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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Ninety-third Meeting  
Montreal, 15-19 December 2023  
Item 9(d) of the of the provisional agenda<sup>1</sup>

**PROJECT PROPOSAL: LEBANON**

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

Phase-out

- HCFC phase-out management plan (stage III, first tranche) UNDP

<sup>1</sup> UNEP/OzL.Pro/ExCom/93/1

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Lebanon

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC phase-out plan (stage III)	UNDP

<b>(II) LATEST ARTICLE 7 DATA (Annex C Group I)</b>	Year: 2022	25.63 ODP tonnes
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<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>							<b>Year: 2022</b>		
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22				0.53	25.03				25.56

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009-2010 baseline:	73.50	Starting point for sustained aggregate reductions:	73.50
<b>CONSUMPTION ELIGIBLE FOR FUNDING</b>			
Already approved:	61.21	Remaining:	12.32

<b>(V) ENDORSED BUSINESS PLAN</b>		<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>Total</b>
UNDP	ODS phase-out (ODP tonnes)	4.9	0.0	0.0	4.9
	Funding (US \$)	460,186	0	0	460,186

<b>(VI) PROJECT DATA</b>		<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>Total</b>	
Montreal Protocol consumption limits (ODP tonnes)		47.78	47.78	23.88	23.88	23.88	23.88	23.88	0	n/a	
Maximum allowable consumption (ODP tonnes)		27.58	18.39	17.84	17.84	17.84	8.92	8.92	0	n/a	
Project costs requested in principle (US \$)	UNDP	Project costs	414,824	0	0	633,126	0	0	0	134,750	1,182,700
		Support costs	29,038	0	0	44,319	0	0	0	9,432	82,789
Total project costs recommended in principle (US \$)		414,824	0	0	633,126	0	0	0	134,750	1,182,700	
Total support costs recommended in principle (US \$)		29,038	0	0	44,319	0	0	0	9,432	82,789	
Total funds recommended in principle (US \$)		443,862	0	0	677,445	0	0	0	144,182	1,265,489	

<b>(VII) Request for approval of funding for the first tranche (2023)</b>		
<b>Implementing agency</b>	<b>Funds recommended (US \$)</b>	<b>Support costs (US \$)</b>
UNDP	414,824	29,038

<b>Secretariat's recommendation:</b>	Individual consideration – all technical and cost issues resolved
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## PROJECT DESCRIPTION

### Background

1. On behalf of the Government of Lebanon, UNDP as the designated implementing agency has submitted a request for stage III of the HCFC phase-out management plan (HPMP), at the amount of US \$1,469,505, plus agency support costs of US \$102,865, as originally submitted.<sup>2</sup> The implementation of stage III of the HPMP will phase out all remaining consumption of HCFCs by 2030.
2. The first tranche of stage III of the HPMP being requested at this meeting amounts to US \$605,129, plus agency support costs of US \$42,359 for UNDP, as originally submitted.

### Status of implementation of stage II of the HCFC phase-out management plan

3. Stage I of the HPMP for Lebanon was originally approved at the 64<sup>th</sup> meeting<sup>3</sup> and revised at the 70<sup>th</sup> and 74<sup>th</sup> meetings<sup>4</sup> to meet a 17.5 per cent reduction from the baseline by 2017, at a total cost of US \$2,495,109, plus agency support costs. Stage I originally phased out 20.05 ODP tonnes of HCFCs used in the refrigeration and air-conditioning (RAC) manufacturing sector and was revised at the 74<sup>th</sup> meeting to include an additional 4.45 ODP tonnes in the servicing sector for a total phase out of 24.51 ODP tonnes. Stage I of the HPMP was completed by December 2018, as stipulated in the Agreement between the Government of Lebanon and the Executive Committee.
4. Stage II of the HPMP for Lebanon was originally approved at the 75<sup>th</sup> meeting<sup>5</sup> and revised at the 86<sup>th</sup> meeting<sup>6</sup> to phase out 36.7 ODP tonnes of HCFCs used in the RAC servicing sector and to meet a 75 per cent reduction from the baseline by 2024, at a total cost of US \$ 4,203,826, plus agency support costs. Stage II of the HPMP will be completed by 31 December 2025, as stipulated in the Agreement between the Government of Lebanon and the Executive Committee; the last tranche was approved at the 92<sup>nd</sup> meeting.

### Report on HCFC consumption

5. The Government of Lebanon reported a consumption of 25.63 ODP tonnes of HCFC in 2022, which is 65 per cent below the HCFC baseline for compliance. The 2018-2022 HCFC consumption is shown in table 1.

**Table 1. HCFC consumption in Lebanon (2018-2022 Article 7 data)**

HCFC	2018	2019	2020	2021	2022	Baseline
<b>Metric tonnes</b>						
HCFC-22	562.5	517.01	526.18	474.28	465.99	653.55
HCFC-123	0.00	0.00	0.00	0.00	0.00	2.50
HCFC-141b	188.0	139.85	56.03	0.00	0.00	341.18
<b>Total (metric tonnes)</b>	<b>750.5</b>	<b>656.86</b>	<b>582.21</b>	<b>474.28</b>	<b>465.99</b>	<b>997.23</b>
<b>ODP tonnes</b>						
HCFC-22	30.94	28.44	28.94	26.09	25.63	35.95
HCFC-123	0.00	0.00	0.00	0.00	0.00	0.05
HCFC-141b	20.68	15.38	6.16	0.00	0.00	37.53
<b>Total (ODP tonnes)</b>	<b>51.62</b>	<b>43.82</b>	<b>35.10</b>	<b>26.09</b>	<b>25.63</b>	<b>73.53</b>

<sup>2</sup> As per the letter of 21 August 2023 from the Ministry of Environment of Lebanon to UNDP.

<sup>3</sup> Decision 64/44

<sup>4</sup> Annex XVI of UNEP/OzL.Pro/ExCom/70/59 and Decision 74/46

<sup>5</sup> Decision 75/46

<sup>6</sup> Decision 86/91

6. In 2022, the consumption of HCFC-22 is attributed to one refrigeration manufacturing enterprise (2 per cent) and to the refrigeration and air-conditioning (RAC) servicing sector (98 per cent). The reduction in consumption of HCFC-22 is attributed to the implementation of the activities in the servicing sector and the conversion of the enterprises in the air-conditioning (AC) manufacturing sector to R-410A and HFC-32 in 2019 and in 2021, and the retirement/replacement of old HCFC-22-based systems. The consumption of HCFC-141b has been phased out due to the conversion of the foam manufacturing enterprises to isopentane and supported by a ban on the use of HCFC-141b in the foam sector enforced since 2021; no import licenses for HCFC-141b have been issued since the ban. In addition, the use of HCFC-141b in the RAC sector for flushing and cleaning purposes has been banned since 2019.

#### *Country programme implementation report*

7. The Government of Lebanon reported HCFC sector consumption data under the 2022 CP implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

#### Status of progress and disbursement

##### *Legal framework*

8. A ban on the use of HCFC-141b in the RAC sector for flushing and cleaning purposes has been in force since 2019, and for use in manufacturing sandwich panels and insulation for solar and electric water heaters since 2021. A ban on the use of HCFCs in the AC manufacturing sector is expected to be in place by 2025. A 2021 decree made amendments to the ODS licensing system related to the distribution of quotas among importers, enforcement of procedures for issuing licences, the use of the harmonized system (HS) codes for HCFCs and blends, and to include HFCs in the licensing system starting in 2023. Starting in 2024, import quotas will be set based on historical imports of each registered importer as previously done with HCFCs. The Government of Lebanon ratified the Kigali Amendment in February 2020.

9. As reported at the 92<sup>nd</sup> meeting, the national ozone unit (NOU) has continued to support customs in daily activities for better enforcement and monitoring of ODS trade. In 2020 and 2021, the NOU held three meetings for a total of 27 participants from customs ports and three meetings for a total of 72 registered importers, to discuss ODS controls and phase-out, ODS identification, illegal trade, and safety measures when handling ODS. Progress from March 2023 until August 2023 was not captured in the submission.

##### *Polyurethane foam manufacturing*

10. The conversion of four foam enterprises to isopentane technology, was successfully completed as of January 2019 under the second tranche of stage II. The remaining conversions of the two individual enterprises Spec and Prometal were completed in May 2021, and those for the 11 smaller manufacturers of sandwich panels for solar and electric water heaters to HFO-1233zd polyol blend technology were completed in June 2021. The total phase-out achieved from the conversions in the foam sector amounted to 265 mt (29.15 ODP tonnes) of HCFC-141b.

##### *Room AC manufacturing*

11. The conversion of the two small commercial AC manufacturers to HFC-32 including the conversion of the insulation foam component from HCFC-141b to HFO technology was completed in May 2021. With these, the total phase-out achieved in the five AC manufacturers under stage II, amounted to 59.63 mt (3.28 ODP tonnes) of HCFC-22 and 16.85 mt (1.85 ODP tonnes) of HCFC-141b.

*Refrigeration servicing sector*

12. As reported at the 92<sup>nd</sup> meeting, two training centres were supported with improved infrastructure and servicing equipment and tools were provided to three training centers which are now operating according to international standards. The certification scheme that had been put in place for students graduating from the vocational schools continues to support building capacity of new technicians and is supported by a new training curriculum; three workshops were conducted for 75 RAC teachers and students and a RAC servicing sector technical guidebook was developed to support technicians, teachers, and students and 400 copies were distributed. Awareness-raising and capacity building activities were undertaken which included technical and thematic workshops on HCFC alternatives for end users, importers, and stakeholders in the servicing sector. Progress from March 2023 until August 2023 was not captured in the submission; however, training for 200 technicians had been planned for the second half of 2023. The training programmes for 2024 has been designed and agreed with relevant stakeholders.

Level of fund disbursement

13. As of July 2023, of the US \$4,203,826 approved for stage II, US \$3,792,459 had been disbursed, as shown in table 2. The balance of US \$411,367 will be disbursed in 2023 and 2024.

**Table 2. Financial report of stage II of the HPMP for Lebanon (US \$)**

Funding tranche	Funds approved	Funds disbursed	Disbursement rate (%)	Fund balance
First	2,410,000	2,410,000	100	0
Second	1,114,000	1,114,000	100	0
Third	420,462	268,459	64	152,003
Fourth	259,364	0	0	259,364
<b>Total</b>	<b>4,203,826</b>	<b>3,792,459</b>	<b>90</b>	<b>411,367</b>

**Stage III of the HCFC phase-out management plan**Remaining consumption eligible for funding

14. After deducting 61.21 ODP tonnes of HCFCs associated with stages I and II of the HPMP, the remaining consumption eligible for funding in stage III amounts to 12.32 ODP tonnes of HCFC-22.

Sector distribution of HCFCs

15. HCFC-22 is the only HCFC remaining in Lebanon, and its consumption is predominantly in the RAC servicing sector (98 per cent), the remaining 2 per cent is attributed to one enterprise in the commercial refrigeration manufacturing sector as shown in table 3 below.

**Table 3. Sector consumption of HCFCs, 2022 (metric tonnes)**

Substance	Manufacturing	Servicing
HCFC-22 (mt/ODP tonnes)	9.64/0.53	455.09/25.03
Share of consumption (%)	2	98

16. There are approximately 5,000 technicians in the country; however, due to the economic crisis in the country it is estimated that only 1,500 are presently connected to a servicing workshop. Roughly 240-280 workshops in the servicing sector are using HCFC-22 to service RAC equipment. In 2022, the HCFC demand for servicing was 473.98 mt (26.07 ODP tonnes) for residential AC (32 per cent), light commercial and commercial AC (12 per cent), industrial refrigeration and small chillers (9 per cent) and

commercial refrigeration (47 per cent) the other most common refrigerants currently used in the servicing sector-are R-410A, R-407C, and R-404A.

Phase-out strategy

17. Stage III of the HPMP will focus on strengthening the regulatory framework, building capacity in customs and enforcement, further strengthening the capacity of the servicing sector by delivering RAC technician training and certification, phasing out the remaining consumption in the RAC manufacturing sector, and raising awareness among end users.

*Commercial refrigeration manufacturing sector*

18. Stage III includes the conversion of one remaining refrigeration manufacturing enterprise (Farjallah Holding S.A.L.) with an average consumption of 0.61 ODP tonnes (11.07 mt) of HCFC-22 for manufacturing condensing units. The enterprise would convert to transcritical CO<sub>2</sub> (R-744) for markets in which ambient temperature are more conducive for energy efficiency, and CO<sub>2</sub> with HFO-1234yf for larger systems. The conversion entails redesign of the condenser units, technical assistance to convert the manufacturing line, adapting the heat exchanger manufacturing for the new specifications and requirements of the equipment, and training of installers and servicing personnel. The incremental capital cost (ICC) has been estimated at US \$176,000 and incremental operating cost (IOC) at US \$39,100 for a total of US \$215,700. The Government of Lebanon through UNDP is requesting US \$210,411 using the cost-effectiveness of US \$19.01/kg (US\$15.21/kg for ICC and US\$3.8/kg for IOC<sup>7</sup>) for the conversion of this enterprise.

19. The ICC included the cooling system redesign, testing and certification; production process redesign and training; heat exchangers and sheet metal; assembly line requirements (small HFO charging unit, CO<sub>2</sub> charging unit, CO<sub>2</sub>/HFO storage site); high pressure testing of the system and leak detection for CO<sub>2</sub>; sensors and fire safety training equipment; training and installation; and safety audit. The IOC included scroll compressors; brazed plate heat exchangers, copper tubes, fittings and joints, valves, and refrigerants. A summary of requested costs is presented in table 5 below.

**Table 5. Total cost of the conversion of one enterprise in the refrigeration manufacturing sector**

Enterprise	HCFC-22 average consumption (2020-2022)		Cost (US \$)			Requested from Multilateral Fund	C.E.
	mt	ODP tonnes	ICC	IOC*	Total	Total (US \$)	(US \$/kg)
Farjallah Holding S.A.L	11.07	0.61	176,000	39,700	215,700	210,441	19.01

\* per 1,000 units

*Activities in the refrigeration servicing sector*

20. For stage III of the HPMP the following activities are proposed:

- (a) *Regulatory framework:* development of a compendium of ODS phase-out legislation and policies to support stakeholders; issuance of bans on HCFC-22 in local manufacturing, and on the import and establishment of new installations from 31 December 2025 (US \$70,000);
- (b) *Customs officers capacity building:* regular and refresher trainings for 27 customs officers on ODS control and update of training materials and development of an ODS imports risk

<sup>7</sup> Decision 74/50(c)(ix)

profile manual (US \$97,500);

- (c) *Training, certification and equipment:* capacity building of RAC technicians on good servicing practices and reducing leakages through a train the trainers programme for a total of 15 RAC trainers and training and certification for a total of 500 technicians (US \$187,500); equipping three vocational training centres with standard training equipment and tools (including refrigeration cycle trainer equipment; basic split-AC trainer unit; condensing trainer unit; commercial refrigeration rack trainer unit and display door unit; gauge manifold set; leak detectors; weight scale; small-scale charging machine; refrigerant recovery and recycle unit; vacuum pump; digital vacuum gauge; thermometer and cylinder) (US \$278,064); and
- (d) *Gender-sensitive awareness raising to sustain phase-out:* continue and expand awareness campaigns about HCFCs bans, controlled uses and leakage reduction; campaign targeting end users on safety and benefits of ODS-free and low-GWP alternatives; five technical workshops on the use and application of alternative technologies (US \$389,000).

#### *Project implementation and monitoring*

21. The system established under stages I and II of the HPMP will continue into stage III, with the project management unit (PMU) overseen by UNDP and placed within the structure of the national ozone unit (NOU). The PMU will ensure the coordination of activities, monitoring, reporting on progress, and working with stakeholders to phase out HCFCs. The cost of those activities amounts to US \$237,000 and includes a project manager and other staff (US \$100,000), RAC advisor/consultants and gender consultant (US \$65,000), operating costs (US \$16,000), stakeholder meetings, travel, workshops, and awareness raising (US \$32,000) and independent verification (US \$24,000).

#### *Gender policy implementation*

22. In line with decisions 84/92(d), 90/48(c) and 92/40(b), the proposal incorporated gender mainstreaming considerations into all components of stage III of the HPMP. Specifically the project objectives, outputs and activities all included gender considerations and the request includes a specific budget line for a gender expert to develop a gender action plan during the project implementation. Project implementation, monitoring and reporting indicators were included in the submission.

#### Total cost of stage III of the HCFC phase-out management plan

23. The total cost of stage III of the HPMP for Lebanon has been estimated at US \$1,469,505 (plus agency support costs), as originally submitted, for achieving a 100 per cent reduction of HCFCs by 2030.

#### Implementation plan for the first tranche of stage III of the HCFC phase-out management plan

24. The first funding tranche of stage III of the HPMP in the total amount of US \$605,129 will be implemented between January 2024 and December 2026 and will include the following activities:

- (a) *Manufacturing conversion:* conversion of condensing units to CO<sub>2</sub> cascade/transcritical systems in Farjallah, Ltd. (US \$210,441);
- (b) *Regulatory framework:* development of a compendium of ODS phase-out legislation and policies to support stakeholders; issuance of bans for HCFC-22 in local manufacturing and import and establishment of new installations from 31 December 2025 (US \$70,000);
- (c) *Customs officers capacity building:* update of training materials and development of an ODS imports risk profile manual (US \$30,000);

- (d) *Training, certification and equipment:* capacity building of RAC technicians on good servicing practices and reducing leakages through a train-the-trainers programme for a total of 15 RAC trainers (US \$37,500) and equipping one vocational training centre with standard training equipment and tools (including refrigeration cycle trainer equipment; basic split AC trainer unit; condensing unit trainer unit; commercial refrigeration rack trainer unit and display door unit; gauge manifold set; leak detectors; weight scale; small scale charging machine; refrigerant recovery and recycle unit; vacuum pump; digital vacuum gauge; thermometer and cylinder) (US \$92,688);
- (e) *Gender sensitive-awareness campaign* on upcoming bans on HCFC-22 in manufacturing sector and on import and establishment of new installations for 2025; one end-user campaign on safety and benefits of ODS-free and low-GWP alternatives; one technical workshop on the use and application of alternative technologies (US \$102,000); and
- (f) *Project monitoring unit:* for recruitment and hiring of staff in the PMU, stakeholder meetings, two project board meetings, and reporting and monitoring (US \$62,500).

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

25. The Secretariat reviewed stage III of the HPMP in light of stages I and II, the policies and guidelines of the Multilateral Fund, including the criteria for funding HCFC phase-out in the consumption sector for stage II of HPMPs (decision 74/50), and the 2023-2025 business plan of the Multilateral Fund.

#### Overarching strategy

26. The Government of Lebanon proposes to meet the 100 per cent reduction of its HCFC baseline consumption by 2030, and to maintain a maximum annual consumption of HCFCs in the period of 2030 to 2040 at a level consistent with Article 5, paragraph 8 ter(e)(i) of the Montreal Protocol.<sup>8</sup> Stage III will allow for the development of a comprehensive and coherent set of activities in the servicing sector, complemented by the necessary policies and regulations, and ensuring the continuity of those activities to sustain the reduction of HCFC consumption.

27. In line with decision 86/51, to allow for consideration of the final tranche of its HPMP, the Government of Lebanon agreed to submit a detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption is in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030–2040, and, if Lebanon intends to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030.

#### Technical and cost-related issues

28. As submitted, funding for stage III of the HPMP was based on the country's remaining eligible consumption of HCFCs for Lebanon after stage II which was 224 mt (12.32 ODP tonnes) of HCFC-22 which was less than the 2022 consumption of 465 mt (25.56 ODP tonnes). Funding was determined for the servicing sector at US \$1,022,064<sup>9</sup> for 212.93 mt (11.7 ODP tonnes) of the eligible consumption plus

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<sup>8</sup> HCFC consumption may exceed zero in any year so long as the sum of its calculated levels of consumption over the ten-year period from 1 January 2030 to 1 January 2040, divided by 10, does not exceed 2.5 per cent of the HCFC baseline.

<sup>9</sup> At US\$4.8/kg in line with decision 74/50

US \$210,441 for the conversion of one commercial refrigeration enterprise for 11.07 mt (0.61 ODP tonnes) and project monitoring costs at US \$237,000 for a total of US \$1,469,505 to phase out the remaining eligible consumption.

29. The Secretariat noted that based on stage II of the HPMP, all HCFC use for manufacturing was supposed to have been phased out, with consumption in the servicing sector remaining to be phased out in stage III. There was also an issue regarding the eligibility of the enterprise, and sustainability of the phase-out considering that the enterprise also produces equipment using R-404A in other lines; the present HCFC consumption is only 10 per cent of the overall manufacturing activities of the enterprise which is all for HFC-based products. The Secretariat and UNDP discussed the possibility of instead providing technical assistance to the enterprise to enable them to reduce HCFC consumption and to consider the total phase-out of the enterprise during stage I of the Kigali HFC implementation plan (KIP).

30. On that basis, UNDP reduced the total funding requested to US \$1,182,720 including PMU costs of US \$107,520 as further detailed below.

#### *Commercial refrigeration manufacturing sector*

31. The Secretariat sought clarification on the eligibility of the enterprise (Farjallah) noting that this enterprise appeared to have already been assisted in stage II of the HPMP under the company name Iceberg. It was further noted that there was no indication of any left-over consumption in the manufacturing sector at any point during stage II; and that technical assistance was provided for manufacturers of refrigeration equipment as these were very small enterprises in stage II. It was also noted that the request for project preparation funding for stage III approved at the 92<sup>nd</sup> meeting indicated that the new stage would be for the servicing sector only. UNDP explained that during stage II, it was solely the AC line which operated under the brand Iceberg which was funded and contributed to the total phase-out in the AC manufacturing sector. This one remaining line that still uses HCFC-22 in the last eligible enterprise is being requested only now due to the previous lack of low-GWP alternatives for this cold room application. UNDP further noted that the Government was requesting assistance for this enterprise as part of the country's remaining eligible consumption and requesting funding based on the requirements for the conversion using the cost-effectiveness threshold of commercial refrigeration at US \$15.21 and IOC costs in line with decision 74/50.

32. During the review of the proposal, the Secretariat pointed out that as the enterprise appeared to be manufacturing cold rooms which fall into local assembly and installation, past practices for similar proposals was that they were assisted as part of the servicing sector.<sup>10</sup> Further, there was also concern regarding the sustainability of phasing out the remaining HCFCs while using CO<sub>2</sub> technology, which involves a high-degree of technical requirements, considering that the enterprise has other lines that were using HFCs. It was thus agreed that as the enterprise would be eligible to phase out their HFC consumption under the KIP, technical assistance at US \$4.8/kg would be provided as part of the remaining eligible consumption to assist this remaining line using HCFCs to phase out, and that the overall phase-out of the enterprise will be included in stage I of the KIP. As a result, the funding was adjusted to remove the conversion component and to include US \$53,136 for technical assistance to phase out 11.07 mt of HCFCs at US \$4.8/kg.

#### *Activities in the refrigeration servicing sector*

33. Regarding the activities in the refrigeration servicing sector which included additional capacity building for customs officers, further strengthening the regulatory framework, further strengthening the capacity of technicians and training centres through provision of equipment, and awareness raising, the

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<sup>10</sup> Noting that discussion on this sector is part of the 93<sup>rd</sup> meeting

following elements were clarified to explain how activities in stage III built upon those completed in stage II:

- (a) Activities in stage III will improve the type of training equipment and strengthen training capacities in vocational schools by providing fit-to-purpose training kits (RAC training stations) and establish a common baseline of practical training that is critical to improving practices across the board and will allow the certification/accreditation of technicians to be scaled up;
- (b) Technician certification/accreditation and training will be expanded to include more technicians not previously assisted, particularly those that did not receive formal education;
- (c) For customs officers, long term training modules, materials, and reference guides will be developed to ensure training delivery to new customs officers and continuously updated training of those already in office;
- (d) The Government of Lebanon will finalize the remaining ban for the use of HCFCs in all manufacturing by 2025 and other supporting regulatory measures to sustain the phase-out of HCFCs.

#### Total project cost

34. Stage III of the HPMP will fully phase out all remaining consumption of HCFCs in Lebanon by 2030 for a total funding of US \$1,075,200, plus US \$107,500 for the PMU for a total of US \$1,182,700 based on the country's remaining eligible consumption of 224 mt (12.32 ODP tonnes) of HCFC calculated at US \$4.8/kg in line with decision 74/50. The funding for the first tranche was agreed as submitted.

**Table 4. Agreed cost of stage III of the HPMP for Lebanon for UNDP**

Activity	Cost (US \$)
<b>Technical Assistance for the commercial refrigeration manufacturing sector (Farjallah)</b>	<b>53,136</b>
<b>Component of assistance to the refrigeration servicing sector</b>	
Regulatory framework	70,000
Customs officers capacity building	97,500
Training, certification and equipment	465,564
Gender sensitive-awareness campaign	389,000
<i>Subtotal servicing sector</i>	<i>1,022,064</i>
<b>Total for all project activities</b>	<b>1,075,200</b>
<b>PMU</b>	<b>107,500</b>
<b>Total project cost</b>	<b>1,182,700</b>

#### Impact on the climate

35. The activities proposed in the servicing sector, which include better containment of refrigerants through training and provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing. Each kilogram of HCFC-22 not emitted due to better refrigeration practices results in the savings of approximately 1.8 CO<sub>2</sub>-equivalent tonnes. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by the Government of Lebanon, including its efforts to ensure better practices and recovery of refrigerants and to encourage the adoption of new alternative technologies indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

Sustainability of the HCFC phase-out and assessment of risks

36. The Government of Lebanon has implemented a ban on the use of HCFC-141b in the RAC sector for flushing and cleaning purposes since 2019, and for use in manufacturing sandwich panels and insulation for solar and electric water heaters since 2021. In addition, the Government will ban the use of HCFC-22 in local manufacturing and import and establishment of new installations by 2025. Those bans, combined with other regulatory measures and the professionalization of the servicing sector will help ensure the long-term sustainability of the phase-out.

37. In line with UNDP's enterprise risk management policy, UNDP undertook a comprehensive review to identify and assess project risks. This resulted in a project risk register, which was reviewed by a project appraisal committee. Measures to mitigate risks included the implementation of stakeholder awareness campaigns about the impacts of technology choices and to promote low-GWP alternatives since Lebanon is a technology importer; and application of UNDP's Partner Capacity Assessment Tool and Enterprise Risk Management Policy.

Co-financing

38. The Government of Lebanon has committed to provide at least, US \$220,000 for the PMU, which will include a project manager, a project assistant, and operational costs of the PMU (computers, office materials, offices rental, electricity, and utilities etc.). Any other co-financing from private sector partners or the Government may be identified and will be accounted for during implementation.

2023-2025 draft business plan of the Multilateral Fund

39. UNDP is requesting US \$1,182,700, plus agency support costs, for the implementation of stage III of the HPMP for Lebanon. The total requested value of US \$443,862, including agency support costs for the period of 2023–2025, is US \$16,324 below the amount in the business plan.

Draft Agreement

40. A draft Agreement between the Government of Lebanon and the Executive Committee for stage III of the HPMP is contained in annex I to the present document.

**RECOMMENDATION**

41. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage III of the HCFC phase out management plan (HPMP) for Lebanon for the period from 2023 to 2030 for the complete phase out of HCFC consumption, in the amount of US \$1,182,700, plus agency support costs of US \$82,789 for UNDP, on the understanding that no more funding from the Multilateral Fund will be provided for the phase out of HCFCs;
- (b) Noting:
  - (i) That the Government of Lebanon has committed:
    - a. To reducing HCFC consumption by 75 per cent of its baseline by 2025 and 88 per cent by 2028, and a complete phase-out of HCFCs by 1 January 2030, and that HCFCs will not be imported after that date except for those allowed for a servicing tail between 2030 and 2040, where required, consistent with the provisions of the Montreal Protocol;

- b. To ban the use of HCFC-22 in local manufacturing and import and establishment of new installations by 2025;
- (c) Deducting 12.32 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;
- (d) Approving the draft Agreement between the Government of Lebanon and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage III of the HPMP, contained in annex I to the present document;
- (e) That, to allow for consideration of the final tranche of its HPMP, the Government of Lebanon should submit:
  - (i) A detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption was in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030-2040;
  - (ii) If Lebanon were intending to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030; and
- (f) Approving the first tranche of stage III of the HPMP for Lebanon, and the corresponding tranche implementation plan, in the amount of US \$414,824, plus agency support costs of US \$29,038 for UNDP.

## Annex I

### **DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF LEBANON AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE III OF THE HCFC PHASE-OUT MANAGEMENT PLAN**

#### **Purpose**

1. This Agreement represents the understanding of the Government of Lebanon (the “Country”) and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A (“The Substances”) to a sustained level of zero ODP tonnes by 1 January 2030 in compliance with Montreal Protocol schedule.
2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A (“The Targets, and Funding”) in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances that exceeds the level defined in rows 4.1.3, 4.2.3 and 4.3.3, (remaining consumption eligible for funding).
3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees, in principle, to provide the funding set out in row 3.1 of Appendix 2-A to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (“Funding Approval Schedule”).
4. The Country agrees to implement this Agreement in accordance with the stage III of the HCFC phase-out management plan approved (“the Plan”). In accordance with subparagraph 5(b) of this Agreement, the Country will accept independent verification of the achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A of this Agreement. The aforementioned verification will be commissioned by the relevant bilateral or implementing agency.

#### **Conditions for funding release**

5. The Executive Committee will only provide the Funding in accordance with the Funding Approval Schedule when the Country satisfies the following conditions at least eight weeks in advance of the applicable Executive Committee meeting set out in the Funding Approval Schedule:
  - (a) That the Country has met the Targets set out in row 1.2 of Appendix 2-A for all relevant years. Relevant years are all years since the year in which this Agreement was approved. Years for which there are no due country programme implementation reports at the date of the Executive Committee meeting at which the funding request is being presented are exempted;
  - (b) That the meeting of these Targets has been independently verified for all relevant years, unless the Executive Committee decided that such verification would not be required;
  - (c) That the Country had submitted a Tranche Implementation Report in the form of Appendix 4-A (“Format of Tranche Implementation Reports and Plans”) covering each

previous calendar year; that it had achieved a significant level of implementation of activities initiated with previously approved tranches; and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

- (d) That the Country has submitted a Tranche Implementation Plan in the form of Appendix 4-A covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

### **Monitoring**

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A (“Monitoring Institutions and Roles”) will monitor and report on implementation of the activities in the previous Tranche Implementation Plans in accordance with their roles and responsibilities set out in the same Appendix.

### **Flexibility in the reallocation of funds**

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

- (a) Reallocations categorized as major changes must be documented in advance either in a Tranche Implementation Plan as foreseen in subparagraph 5(d) above, or as a revision to an existing Tranche Implementation Plan to be submitted eight weeks prior to any meeting of the Executive Committee, for its approval. Major changes would relate to:
  - (i) Issues potentially concerning the rules and policies of the Multilateral Fund;
  - (ii) Changes which would modify any clause of this Agreement;
  - (iii) Changes in the annual levels of funding allocated to individual bilateral or implementing agencies for the different tranches;
  - (iv) Provision of funding for activities not included in the current endorsed Tranche Implementation Plan, or removal of an activity in the Tranche Implementation Plan, with a cost greater than 30 per cent of the total cost of the last approved tranche;
  - (v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would decrease the overall funding level under this Agreement accordingly;
- (b) Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report; [and]
- (c) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

### **Considerations for the refrigeration servicing sector**

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sector included in the Plan, in particular:

- (a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and
- (b) The Country and relevant bilateral and/or implementing agencies would take into consideration relevant decisions on the refrigeration servicing sector during the implementation of the Plan.

### **Bilateral and implementing agencies**

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

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per subparagraph 5(b). The role of the Lead IA is contained in Appendix 6-A. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.

### **Non-compliance with the Agreement**

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

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decisions that may affect the funding of any other consumption sector projects or any other related activities in the Country.

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

### Date of completion

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

### Validity

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

16. This Agreement may be modified or terminated only by mutual written agreement between the Government of the Country and the Executive Committee of the Multilateral Fund.

## APPENDICES

### APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	35.95
HCFC-123	C	I	0.05
HCFC-141b	C	I	37.53
<b>Total</b>			<b>73.50</b>

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

Row	Particulars	2023	2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	47.78	47.78	23.88	23.88	23.88	23.88	23.88	0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	27.58	18.39	17.84	17.84	17.84	8.92	8.92	0	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	414,824	0	0	633,126	0	0	0	134,750	1,182,700
2.2	Support costs for Lead IA (US \$)	29,038	0	0	44,319	0	0	0	9,432	82,789
3.1	Total agreed funding (US \$)	414,824	0	0	633,126	0	0	0	134,750	1,182,700
3.2	Total support costs (US \$)	29,038	0	0	44,319	0	0	0	9,432	82,789
3.3	Total agreed costs (US \$)	443,862	0	0	677,445	0	0	0	144,182	1,265,489
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)									12.32
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)									23.63

Row	Particulars	2023	2024	2025	2026	2027	2028	2029	2030	Total
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)									0
4.2.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)									0
4.2.2	Phase-out of HCFC-123 to be achieved in the previous stage (ODP tonnes)									0.05
4.2.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)									0
4.3.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)									0
4.3.2	Phase-out of HCFC-141b to be achieved in the previous stage (ODP tonnes)									37.53
4.3.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)									0

\*Date of completion of stage II as per stage II Agreement: 31 December 2025

### APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the second meeting of the year specified in Appendix 2-A.

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

1. The submission of the Tranche Implementation Report and Plans for each tranche request will consist of five parts:

- (a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it, and how they relate to each other. The report should include the amount of ODS phased out as a direct result from the implementation of activities, by substance, and the alternative technology used and the related phase-in of alternatives, to allow the Secretariat to provide to the Executive Committee information about the resulting change in climate relevant emissions. The report should further highlight successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Tranche Implementation Plan(s), such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes;
- (b) An independent verification report of the Plan results and the consumption of the Substances, as per subparagraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in subparagraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;
- (c) A written description of the activities to be undertaken during the period covered by the requested tranche, highlighting implementation milestones, the time of completion and the interdependence of the activities, and taking into account experiences made and progress achieved in the implementation of earlier tranches; the data in the plan will be provided by calendar year. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall Plan that are foreseen. The description should also specify and explain in detail such changes to the overall plan. This description of future activities can be submitted as a part of the same document as the narrative report under subparagraph (b) above;

- (d) A set of quantitative information for all Tranche Implementation Reports and Plans, submitted through an online database; and
  - (e) An Executive Summary of about five paragraphs, summarizing the information of the above subparagraphs 1(a) to 1(d).
2. In the event that in a particular year two stages of the Plan are being implemented in parallel, the following considerations should be taken in preparing the Tranche Implementation Reports and Plans:
- (a) The Tranche Implementation Reports and Plans referred to as part of this Agreement, will exclusively refer to activities and funds covered by this Agreement; and
  - (b) If the stages under implementation have different HCFC consumption targets under Appendix 2-A of each Agreement in a particular year, the lower HCFC consumption target will be used as reference for compliance with these Agreements and will be the basis for the independent verification.

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

1. The monitoring process will be managed by the National Ozone Unit (NOU), Ministry of Environment, with the assistance of the Lead IA.
2. The consumption will be monitored and determined based on official import and export data for the substances recorded by relevant government departments.
3. The NOU, Ministry of Environment, shall compile and report the following data and information on an annual basis on or before the relevant due dates:
- (a) Annual reports on consumption of the substances to be submitted to the Ozone Secretariat; and
  - (b) Annual reports on progress of implementation of the Plan to be submitted to the Executive Committee of the Multilateral Fund.
4. The consumption will be monitored annually throughout the implementation of the Plan and accordingly reflected in the progress report on the implementation of the Plan.
5. The NOU, Ministry of Environment shall endorse the final report and the Lead IA shall submit the same to the relevant meeting of the Executive Committee along with the annual implementation plan and reports.

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

1. The Lead IA will be responsible for a range of activities, including at least the following:
- (a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's Plan;
  - (b) Assisting the Country in preparation of the Tranche Implementation Reports and Plans as per Appendix 4-A;
  - (c) Providing independent verification to the Executive Committee that the Targets have been

met and associated tranche activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;

- (d) Ensuring that the experiences and progress is reflected in updates of the overall plan and in future Tranche Implementation Plans consistent with subparagraphs 1(c) and 1(d) of Appendix 4-A;
- (e) Fulfilling the reporting requirements for the Tranche Implementation Reports and Plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;
- (f) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual tranche implementation reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HCFC consumption targets had been met;
- (g) Ensuring that appropriate independent technical experts carry out the technical reviews;
- (h) Carrying out required supervision missions;
- (i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;
- (j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country, the allocation of the reductions to the different budget items and to the funding of the Lead IA;
- (k) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (l) Providing assistance with policy, management and technical support when required; and
- (m) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the Plan's results and the consumption of the Substances mentioned in Appendix 1-A, as per subparagraph 5(b) of the Agreement and subparagraph 1(b) of Appendix 4-A.

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

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$174 per ODP kg of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met, on the understanding that the maximum funding reduction would not exceed the funding level of the tranche being requested. Additional measures might be considered in cases where non-compliance extends for two consecutive years.

2. In the event that the penalty needs to be applied for a year in which there are two Agreements in force (two stages of the Plan being implemented in parallel) with different penalty levels, the application of the penalty will be determined on a case-by-case basis taking into consideration the specific sectors that

lead to the non-compliance. If it is not possible to determine a sector, or both stages are addressing the same sector, the penalty level to be applied would be the largest.

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