of HCFC-141b in the PU foam manufacturing sector in 2018 was 34,176.74 mt (3,759.44 ODP tonnes) and estimated consumption of HCFC-141b in 2019 was 34,290.15 mt (3,771.92 ODP tonnes), both lower than the maximum allowable consumption established for the same years in the Agreement between the Government of China and the Executive Committee, as shown in Table 4.

**Table 4. HCFC-141b consumption and targets for the PU foam sector**

PU foam sector		2014	2015	2016	2017	2018	2019
Consumption*	mt	46,864	34,202	34,821	36,439	34,177	34,290
	ODP tonnes	5,155.0	3,762.0	3,830.3	4,008.3	3,759.4	3,771.9
Maximum allowable consumption **	mt	49,018	40,451	40,451	40,451	34,314	34,314
	ODP tonnes	5,392.2	4,449.6	4,449.6	4,449.6	3,774.5	3,774.5
Phase-out target	mt	n/a	8,569	n/a	n/a	6,137	n/a
	ODP tonnes	n/a	942.6	n/a	n/a	675.1	n/a

\* 2014-2018: As per the country programme implementation report. 2019: Preliminary estimation.

\*\* As per the Agreement approved at the 67<sup>th</sup> meeting for stage I of the HPMP up to 2015, and as per the Agreement approved at the 79<sup>th</sup> meeting for stage II from 2016 to 2019.

46. The growth in HCFC consumption in 2016 and 2017 was due to economic development and policies enacted in various provinces in China requiring the insulation of buildings. The 2018 reduction target was achieved due in part to additional conversions of PU foam enterprises to low-global-warming-potential (GWP) alternatives (a total of 12,969.10 mt of HCFC-141b were phased out through the conversion of PU foam enterprises under stage I). The ban on the use of HCFC-141b as blowing agent in the sub-sectors of reefer containers, refrigerators and freezers, and small household appliances starting on 1 January 2019 also ensured that other non-eligible enterprises in the sector stopped the use of HCFC-141b, representing an estimated phase-out of 1,715.90 mt of HCFC-141b to be achieved through policy measures, including the ban and the quota system for PU foam enterprises consuming more than 100 mt of HCFC-141b per year.

47. The Secretariat notes that the current tranche request was originally scheduled in 2017, and that the consumption targets for 2017 and 2018 were achieved. The Government of China also submitted a preliminary estimation of HCFC consumption in the PU foam sector for 2019 at 3,771.9 ODP tonnes, which is in compliance with the 2019 consumption target. The Government of China confirmed through the World Bank that compliance would be achieved by employing procedures similar to those used in stage I of the HPMP to control and report annual HCFC consumption and production. The HCFC production and consumption data for 2019 will be submitted in September 2020.

Status of progress

48. Based on the level of fund disbursement achieved and the milestones reached in the implementation of conversion projects for the first 11 enterprises, FECCO currently complies with the conditions to request a second installment from the World Bank for US \$2.1 million. The World Bank estimates that with the available funds from the first tranche, a total of 2,700 mt (297 ODP tonnes) of HCFC-141b would be reduced, but would require the approval of funding being requested at the 85<sup>th</sup> meeting to be disbursed to beneficiary enterprises against the payment schedule.

49. Upon a clarification on whether the reduced level of funding of the second tranche of the PU foam sector plan in light of decision 84/69, would have an impact on the achievement of the 2020 target, the World Bank indicated that despite the reduction in the funding level, the Government of China has agreed to honor its commitments per the Agreement with the Executive Committee revised at the 84<sup>th</sup> meeting. Complimentary measures will be implemented to further reduce HCFC-141b consumption in the PU foam sector including: controlling HCFC-141b production; leveraging TA resources to step up policy and regulatory measures; rebalancing the long-established approach of financing conversions with TA measures (e.g., facilitating cooperation with foam associations, systems houses and other stakeholders to promote production and sales of alternatives to HCFCs and pre-blended polyols); and strengthening monitoring, verification and evaluation where FECO will step up in cooperation with the MEE.

### Technology

50. Noting the experience of several Article 5 countries in other regions, the Secretariat enquired about the availability of HFO in the Chinese market at a price that could be afforded by the foam users, so that the conversions could be sustained over time. The World Bank informed that with the new HFO production capacity set up in China, both the alternative blowing agent and the polyol system were available and accessible in the Chinese market.

### Project implementation and monitoring unit (PMU)

51. UNDP as lead implementing agency of the HPMP for China provided a cumulative report on PMU expenditures, in line with decision 81/46(b). Based on that report, the expenditures related to the PMU for stage II of the PU foam sector implemented by the World Bank are summarized in Table 5.

**Table 5. PMU cumulative expenditures stage II of the PU foam sector plan in China**

Items	Description	2017-2019 (US \$)
Sector-specific costs	Project staff	441,899
	Domestic travel	40,632
	International travel	0
	Domestic meetings	22,729
	International meetings	0
	Consulting service	32,201
<b>Sub-total (sector-specific costs)</b>		<b>537,461</b>
Operational costs	Shared costs (support staff, computers, internet, printing, office operation and maintenance)	429,730
<b>Total disbursement *</b>		<b>967,191</b>

\* Additional expenditure from the Government of China (e.g., operational costs as well as in-kind) are not included in the table.

### Interest

52. Information on the interest accrued in 2019 on the funding approved for the sector plans of the HPMP for China is provided at every last meeting of the year following the commissioning of a financial audit. Accordingly, this information will be submitted to the 86<sup>th</sup> meeting.

### Conclusion

53. The Secretariat notes that China continues to be in compliance with the Montreal Protocol and its Agreement with the Executive Committee with regard to the PU foam sector plan. There is significant progress in the implementation of the first tranche of stage II, including several TA activities and the implementation of 11 conversion projects, four of which are practically completed, while the remaining ones will be completed in 2020 and 2021. Funding from the second tranche is required to complete ongoing conversions and to implement TA activities and policy and regulatory measures in order to ensure that

HCFC consumption in the sector is reduced and maintained below the maximum allowable consumption level stated in the Agreement. The Secretariat also notes that despite the reduction in the funding level in light of decision 84/69, the Government of China has agreed to honor its commitments to achieve the compliance targets set out in its Agreement with the Executive Committee; accordingly, the Government will adjust the action plan for the PU foam sector, including assistance to SMEs, and all other HCFC phase-out sector plans to be submitted to the 86<sup>th</sup> meeting.

## **RECOMMENDATION**

54. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the first tranche of the polyurethane (PU) foam sector plan of stage II of the HCFC phase-out management plan (HPMP) for China; and
- (b) Approving the second tranche of the PU foam sector plan of stage II of the HPMP for China, and the corresponding 2020-2022 tranche implementation plan, in the amount of US \$2,067,012, plus agency support costs of US \$144,691 for the World Bank.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### China

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II) industrial and commercial refrigeration and air-conditioning	UNDP	77 <sup>th</sup>	33% by 2020

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	14,382.12 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)						Year: 2018
Chemical	Aerosol	Foam	Refrigeration		Solvent	Total sector consumption
			Manufacturing	Servicing		
HCFC-22	101.20	1,595.00	4,840.00	3,290.20		9,826.40
HCFC-123			11.06	8.75		19.81
HCFC-124				-0.12		-0.12
HCFC-141b	52.80	3,759.14			374.00	4,186.24
HCFC-142b		325.00	5.85	18.00		348.85
HCFC-225ca					0.43	0.43
HCFC-225cb					0.69	0.69

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	19,269.0	Starting point for sustained aggregate reductions:	18,865.44
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	12,161.02	Remaining:	6,704.42

(V) BUSINESS PLAN		2020	Total
UNDP	ODS phase-out (ODP tonnes)	n/a	n/a
	Funding (US \$)	2,242,479	2,242,479

<b>(VI) PROJECT DATA</b>			<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020*</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>Total</b>
Montreal Protocol consumption limits			17,342.1	17,342.1	17,342.1	17,342.1	12,524.9	12,524.9	12,524.9	12,524.9	12,524.9	6,262.4	6,262.4	n/a
Maximum allowable consumption (ODP tonnes)			2,162.5	2,162.5	2,042.4	2,042.4	1,609.9	1,609.9	**	**	**	**	**	n/a
Agreed funding*** (US \$)	UNDP	Project costs	13,368,756	20,000,000	0	0	2,095,775							
		Support costs	935,813	1,400,000	0	0	146,704							
Funds approved by ExCom (US \$)		Project costs	13,368,756	20,000,000	0	0								33,368,756
		Support costs	935,813	1,400,000	0	0								
Total funds requested for approval at this meeting (US \$)		Project costs					****2,095,775							2,095,775
		Support costs					146,704							

\* The third (2018) tranche was submitted to the 82<sup>nd</sup>, 83<sup>rd</sup> and 84<sup>th</sup> meetings, and deferred for consideration of the 85<sup>th</sup> meeting (decisions 82/71(b), 83/55 and 84/69(a)).

\*\* Maximum allowable total consumption of Annex C, Group I substances in the ICR sector for the period 2021 to 2026 will be determined later, but would in no case be greater than 1,609.9 ODP tonnes prior to 2025, and no greater than 781 ODP tonnes thereafter.

\*\*\* Total adjusted value of stage II of the HPMP for the ICR sector plan and the funding level of tranches between 2020 and 2026 will be submitted by the Government of China to the 86<sup>th</sup> meeting (decision 84/69).

\*\*\*\* Considered at previous meetings at a value of US \$12,000,000, plus agency support costs of US \$840,000 for UNDP and deferred to the 85<sup>th</sup> meeting at the adjusted value (decision 84/69).

<b>Secretariat's recommendation:</b>	For individual consideration
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## PROJECT DESCRIPTION

55. On behalf of the Government of China, UNDP as the designated implementing agency has re-submitted<sup>12</sup> a request for funding for the third tranche of the industrial and commercial refrigeration and air-conditioning (ICR) sector plan of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$2,095,775, plus agency support costs of US \$146,704.<sup>13</sup> The submission includes the progress report on the implementation of the second tranche and the tranche implementation plan for 2020-2022.

### Progress report on the implementation of the second tranche of stage II

#### *Enterprise-level activities*

56. Contracts were signed with 12 enterprises for the conversion of 18 manufacturing lines to phase out 2,557.42 metric tonnes (mt) of HCFC-22 after verification of the baseline consumption and capacity of these lines. The implementation of the conversion of the manufacturing lines is progressing and is being closely monitored according to the defined milestones.<sup>14</sup> Four lines have completed national acceptance; two lines have started trial production; ten lines have completed the design and procurement contract; one line has completed design; and one additional line that has completed the design and procurement, needs to re-locate the workshop, which will delay completion of the conversion by June 2021. Table 1 shows the progress in the conversion of manufacturing lines so far achieved.

**Table 1. Progress in the conversion of manufacturing lines under tranches I, II and III**

No.	Name of enterprise	Phase-out HCFC-22 (mt)	No. of lines	Type of products	Alternative technology	Funding (US \$)	Milestones achieved
1-1	Yantai Moon	590.23	1	Water chiller (heat pump)	R-290	9,319,613	National project acceptance in August 2019
1-2	Dunham-Bush	20.42	1	Heat pump water heater	R-32	282,762	National project acceptance in November 2019
1-3	Nanjing TICA	91.58	1	Freezers, refrigeration and condensing units	NH <sub>3</sub> / CO <sub>2</sub>	968,400	Workshop relocation, completion delayed to June 2021
1-4	Nanjing TICA	32.52	1	Heat pump water heater	CO <sub>2</sub>	547,038	Completion of design and procurement contracts
1-5	TCL Zhong Shan	115.31	1	Unitary air-conditioning	R-32	1,020,456	Completion of design and procurement contracts

<sup>12</sup> Initially submitted for consideration at the 82<sup>nd</sup>, the Executive Committee decided to defer consideration to the 85<sup>th</sup> meeting (decision 82/71(b), 83/55 and 84/69).

<sup>13</sup> As per the letter of 24 February 2020 from the Foreign Environmental Cooperation Center (FECO) of the Ministry of Ecology and Environment of China to UNDP.

<sup>14</sup> The milestones include: signing the conversion contract (30 per cent payment); completion of design and procurement contract (20 per cent payment); completion of prototype manufacture, conversion of lines and performance test (30 per cent payment); and trial production, training, and equipment disposal upon project acceptance (20 per cent payment).

No.	Name of enterprise	Phase-out HCFC-22 (mt)	No. of lines	Type of products	Alternative technology	Funding (US \$)	Milestones achieved
1-6	Guangdong Jirong	21.13	1	Unitary air-conditioning	R-32	292,769	National project acceptance in October 2019
<b>Total tranche I</b>		<b>871.19</b>	<b>6</b>			<b>12,431,038</b>	
2-1	Yantai Aowei	108.07	1	Freezers, refrigeration and condensing units	NH <sub>3</sub> / CO <sub>2</sub>	1,561,153	Completion of design and procurement contracts
2-2	Yantai Aowei	75.28	1	Freezers, refrigeration and condensing units	NH <sub>3</sub> / CO <sub>2</sub>	1,168,935	Completion of design and procurement contracts
2-3	Zhejiang Guoxiang	42.18	1	Unitary air-conditioning	R-32	504,288	National project acceptance in December 2019
2-4	Haixin Shandong	85.26	1	Unitary air-conditioning	R-32	819,134	Completion of design and procurement contracts
2-5	Haixin Shandong	105.31	1	Unitary air-conditioning	R-32	953,449	Completion of design and procurement contracts
2-6	Qingdao Haier	492.00	1	Unitary air-conditioning	R-32	3,265,986	Completion of design and procurement contracts
2-7	Dunham-Bush	112.20	1	Water chiller (heat pump)	R-513A	1,610,512	Completion of design and procurement contracts, and started trial production
2-8	Dunan Environment	147.34	1	Water chiller (heat pump)	R-513A	2,030,774	Completion of design
2-9	Zhejiang Guoxiang	95.22	1	Water chiller (heat pump)	R-513A	1,407,457	Completion of design and procurement contracts
2-10	Dalian Refrigeration	237.04	1	Water chiller (heat pump)	R-290	3,373,561	Completion of design and procurement contracts, and started trial production
2-11	Shandong Shenzhou	114.09	1	Freezers, refrigeration and condensing units	NH <sub>3</sub> / CO <sub>2</sub>	1,633,116	Completion of design and procurement contracts
<b>Total tranche II</b>		<b>1,613.99</b>	<b>11</b>			<b>18,328,365</b>	
3-1	Dalian Refrigeration	72.24	1	Water chiller (heat pump)	R-290	1,231,414	Completion of design and procurement contracts

57. Eleven enterprises submitted letters of intent to convert 16 manufacturing lines, of which 11 are from small and medium-sized enterprises (SMEs) that manufacture freezers and refrigeration condensing units. Based on the preliminary data, the total consumption to be addressed through the conversion of the 15 manufacturing lines amounts to 1,069.32 mt of HCFC-22, at a total estimated cost of US \$16,770,034.

Verification of actual consumption and manufacturing capacity has been conducted for six manufacturing lines; and conversion of one line at Dalian Refrigeration has started with the funding from the second tranche. Due to the lack of further funding, no further action for the remaining 15 lines has been undertaken.

*Technical assistance (TA) activities*

58. The following TA and awareness-raising activities were also implemented:

- (a) The China Refrigeration and Air-conditioning Industrial Association (CRAA) continues to support the implementation of phase-out activities, including assisting with project application and verification; monitoring progress of conversion and overall phase-out in the sector; coordinating workshops, seminars and awareness-raising activities; and tracking alternative technology development, assessing emerging alternatives in the ICR sector and providing advice to enterprises on technology selection. CRAA has also assisted FECO in identifying 33 manufacturing lines for conversion, verifying their baseline consumption, and monitoring the progress of their conversion. This TA will be continuously implemented throughout stage II;
- (b) Two contracts were signed by FECO with Daxin Certified Public Accountant (DCPA) to conduct verification of the baseline consumption and eligibility of the manufacturing lines to be converted, and to conduct verification of performance milestones during the conversion process. Since the signature of the contracts, DCPA has verified the consumption of 23 manufacturing lines and the project implementation milestones of 17 manufacturing lines. This TA will be continuously implemented throughout stage II;
- (c) A TA was conducted to assist in the development of a methodology for evaluating the performance and energy consumption of the HFC-134a/CO<sub>2</sub> cascade refrigeration system in supermarkets to compare with other refrigeration systems, including HCFC-22 and R-404A. The final report of the study has been submitted and the TA was completed in September 2019. Through the TA, a comprehensive understanding of the advantages and disadvantages of CO<sub>2</sub> refrigeration systems in commercial applications as compared with other refrigerants (R-22 and R-404A) has been gained. The information collected will be used for the future formulation of testing standards. This activity has been completed;
- (d) A study on energy conservation in small and medium-sized cold-storage and compression-condensing units was launched to develop a methodology for the evaluation of the energy efficiency of cold-storage equipment (20-70 tonnes of refrigeration capacity). The activity will assist in the establishment of an energy-efficiency standard for refrigeration equipment, eliminating the obsolete technologies and removing barriers for the transition to energy-efficient and environment-friendly technologies. As of February 2019, the testing work had been completed; and the energy efficiency standards had been drafted and is being examined before final approval. It is expected that this activity will be completed by July 2020;
- (e) A study on the safety requirements and evaluation methodology for using flammable refrigerants in industrial refrigeration and air-conditioning equipment has been started. As of February 2020, the literature review, data analysis and testing work had been conducted; the product safety technical requirements for using flammable refrigerants had been created; the testing procedure for product safety using flammable refrigerant was being compiled. Based on the safety technical requirements, the guidelines on safety certification of unitary air conditioner, cold water (heat pump) unit and heat pump water heater are being drafted. This activity is expected to be completed in August 2020;

- (f) One training session on project preparation was conducted for 10 SMEs. The training covered implementation of strategies and activities of stage II of the ICR sector plan; requirements and procedures when implementing manufacturing-line conversions; preparation of project proposals and key aspects during implementation; verification of capacity and baseline consumption of manufacturing lines; verification of progress performance milestones; and project financial management. After the training session, nine enterprises with manufacturing lines consuming less than 50 mt per line submitted letters of intent to convert their manufacturing lines; and
- (g) In April 2019, an international exhibition for ICR equipment and the 2019 industrial roundtable and ozone-to-climate roadshow were held. Experts from different countries made presentations on policies and alternative technologies. A special pavilion was set up to showcase ozone and climate friendly technologies, including CO<sub>2</sub>, NH<sub>3</sub>, hydrocarbons, hydrofluoroolefins and HFC-32, and to highlight the progress of refrigerant replacement. Technical workshops were organized covering the themes of ICR equipment, cold chain and refrigerants. A seminar was organized for enterprises in ICR sector to share experience in project implementation; to discuss difficulties and obstacles faced in adopting low-global warming potential (GWP) alternatives; and to consider the assistance and technical support required.

#### Project implementation and monitoring unit (PMU)

59. FECO is responsible for the overall implementation of the ICR sector plan. The roles and responsibilities include *inter alia*, identification of new lines for conversion, monitoring conversion of the lines; organizing meetings with stakeholders to discuss issues in implementation; develop terms of reference for TA activities; managing contracts for conversion of manufacturing lines and TA activities; implementing awareness raising activities to assist in the implementation of the ICR sector plan; and coordination with UNDP for preparing reports to the Executive Committee.

60. After approval of the second tranche, FECO identified 12 new enterprises and 16 manufacturing lines for conversion, organized training workshops and sessions to disseminate policies and procedures for projects, undertook verification missions, and signed contracts with enterprises. FECO also developed terms of reference and signed contracts for three TA activities. CRAA assisted FECO to implement the sector plan and monitor the progress of implementation.

#### Level of fund disbursement

61. As of February 2020, of the US \$33,368,756 approved so far, 100 per cent had been transferred from UNDP to FECO, and US \$22,801,901 had been disbursed to final beneficiary enterprises and for TA activities, accounting for 68.33 per cent of the total funding approved, as shown in Table 2.

**Table 2. Status of disbursement of stage II of the ICR sector plan as of February 2020 (US \$)**

ICR sector plan		Tranche I (2016)	Tranche II (2017)	Total
Funds approved by the Executive Committee		13,368,756	20,000,000	33,368,756
Disbursement from UNDP to FECO	Amount (US \$)	13,368,756	20,000,000	33,368,756
	Disbursement ratio (%)	100	100	100
Disbursement from FECO to beneficiaries	Amount (US \$)	11,886,644	10,915,257**	22,801,901
	Disbursement ratio (%)	88.91	54.58	68.33

\*The interest of US \$103,708 for 2015 from the first tranche; deducting the interest of US \$97,468 for 2016 and US \$7,299 for 2017 has been deducted from the approved funds before transfer.

\*\* Includes the funds disbursed to Dalian Refrigeration for the conversion of one manufacturing line to be charged to the third tranche.

Implementation plan for the third tranche

62. At the 84<sup>th</sup> meeting, the Executive Committee requested UNDP, on behalf of the Government of China, to submit, at the 85<sup>th</sup> meeting, the 2020 funding tranche request for the ICR sector plan of stage II of the HPMP, at the amount of US\$2,095,775 (decision 84/69(a)(i)).

63. The funds of the third tranche will be used to supplement the funding for the conversion of 18 manufacturing lines, and implementation of TA activities that had been planned with contracts signed under the 2016 and 2017 tranches. The activities and cost breakdown are shown in Table 3.

**Table 3. Planned activities and cost breakdown in the third tranche (US \$)**

Activities	Description	Funding
Manufacturing line conversion contracts	To supplement the disbursements of the signed conversion contracts under 2016 and 2017 tranches	1,000,000
TA contracts	To supplement the disbursements of the signed TA contracts under 2016 and 2017 tranches	986,585
PMU	Project personnel	68,320
	Domestic travel	5,000
	Meetings	4,000
	Consultancy	3,870
	Office expenses	28,000
	<b>Sub-total</b>	<b>109,190</b>
<b>Total</b>		<b>2,095,775</b>

**SECRETARIAT'S COMMENTS AND RECOMMENDATION****COMMENTS**HCFC consumption

64. The consumption of HCFCs in the ICR sector in 2018 and estimated for 2019 was 36,643 mt (1,997 ODP tonnes), which are below the allowable levels of consumption in the Agreement between the Government of China and the Executive Committee, as shown in Table 4.

**Table 4. Reduction in HCFC consumption in the ICR sector**

	2014	2015	2016	2017	2018	2019*
<b>ODP tonnes</b>						
Maximum allowable consumption**	2,402.80	2,162.50	2,162.50	2,162.50	2,042.40	2,042.40
Actual consumption in ICR sector***	2,219.48	1,981.70	2,082.09	2,081.23	1,997.00	1,996.91
Reduction target set in HPMP	0.00	240.30	0.00	0.00	120.10	0.00
<b>Metric tonnes</b>						
Maximum allowable consumption**	43,925.00	39,320.00	39,320.00	39,320.00	37,135.00	37,135.00
Actual consumption in ICR sector***	40,749.00	36,385.00	38,254.70	38,234.00	36,643.00	36,643.00
Reduction target set in HPMP	0.00	4,370.00	0.00	0.00	2,185	0.00

\* Estimated consumption provided by FECO.

\*\* As per the stage I Agreement up to 2015 and stage II Agreement from 2016 to 2018.

\*\*\* The consumption in the ICR sector is based on estimated amounts, as actual amounts cannot be accurately verified.

65. In 2015, the economic growth rate in China was lower than in the previous years, resulting in lower rates of industrial production and reduction in the consumption of HCFCs. In 2016 the HCFC consumption in the ICR sector increased due to the economic recovery of the ICR industry. Since then HCFC consumption in the sector has been decreasing due to the continuous promoting of sales and market adoption of the alternative technologies and products manufactured by the lines that were converted in stage I and

those being converted in stage II of the HPMP. This consumption will further decrease as the four converted lines<sup>15</sup> in stage II started to produce with alternatives in 2020.

### Technical issues

66. The Secretariat noted that the funding from the third tranche would only be used to support the existing contracts from the first and second tranches and queried if there were any changes to the existing contracts. UNDP clarified that funding that was allocated to all the ongoing contracts, including the conversion of 18 manufacturing lines and four TA activities, would be provided in full. The Government is currently revising the stage II of the ICR sector plan to extend its implementation period to 2026, and will be submitted to the 86<sup>th</sup> meeting, in line with decision 84/69.

67. The Secretariat noted that an independent verification of a random sample of at least five per cent of the manufacturing lines that had completed their conversion in the year to be verified (i.e., 2018) should be submitted together with the tranche request, as specified in paragraph 5(c) of the Agreement between the Government and the Executive Committee. Upon a request for clarification on this issue, UNDP explained that the first conversions were only completed in 2019 and a verification of a sample of those converted lines will be undertaken and included in the progress report for the third tranche.

### Reporting of expenditures of the PMU

68. UNDP as lead agency of the overall stage II of the HPMP provided a cumulative report on PMU expenditures, in line with decision 81/46(b). Based on that report, the expenditures related to the PMU for stage II of the ICR sector implemented by UNDP are summarized in Table 5.

**Table 5. PMU cumulative expenditures for stage II of the ICR sector plan in China**

Items	Description	2017-2019 (US \$)
Sector-specific costs	Project staff	434,808
	Domestic travel	64,776
	International travel	4,000
	Domestic meetings	30,897
	International meetings	0
	Consulting service	51,209
<b>Sub-total (sector-specific costs)</b>		<b>585,690</b>
Operational costs	Shared costs (support staff, computers, internet, printing, office operation and maintenance)	647,526
<b>Total disbursement *</b>		<b>1,233,216</b>

\* Additional expenditure from the Government of China (e.g., operational costs as well as in-kind) are not included in the table.

### Interest

69. Information on the interest accrued in 2019 on the funding approved for the sector plans of the HPMP for China is provided at every last meeting of the year following the commissioning of a financial audit. Accordingly, this information will be submitted to the 86<sup>th</sup> meeting.

### Conclusion

70. The Secretariat notes that implementation of the second tranche of the ICR sector plan has progressed well. Contracts for the conversion of 18 manufacturing lines have been signed to replace 2,557.42 mt of HCFC-22 with low-/zero-GWP (1,687.90 mt) and HFC-32 (869.52 mt) technologies. The conversion of manufacturing capacity is progressing: four manufacturing lines have completed national acceptance; two lines have started trial production; ten lines have completed the design and procurement

<sup>15</sup> Four conversions had gone through the national acceptance from August to December 2019, as shown in Table 1.

contracts; and two lines have completed the design. Several TA activities have been implemented, including technology studies, the development of technical guidelines for meeting safety regulations, and the revision of standards to assist in the conversion of manufacturing capacity and support market adoption of the alternative technologies. In view of the progress made and the overall funding disbursement of 68.33 per cent, the Secretariat recommends approval of the third tranche.

## **RECOMMENDATION**

71. The Executive Committee may wish to consider:

- (a) Noting the 2018-2020 progress report on the implementation of the second tranche of the industrial and commercial refrigeration and air-conditioning (ICR) sector plan of stage II of the HCFC phase-out management plan (HPMP) for China; and
- (b) Approving the third tranche of the ICR sector plan of stage II of the HPMP for China, and the corresponding 2020-2022 tranche implementation plan, in the amount of US \$2,095,775, plus agency support costs of US \$146,704 for UNDP.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## China

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II) solvent	UNDP	77 <sup>th</sup>	100 % by 2026

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	14,382.12(ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)						Year: 2018
Chemical	Aerosol	Foam	Refrigeration		Solvent	Total sector consumption
			Manufacturing	Servicing		
HCFC-22	101.20	1,595.00	4,840.00	3,290.20		9,826.40
HCFC-123			11.06	8.75		19.81
HCFC-124				-0.12		-0.12
HCFC-141b	52.80	3,759.14			374.00	4,186.24
HCFC-142b		325.00	5.85	18.00		348.85
HCFC-225ca					0.43	0.43
HCFC-225cb					0.69	0.69

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	19,269.00	Starting point for sustained aggregate reductions:	18,865.44
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	12,161.02	Remaining:	6,704.42

(V) BUSINESS PLAN		2020	Total
UNDP	ODS phase-out (ODP tonnes)	31.10	31.10
	Funding (US \$)	13,853,057	13,853,057



(VI) PROJECT DATA			2016	2017	2018	2019	2020*	2021	2022	2023	2024	2025	2026	Total
Montreal Protocol consumption limits			17,342.1	17,342.1	17,342.1	17,342.1	12,524.9	12,524.9	12,524.9	12,524.9	12,524.9	6,262.4	6,262.4	n/a
Maximum allowable consumption (ODP tonnes)			455.2	455.2	395.4	395.4	321.2	321.2	321.2	148.3	148.3	55.0	0.0	n/a
Agreed funding (US \$)**	UNDP	Project costs	2,821,937	3,777,190	0	0	12,946,782							
		Support costs	197,536	264,403	0	0	906,275							
Funds approved by ExCom (US \$)		Project costs	2,821,937	3,777,190	0	0								6,599,127
		Support costs	197,536	264,403	0	0								
Total funds requested for approval at this meeting (US \$)		Project costs					***12,946,782							12,946,782
		Support costs					906,275							

\* The third (2018) tranche was submitted to the 82<sup>nd</sup>, 83<sup>rd</sup> and 84<sup>th</sup> meetings, and deferred for consideration of the 85<sup>th</sup> meeting (decisions 82/71(b), 83/55 and 84/69(a)).

\*\* Total adjusted value of stage II of the HPMP for the solvent sector plan and the funding level of tranches between 2020 and 2026 will be submitted by the Government of China to the 86<sup>th</sup> meeting (decision 84/69).

\*\*\* Considered at the 84<sup>th</sup> meeting at a value of US \$5,549,492, plus agency support costs of US \$388,464 for UNDP, and deferred to the 85<sup>th</sup> meeting at the adjusted value (decision 84/69).

<b>Secretariat's recommendation:</b>	For individual consideration
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## PROJECT DESCRIPTION

72. On behalf of the Government of China, UNDP as the designated implementing agency, has resubmitted<sup>16</sup> a request for funding for the third tranche of the solvent sector plan of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$12,946,782, plus agency support costs of US \$906,275.<sup>17</sup> The submission included a progress report on the implementation of the second tranche and the tranche implementation plan for 2020-2022.

### Progress report on the implementation of the second tranche of stage II

73. The Agreement for the implementation stage II of the solvent sector plan between the Foreign Environmental Cooperation Center (FECO) and UNDP was signed in April 2017 and amended in April 2018 to include the approved budget for the second tranche. The implementation plan for 2018-2019 was also signed in April 2018.

### *Regulatory activities*

74. FECO continued to implement quota permits to solvent enterprises consuming more than 100 metric tonnes (mt) of HCFCs per year. On 23 January 2018, the Ministry of Ecology and Environment issued a circular on the Management of construction of facilities producing or using ODS. According to the circular, any new establishment, retrofitting or expanding facilities for production or use of HCFCs in application as refrigerants, foam blowing agents, solvents or chemical process agents is not permitted.

75. The research to ban the use of HCFCs in the medical devices sub-sector in the solvent sector in China initiated in June 2018 has been completed; the draft report is under stakeholder consultation. The proposal for issuing the ban and its implementation are expected to be completed once the revision of the solvent sector plan is submitted and agreed by the Executive Committee at the 86<sup>th</sup> meeting.

### *Enterprise-level activities*

76. As of February 2020, all 24 enterprises (comprising 514 production lines) identified as part of the previous tranches had signed contracts with FECO. The HFCF-141b consumption of these 24 enterprises is 1,176.19 mt (129.38 ODP tonnes), representing 28 per cent of the reduction target of 455.2 ODP tonnes for stage II of the solvent sector. The total value of the conversion of these 24 enterprises to low-GWP alternatives<sup>18</sup> amounts to US \$20,040,546.

77. Based on the terms of the contracts, first payment amounting to US \$2,893,277 had been disbursed to all 24 enterprises; 17 enterprises have finished equipment installation and have started trial production, three have finished equipment installation and are ready to proceed with trial production, one has installed part of the equipment and is waiting for the delivery of the remaining equipment, and the remaining three enterprises are in the process of testing new alternatives, and these three are expected to request a revision to their previously submitted implementation plan and adjust their project completion to June 2021.

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<sup>16</sup> Initially submitted for consideration at the 82<sup>nd</sup> meeting, the Executive Committee decided to defer consideration to the 85<sup>th</sup> meeting (decisions 82/71(b), 83/55 and 84/69(a)).

<sup>17</sup> As per the letter of 24 February 2020 from the Ministry of Ecology and Environment of China to UNDP.

<sup>18</sup> KC-6, HC's or diluent, trans-1, 2-dichloroethylene and HFE, water-based cleaning agent, modified alcohol, nano silicon carbonate, F-solvents, and naphthenic aromatics.

78. An additional 27 enterprises (mostly small and medium-sized enterprises (SMEs) with annual consumptions each of no more than 5 mt of HCFC-141b), had submitted proposals for conversion that would result in an additional phase out of 436.00 mt (47.96 ODP tonnes) of HCFC-141b. However, only 25 enterprises out of the 27 were qualified for conversion, and verification of consumption of these 25 enterprises showed a consumption of 372.19 mt (40.94 ODP tonnes); one remaining enterprise was required to submit additional documents to confirm its application and is currently pending verification of its consumption.

79. An overview of the progress in the implementation of the solvent sector plan is presented in Table 1.

**Table 1. Status of progress of enterprises in the solvent sector selected in the first and second tranches**

Status of implementation	Number of enterprises	HCFC consumption (2016)*		Value of contracts (US \$)	Estimated date of conversion
		mt	ODP tonnes		
<b>Enterprises that have signed contracts</b>					
Equipment installed, started/completed trial production completed	17	708.89	77.98	12,576,212	December 2020
Equipment installed, ready for trial production	3	45.83	5.04	835,825	2 enterprises in December 2020; 1 enterprise in December 2021
Installed partial equipment, pending delivery of remaining equipment	1	40.09	4.41	621,197	December 2021
New alternatives tested and implementation plan updated	3	381.41	41.95	6,007,312	December 2021
<b>Sub-total</b>	<b>24</b>	<b>1,176.22</b>	<b>129.38</b>	<b>20,040,546</b>	
<b>Enterprises with contracts to be signed</b>	25	**372.19	**40.94		
<b>Total</b>	<b>49</b>	<b>1,548.41</b>	<b>170.32</b>		

\* 2016 is the year used as reference for HCFC consumption for stage II of the HPMP.

\*\* Dependent on the approval of the third tranche.

#### *Technical assistance (TA) activities*

80. The following TA activities were implemented:

- (a) Second implementation meeting for beneficiary enterprises to discuss, review and adjust implementation plans in line with guidance from technical experts;
- (b) A training workshop on project implementation for project managers, financial and procurement staff from the 24 enterprises was conducted;
- (c) Completed the *Technical Conversion Guideline for Medical Devices Enterprises*, and used it to train beneficiary disposable medical devices (DMD) enterprises, collected feedback on the guideline, revised this based on the feedback received, and circulated the revised guideline to participants in the annual meeting of China Association for Medical Devices Industry Medical Macromolecule Products;
- (d) Signed a contract with the China Industry Cleaning Association as implementing support agency (ISA) in January 2018;

- (e) Signed a contract with the Beijing University of Chemical and Technology (BUCT) in June 2018 to conduct a research on the impact of the ban of the use of HCFC-141b in the solvent sector; as at April 2019, BUCT completed distribution and collection of 64 filled questionnaires and conducted 19 on-site visits to enterprises;
- (f) Completed the baseline verification of 26 new enterprises through a contract with Beijing Xinghua Accounting firm; and
- (g) Signed a contract for HCFCs phase-out performance verification with the Beijing Daxin Accounting Firm, in October 2018. Once the first batch from the 24 enterprises submit their qualified application of acceptance, FECO will coordinate with Beijing Daxin and ISA to conduct the National Project Acceptance procedures as soon as possible.

Level of fund disbursement

81. As of February 2020, of the US \$6,599,127 approved so far, US \$6,538,026 had been disbursed by UNDP to FECO, and US \$6,435,160 by FECO to beneficiaries, as shown in Table 2. The balance of US \$61,101 will be disbursed in 2020.

**Table 2. Status of disbursements for the solvent sector plan stage II (as of February 2020)**

Agency	First tranche		Second tranche		Total	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNDP	2,821,937	2,796,937	3,777,190	3,741,089*	6,599,127*	6,538,026*
<b>Disbursement rate (%)</b>	<b>99.11</b>		<b>99.04</b>		<b>99.07</b>	
FECO to beneficiaries	2,796,937		3,638,223		6,435,160	
<b>Disbursement rate (%)</b>	<b>99.11</b>		<b>96.32</b>		<b>97.52</b>	

\*A total of US \$60,000 from these two tranches was retained in UNDP to cover activities to be implemented by UNDP.

Implementation plan for the third tranche of stage II

82. The following activities will be implemented until December 2022:

- (a) *Policy actions:* FECO will continue to enforce the quota management in the solvent sector, local ecology and environment bureaus (EEBs) will improve their registration systems for HCFC consumers and sales; and BUCT will continue consultation for the finalization of the ban which is currently under review; (funds from previous tranche)
- (b) *Enterprise level activities:* The first 24 enterprises will continue with conversion in order to achieve HCFC phase-out by December 2022; a workshop for these enterprises will be organized to exchange lessons learned and experiences in their project implementation to facilitate the work for succeeding participating enterprises; the action plan for the solvent sector to be submitted to the 86<sup>th</sup> meeting will determine when contracts with the next batch of qualified beneficiary enterprises will be signed, and activities will be adjusted accordingly. Upon completion of the conversion of the 24 enterprises, performance verification will be conducted, and national acceptance will be issued. Funding from this tranche will be utilized for remaining disbursements to enterprises against achievement of milestones stipulated in the conversion contracts (US \$11,975,755);
- (c) *TA activities:* FECO with the assistance of ISA, will continue to organize workshops and meetings for relevant stakeholders to promote knowledge sharing and lessons learnt. The funding from the 2020 tranche will be utilized for disbursements against ongoing TA activities with which contracts have been signed, upon achievement of milestones stipulated in the contracts (US \$296,500); and

- (d) *Project management: Monitoring and verification, reporting and coordination, financial and operational management (US \$674,527).*

#### Project management unit (PMU)

83. UNDP as the lead implementing agency provided a consolidated report on PMU expenditures for stage I of the HPMP for China, in line with decision 81/46(b). Based on that report, the expenditures related to the PMU for the solvent sector are summarized in Table 3.

**Table 3. PMU cumulative expenditures for stage II of the solvent sector plan in China**

Items	Description	2017-2019 (US \$)
Sector-specific costs	Project staff	72,078
	Domestic travel	24,537
	International travel	0
	Domestic meetings	10,308
	International meetings	0
	Consulting service	19,363
<b>Sub-total (sector-specific costs)</b>		<b>126,286</b>
Operational costs	Shared costs (support staff, computers, internet, printing, office operation and maintenance)	235,460
<b>Total disbursement *</b>		<b>361,746</b>

\* Additional expenditure from the Government of China (e.g., operational costs as well as in-kind) are not included in the table.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

#### HCFC consumption

84. Consumption of HCFCs in the solvent sector in 2018 was 3,400 mt (374 ODP tonnes) and the consumption in 2019 was estimated at 3,539.10 mt (385.98 ODP tonnes); both levels are lower than the maximum allowable consumption established in the Agreement between the Government of China and the Executive Committee as shown in Table 4.

**Table 4. Consumption of HCFCs in the solvent sector**

Solvent sector		2014	2015	2016	2017	2018	2019*
Consumption**	mt	4,433.23	3,815.40	3,787.98	3,638.40	3,438.00	3,539.10
	ODP tonnes	484.83	418.51	413.45	396.96	375.12	385.98
Maximum allowable consumption***	mt	4,492.70	4,172.00	4,172.00	4,172.00	4,172.00	4,172.00
	ODP tonnes	494.2	455.2	455.2	455.2	395.4	395.4
Phase-out target	mt	272.7	0.0	0.0	0.0	543.64	0.0
	ODP tonnes	29.0	0.0	0.0	0.0	59.8	0.0

\* Estimated consumption provided by FECO.

\*\*As per the country programme implementation report.

\*\*\*As per the Agreement signed at the 67<sup>th</sup> meeting for stage I up to 2015, and as per the Agreement signed at the 79<sup>th</sup> meeting for stage II from 2016 to 2018.

85. Since 2014, the reduction in HCFC consumption in the solvent sector has been achieved through the application of the HCFC production quota and domestic sale quota issued for each producer; the application of the HCFC consumption quotas to manufacturing enterprises using more than 100 mt; and the conversion of enterprises in stage I of the HPMP with a total phase-out of 599 mt (65.90 ODP tonnes) of HCFC-141b. The slight increase in the estimated consumption in 2019 has been attributed to fluctuations in consumption of some enterprises which have not yet completed their conversions.

Status of progress

86. In responding to the query on what new initiatives were completed for the policy and regulatory aspect of the plan, UNDP explained that the preparation for issuing a ban on the use of HCFC-141b in the DMD sub-sector by 1 January 2026, started in July 2018. BUCT is presently conducting the research and analysis to assess the potential impacts of the ban to the country in general and the solvent sector in particular; views have been gathered from industry through questionnaires and on-site visits to minimize any negative impact on the enterprises, as well as propose the text for the ban; and a workshop to discuss the results of the survey was completed. The overall proposal for the ban and its implementation is under review.

87. At the 80<sup>th</sup> meeting, the Secretariat noted that the funding tranches for the solvent sector might cause difficulties with regard to expediting signature of agreements with enterprises. UNDP indicated that contracts have already been signed for all of the 24 enterprises initially identified, and that there is substantial progress in reaching key milestones of implementation for 20 of these enterprises. In addition, 26 out of the new 27 SMEs identified have completed verifications of consumption and 25 were expected to sign contracts with FECO; however, as the approval of the third tranche has been delayed, contract signing expected in 2020 will have to be reviewed. These new commitments will require additional financial resources to ensure the timely implementation of their conversion and will be assessed under the revised action plan for the solvent sector to be prepared by the Government of China and UNDP in light of decision 84/69. This revision will consider adjustments to funding of the enterprises and other activities that will ensure that the Government will meet its commitments for stage II of the solvent sector.

Project implementation and monitoring unit (PMU)

88. In line with decision 83/61(b)<sup>19</sup>, UNDP had provided a breakdown of the budget for the PMU summarized in Table 5 below. The cost items indicated are consistent with the consolidated PMU report that had been submitted to the 84<sup>th</sup> meeting in line with decision 81/46(b):

**Table 5. PMU budget for 2020-2022, stage II of the solvent sector plan in China**

Items	Description	Funding (US \$)		
		2020	Jan-Jun 2021	Total
Sector specific costs	Project staff	89,936	44,965	134,901
	Domestic travel	20,986	10,495	31,481
	International travel	0	0	0
	Domestic meeting	20,986	10,495	31,481
	International meetings	0	0	0
	Consulting service	20,986	10,495	31,481
<b>Sub-total (sector costs)</b>		152,894	76,450	229,344
Operational costs	Shared costs (support staff, computers, Internet, printing, office operation, maintenance)	296,791	148,392	445,183

Interest

89. Information on the interest accrued on the funding approved for the sector plans of the HPMP for China is provided at every last meeting of the year following the commissioning of a financial audit. Accordingly, information on the interest accrued in 2019 will be submitted to the 86<sup>th</sup> meeting.

<sup>19</sup> To request bilateral and implementing agencies, when submitting tranche funding requests for HCFC phase-out management plans, to include: in the tranche implementation plan, the specific activities that would be implemented by the PMU, and the associated funding; and in the implementation report of the previous tranche, the activities implemented by the PMU and the associated funding disbursed.

## Conclusion

90. The Secretariat noted that the solvent sector plan is progressing well with all 24 enterprises selected having signed their contracts with FECO, and demonstrating substantial progress in implementation. The conversion of these 24 enterprises will result in the phase-out of 129.38 ODP tonnes of HCFC-141b, representing 28 per cent of the HCFC reduction target for stage II of the solvent sector plan. In addition, a second set of 25 enterprises have been identified and have completed the verification of consumption with an estimated phase-out of 372.19 mt (40.94 ODP tonnes) of HCFC-141b, signing of contracts for all or some of these new enterprises will depend largely on the revised action plan for the solvent sector that will be submitted to the 86<sup>th</sup> meeting. The disbursement rate of the funding so far approved is 97.52 per cent. In view of the implementation progress, the Secretariat recommends approval of the third tranche of the solvent sector plan. In line with decision 84/69, the Government of China through UNDP will review the action plan for the solvent sector ensuring that the Government will meet its commitments for stage II of the solvent sector.

## **RECOMMENDATION**

91. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the second tranche of stage II of the solvent sector plan of stage II of the HCFC phase-out management plan (HPMP) for China; and
- (b) Approving the third tranche of the solvent sector plan of stage II of the HPMP for China, and the corresponding 2020-2022 tranche implementation plan, in the amount of US \$12,946,782, plus agency support costs of US \$906,275 for UNDP.

## Annex I

### BACKGROUND OF STAGE II OF THE HCFC PHASE-OUT MANAGEMENT PLAN FOR CHINA (76<sup>th</sup> to 83<sup>rd</sup> meetings)

#### Approval of stage II of the HPMP for China

##### *76<sup>th</sup> meeting*

1. At its 76<sup>th</sup> meeting, the Executive Committee approved in principle:
  - (a) The solvent sector plan for the period 2016 to 2026, for the complete phase-out of all HCFCs in that sector, in the amount of US \$44.8 million, plus agency support costs; and
  - (b) The refrigeration and air-conditioning servicing sector and enabling programme component for the period 2016 to 2020, to reduce HCFC consumption by 734.0 ODP tonnes in that sector, in the amount of US \$20.29 million, plus agency support costs.

##### *77<sup>th</sup> meeting*

2. At its 77<sup>th</sup> meeting, the Executive Committee approved in principle stage II of the HCFC phase-out management plan (HPMP) for China for the period 2016 to 2026 in the amount of US \$500,100,000, plus agency support costs, to reduce HCFC consumption by 37.6 per cent of the baseline by 2020. Stage II included the following sector plans:

- (a) The industrial and commercial refrigeration and air-conditioning (ICR) sector plan to reduce HCFC consumption in the sector by 33 per cent by 2020;
- (b) The room air-conditioning manufacturing and heat pump water heaters (HPWH) (RAC) sector plan to reduce HCFC consumption in the sector by 45 per cent by 2020;
- (c) The polyurethane rigid (PU) foam sector and the extruded polystyrene (XPS) foam sector plan to achieve the total phase-out of HCFCs in these sectors by 2026; and
- (d) The solvent sector plan and the refrigeration and air conditioning servicing sector and enabling programme component, approved at the 76<sup>th</sup> meeting, were components of stage II of the HPMP.

##### *79<sup>th</sup> meeting*

3. At its 79<sup>th</sup> meeting, the Executive Committee approved the Agreement between the Government of China and the Executive Committee for the implementation of stage II of the HPMP, and set the agency support costs for UNDP, UNIDO, and the World Bank at 6.5 per cent, on the understanding that the agency support costs could be reconsidered at the 81<sup>st</sup> meeting, and maintained the level of agency support costs for the bilateral agencies and UNEP in place under the current administrative cost regime.



*82<sup>nd</sup> meeting*

4. At the 82<sup>nd</sup> meeting, on behalf of the Government of China, UNDP, UNEP, UNIDO, the World Bank and the Governments of Germany and Japan submitted requests for the following tranches of stage II of the HPMP, amounting to US \$29,199,492:<sup>1</sup> the second tranche of the PU foam sector plan (US \$10,600,000); and the third tranches of the XPS foam (US \$8,000,000), the ICR (US \$12,000,000), and the solvent (US \$5,549,492) sector plans, and the refrigeration and air conditioning servicing sector and enabling programme (US \$3,850,000). The submission also included an independent verification of HCFC production and consumption in 2017 (submitted by the World Bank); annual implementation reports covering the activities undertaken so far, and annual implementation plans for the activities to be implemented in 2018-2019.

5. After reviewing the documents associated with the third tranche requests for the XPS foam, ICR, solvent and refrigeration servicing sector plans, the Secretariat concluded that all of them had merits to warrant their submission for consideration at the 82<sup>nd</sup> meeting. However, this was not the case for the second tranche of the PU foam sector plan, as no disbursements from the first tranche had taken place at the time of submission.

6. In discussing the tranche requests, several Committee members expressed serious concern at approving additional funding at that meeting given the unexplained emissions of CFC-11 that were reported in East Asia. Pursuant to decision XXX/3<sup>2</sup> more information had been requested on the cause of emissions of CFC-11 and it was suggested that the funding request be deferred until a subsequent meeting when more information was available. At the time, China still held over US \$100 million that had not yet been disbursed to beneficiary enterprises; deferring the funding requests, should have no significant effect. It was important to demonstrate to the international community that the Multilateral Fund took the issue of the illegal emission of CFC-11 seriously, but any decision to defer the funding should be without prejudice to any further actions to be taken by China.

7. Other members said that care needed to be taken, and that any decision to defer the funding requested should not put into jeopardy the 2020 reduction target for China. It was asked whether all of the funds had already been transferred to the Government of China or whether some of them remained with the implementing agencies, and what the effect on them might be if the present request for funding was deferred. The ongoing investigations into the cause of the emissions of CFC-11 meant that the Executive Committee needed to be cautious when reaching conclusions. It could take several years for all the relevant information to be assembled, and it was important to have clarity on what information was required and a timeline for assembling it.

8. Subsequent to deliberations on the issue in the contact group, the Committee decided (decision 82/71):

- (a) To request the Government of China, through the relevant implementing agency, to submit, at the 83<sup>rd</sup> meeting:
  - (i) A review of the current monitoring, reporting, verification and enforcement systems in line with its Agreements with the Executive Committee on the country's HPMP and HCFC production phase-out management plan, including information on the organizational structure and capacity at the national and local levels that demonstrated how the long-term sustainability of the phase-out of HCFCs in the

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<sup>1</sup> The request for the third tranche of the RAC sector plan (US \$18,000,000) was not submitted because the level of disbursement of funds approved for the second tranche had not reached 20 per cent.

<sup>2</sup> Unexpected emissions of CFC-11.

consumption and production sectors was being ensured and on the efforts to address any illegal trade in those substances; and

- (ii) A progress report regarding actions taken with a view to strengthening of legislation on ODS and implementation thereof in China; and
- (b) To consider the requests for funding for the subsequent tranches of stage II at the 83<sup>rd</sup> meeting.

*83<sup>rd</sup> meeting*

9. In response to decision 82/71, UNDP submitted, on behalf of the Government of China, the report of the current monitoring, reporting, verification and enforcement systems and the progress report regarding actions taken with a view to strengthening of legislation on ODS.<sup>3</sup> In addition, UNDP, UNEP, UNIDO, the World Bank and the Governments of Germany and Japan re-submitted requests for third tranches of the XPS foam, ICR, solvent and servicing sector plans and for second tranche of the PU foam sector plan associated with stage II of the HPMP for China.

10. After reviewing the re-submission of the sector plans and associated documents, the Secretariat concluded that all of them had merits to warrant their consideration at the 83<sup>rd</sup> meeting, except the request for the second tranche of the PU foam sector plan, which did not meet the disbursement requirements; accordingly, this tranche request was not submitted.

11. In discussing the tranche requests, one Executive Committee member said that in light of the matter of the substantial increase in CFC-11 emissions from China, her delegation had concerns about the sustainability of reductions in ODS achieved using funding from the Fund, and was unable, at the present time, to support project funding for China; she further noted that there may need to be restitution for the environmental harm caused by the unexpected emissions. Another representative supported that stance, stating that until the matter had been clarified, his country was unable to approve new tranches for the HPMP, as that would undermine the credibility of the Montreal Protocol.

12. Following the discussion, the Executive Committee deferred, to the 84<sup>th</sup> meeting, consideration of the revision of the Agreement for stage II of the HPMP for China and the requests for the third tranches of the XPS foam, ICR, refrigeration servicing, and solvent sector plans under stage II of the HPMP (decision 83/55).

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<sup>3</sup> UNEP/OzL.Pro/ExCom/83/11/Add.1.



**Annex II**

**FINANCIAL REPORT OF THE PROJECT IMPLEMENTATION AND MONITORING UNIT  
ASSOCIATED WITH THE SECTOR PLANS OF STAGE I AND STAGE II OF THE HCFC  
PHASE-OUT MANAGEMENT PLAN AND HCFC PRODUCTION PHASE-OUT  
MANAGEMENT PLAN FOR CHINA**

**Stage I - Cumulative expenditure (US \$) as of 31 December 2019**

Content	Sectors*						
	Production	RAC	PU foam	XPS foam	ICR	Solvent	Servicing
<b>Sector costs</b>	<b>10,820,311</b>						
Project staff	1,768,942	1,512,025	1,590,980	1,199,717	1,565,052	235,859	260,452
Domestic travel	199,305	174,422	209,875	161,437	200,029	13,589	25,789
International travel	24,000	20,000	18,653	16,000	20,000	4,000	4,309
Domestic meeting**	176,004	138,486	170,391	130,008	162,296	12,000	20,382
International meetings	0	0	0	0	0	0	0
Consulting service***	159,479	139,199	167,581	128,880	159,718	10,874	20,579
<b>Sub-total</b>	<b>2,327,729</b>	<b>1,984,132</b>	<b>2,157,480</b>	<b>1,636,042</b>	<b>2,107,095</b>	<b>276,322</b>	<b>331,511</b>
<b>Share costs</b>	<b>12,232,603</b>						
Supporting staff	6,435,942						
Computer, internet, post, phone, printing	1,567,440						
Office operation service and maintenance, utilities	4,229,221						
<b>Total</b>	<b>4,889,411</b>	<b>4,116,648</b>	<b>4,749,869</b>	<b>3,622,688</b>	<b>4,577,160</b>	<b>450,982</b>	<b>646,156</b>

Remarks: Total cumulative expenditure of PMU from 2011-2019 for the implementation of stage I of the HPMP is US \$23,052,914. Among them, US \$18,948,018 came from the sector plans of stage I, US \$4,104,896 came from other individual projects or FECO. In addition, the expenditure supported by IS and the co-financing of the Government of China (about US \$3.54 million from 2011-2019) are not included in the expenditure in the table above.

\*PU= polyurethane; XPS= extruded polystyrene; RAC=room air-conditioning manufacturing; ICR=industrial and commercial refrigeration and air-conditioning.

\*\*Costs for venue, equipment rental and other costs.

\*\*\*Project evaluation, financial and technical verification, technical evaluation and review, bidding evaluation, assistance with high workload or special events, translation-related work.

**Stage II - Cumulative expenditure (US \$) as of 31 December 2019**

Content	Sectors*						
	Production	RAC	PU foam	XPS foam	ICR	Solvent	Servicing
<b>Sector costs</b>							3,004,621
Project staff	542,339	419,456	441,899	333,197	434,808	72,078	72,078
Domestic travel	53,587	30,622	40,632	55,943	64,776	24,537	24,340
International travel	13,305	0	0	3,821	4,000	0	0
Domestic meeting**	22,212	16,280	22,729	26,684	30,897	10,308	11,330
International meetings	0	0	0	0	0	0	0
Consulting service***	42,284	24,247	32,201	44,224	51,209	19,363	19,235
<b>Sub-total sector costs</b>	<b>673,727</b>	<b>490,605</b>	<b>537,461</b>	<b>463,869</b>	<b>585,690</b>	<b>126,286</b>	<b>126,983</b>
<b>Share costs</b>							2,943,299
Supporting staff							1,697,609
Computer, internet, post, phone, printing							367,419
Office operation service and maintenance, utilities							878,271
<b>Total</b>	<b>1,185,853</b>	<b>808,485</b>	<b>967,191</b>	<b>1,023,096</b>	<b>1,233,216</b>	<b>361,746</b>	<b>368,333</b>

Remarks: Total cumulative expenditure of PMU from 2017-2019 for the implementation of stage II of the HPMP is US \$5,947,920. Of this amount, US \$2,786,478 was from the sector plans of stage II; the expenditure beyond the PMU received was advanced from FECO's own budget and will be reimbursed from future. In addition, the expenditure from the IS and co-financing of the Government of China are not included in the table above.

\*PU= polyurethane; XPS= extruded polystyrene; RAC=room air-conditioning manufacturing and heat pump water heaters; ICR=industrial and commercial refrigeration and air-conditioning.

\*\*Costs for venue, equipment rental and other costs.

\*\*\*Project evaluation, financial and technical verification, technical evaluation and review, bidding evaluation, assistance with high workload or special events, translation-related work.