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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-sixth Meeting
Montreal, 2-6 November 2020
Postponed to 8-12 March 2021¹

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 II, third tranche) UNDP

¹ Due to coronavirus disease (COVID-19)

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Lebanon

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (Stage II)	UNDP (lead)	75 th	75% by 2025

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2019	43.82 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2019	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-141b		13.81		1.49	0.00				15.30
HCFC-22				2.48	25.89				28.36
HCFC-141b in imported pre-blended polyol				0.00	0.00				

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

(V) BUSINESS PLAN		2020	2021	2022	Total
UNDP	ODS phase-out (ODP tonnes)	3.67	0	2.26	5.94
	Funding (US \$)	449,894	0	277,519	727,413

(VI) PROJECT DATA*			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Montreal Protocol consumption limits			66.15	66.15	66.15	66.15	66.15	47.78	47.78	47.78	47.78	23.88	n/a
Maximum allowable consumption (ODP tonnes)			66.15	66.15	60.64	60.64	48.71	36.78	36.78	27.58	27.58	18.39	n/a
Agreed funding (US \$)	UNDP	Project costs	2,410,000	0	0	1,114,000	0	420,462	0	0	259,364	0	4,203,826
		Support costs	168,700	0		77,980	0	29,432	0	0	18,155	0	294,268
Funds approved by ExCom (US \$)		Project costs	2,410,000	0	0	1,114,000	0	0	0	0	0	0	3,524,000
		Support costs	168,700	0	0	77,980	0	0	0	0	0	0	246,680
Total funds requested for approval at this meeting (US \$)		Project costs	0	0	0	0	0	420,462	0	0	0	0	420,462
		Support costs	0	0	0	0	0	29,432	0	0	0	0	29,432

*Based on the draft revised Agreement.

Secretariat's recommendation:	For individual consideration
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PROJECT DESCRIPTION

1. On behalf of the Government of Lebanon, UNDP as the designated implementing agency, has submitted a request for funding for the third tranche of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$420,462, plus agency support costs of US \$29,432.² The submission includes a progress report on the implementation of the second tranche, the verification report on HCFC consumption for 2018 and 2019 and the tranche implementation plan for 2020 to 2022.

Report on HCFC consumption

2. The Government of Lebanon reported a consumption of 43.82 ODP tonnes of HCFCs in 2019, which is 40.4 per cent below the HCFC baseline for compliance. The 2015-2019 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Lebanon (2015-2019 Article 7 data)

HCFC	2015	2016	2017	2018	2019	Baseline
Metric tonnes						
HCFC-22	566.00	540.12	482.72	562.5	517.01	653.55
HCFC-123	0.00	0.00	0.00	0.00	0.00	2.50
HCFC-141b	315.75	265.00	260.00	188.0	139.85	341.18
Total (metric tonnes)	881.75	805.12	742.72	750.5	656.86	997.23
ODP tonnes						
HCFC-22	31.13	29.71	26.55	30.94	28.44	35.95
HCFC-123	0.00	0.00	0.00	0.00	0.00	0.05
HCFC-141b	34.73	29.15	28.60	20.68	15.38	37.53
Total (ODP tonnes)	65.86	58.86	55.15	51.62	43.82	73.53

3. The consumption of HCFC-141b has decreased due to the conversion of four foam manufacturing enterprises to iso-pentane, and the ban on the use of HCFC-141b in the refrigeration and air-conditioning (RAC) sector for flushing and cleaning purposes that was approved on 21 June 2018. This consumption will decrease further when the ban on the use of HCFC-141b in the foam sector is enforced, expected by 1 January 2021. The trend in the reduction of consumption of HCFC-22 is due to the implementation of the activities related to the servicing sector and the conversion of two enterprises in the air-conditioning (AC) manufacturing sector to HFC-32 in 2019; the increase in consumption between 2017 and 2018 was mainly due to economic gains in the country and additional imports for stockpile in preparation for stricter control measures from 2020.

Country Programme (CP) implementation report

4. The Government of Lebanon reported HCFC sector consumption data under the 2019 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

Verification report

5. The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs for 2018 and 2019 was correct as reported under Article 7 of the Montreal Protocol (as shown in Table 1 above). While the verifier concluded that Lebanon has an enforceable system of licensing and quotas for HCFC imports in place, it recommended additional training for customs officers to better implement the importation procedures and enforcement of the quotas to importers; to develop an online importation protocol for Customs; and to

² As per the letter of 1 September 2020 from the Ministry of Environment of Lebanon to UNDP; this is an advanced tranche request, this tranche is not due until the second meeting of 2021.

provide a refrigerant identifier at every port of entry in order to detect forged shipments of ODSs and ODS alternatives. UNDP confirmed that the recommendations in the verification report will be addressed during the implementation of the third tranche.

Progress report on the implementation of the second tranche of the HPMP

Legal framework

6. As of 1 January 2018, the following amendments to the decree on the ODS licensing system entered into force: policies relating to the distribution of quotas among importers over the next five years; deadline for the submission of import licenses; and strict use of the harmonized system (HS) codes for HCFCs (with support from the Customs Authority and the Tariff Department, the National Ozone Unit (NOU) incorporated the 8-digit HS codes for HCFCs and blends). As of 21 June 2019, a ban on the use of HCFC-141b in the RAC sector for flushing and cleaning purposes has been in force; a ban on imports of HCFC-141b in bulk and contained in imported pre-blended polyols is postponed and will be in force from 1 January 2021.

7. The NOU continued to support Customs for better enforcement and monitoring of ODS trade; 36 customs officers from different offices were trained, on matters related to compliance of the Montreal Protocol, enforcement of the quota system, the ODS licensing system and reporting, illegal trade, and refrigerants identification. Eight refrigerant identifiers for multiple refrigerants were provided to Customs in July 2020, and a training programme for 35 customs officers has been scheduled before the end of 2020.

Polyurethane (PU) foam

8. The conversion of four out of six foam enterprises (i.e., Mezher, Awkal&Saydah, Profoam, and Kilzi) to iso-pentane technology, was successfully completed in December 2018 resulting in the phase-out of 39.43 mt (4.39 ODP tonnes) of HCFC-141b. The conversion of the remaining two enterprises (i.e., Spec and Prometal) and of 11 smaller manufacturers of sandwich panels for solar and electric water heaters, is still on-going; trials were successfully carried out on the use of HFO-1233zd in June 2020, and is expected that the enterprises will be fully converted by December 2021.

9. Iceberg S.A.R.L., an AC manufacturing enterprise which had completed its conversion in November 2017 had at that time replaced the HCFC-141b in its foaming system using HFC-365mfc as an interim foam-blowing agent. As of August 2020, the enterprise is using HFOs as a foam-blowing agent in its manufacturing operations.

Room AC

10. Of the five room AC manufacturing enterprises assisted, three (i.e., Iceberg S.A.R.L., Frigoliban, and UNIC) have completed their conversion to HFC-32-based technology resulting in the phase out of 12.6 mt (0.69 ODP tonnes) of HCFC-22, and 18.6 mt (2.0 ODP tonnes) of HCFC-141b. The two remaining enterprises (i.e., CGI Halawany and ICR), which were reported at the 84th meeting to have challenges with sourcing HFC-32 compressors, have started conversions to HFC-32 and are expected to be completed by March 2021; no issues are expected with the selected technology or the cost of the conversion.

Refrigeration servicing sector

11. Technical assistance was provided to 11 vocational schools teaching AC and heating principles where subjects related to good servicing practices and proper handling of flammable refrigerants, had been incorporated in their curricula. A RAC training centre was established and inaugurated in 2019, and has trained 25 technicians and 15 vocational school students; two trainers were sent to Germany for a train-the-trainer course in refrigeration servicing, and who have in turn trained 15 teachers from the

vocational schools. A basic certification scheme has been put in place for students graduating from the vocational schools; a more comprehensive system to be applied to all refrigeration service technicians is being planned. Awareness-raising and capacity building activities were undertaken which included technical and thematic workshops/meetings on HCFCs alternatives for stakeholders, end-users, the servicing sector, and importers.

Project implementation and monitoring unit (PMU)

12. The NOU met regularly with stakeholders (e.g., Government authorities, Customs, industrial associations, industries, importers, technical vocational schools and implementing agencies) to ensure the implementation of the activities included in the HPMP. No funds were used for the PMU during this period.

Level of fund disbursement

13. As of August 2020, of the US \$3,524,000 approved so far, US \$2,992,616 had been disbursed as shown in Table 2. The balance of US \$531,384 is obligated and will be disbursed in 2020 and 2021.

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

Agency	First tranche		Second tranche		Total	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNDP	2,410,000	2,410,000	1,114,000	582,616	3,524,000	2,992,616
Disbursement rate (%)	100		52		85	

Implementation plan for the third tranche of the HPMP

14. The following activities will be implemented between November 2020 and November 2022:

- (a) *Capacity building for regulations enforcement:* Implementation of three workshops for 60 Government stakeholders, associations, non-governmental organizations, consultants and importers to support the enforcement of regulations on imports and exports of ODSs and their alternatives (UNDP) (US \$6,000);
- (b) *Manufacturing conversions in PU foam and room AC:* Finalize the conversion of the two remaining AC enterprise (CGI Halawany and ICR) to HFC-32 technology by March 2021 and provide technical assistance to two foam panel enterprises (Spec and Prometal) and the 11 smaller manufacturers of sandwich panels for solar and electric water heaters, that will be fully converted by December 2021 (UNDP) (US \$176,459);
- (c) *RAC technician training:* Training for three trainers and at least 250 technicians and students on good service practices, refrigerant leak identification and control, safety aspects of servicing, including information on the management of equipment using new technologies such as R-410A, HFC-32 as well as flammable refrigerants; (UNDP) (US \$38,500);
- (d) *RAC equipment for training centres:* Procurement of equipment for the RAC training centres at two vocational schools (e.g., recovery and reclamation units, vacuum pumps, leak detectors, refrigerant charging machines and sets of servicing tools) for the purpose of raising the capacity of students on good servicing practices, zero emission programmes and the proper handling of refrigerants (UNDP) (US \$25,500);
- (e) *Certification of RAC technicians:* Support capacity building for the certification of at least 300 RAC technicians, and continue to assist the training and certification programme in vocational schools by updating their curricula to include specific topics on good practices in servicing (UNDP) (US \$60,000); and

- (f) *Project monitoring and implementation:* (UNDP) (US \$114,003): For the management and coordination of the HPMP: US \$95,000 for staff/consultants including verification, and US \$19,003 for travel and meetings.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Request for advanced tranche and revision of the Agreement

15. The Government of Lebanon submitted the funding request for the third tranche at the 86th meeting which is not due until the 88th meeting as per its Agreement with the Executive Committee. The Government explained that approval of the third tranche is necessary to enable the continued implementation of the activities under the HPMP as the funds allocated for the third tranche were programmed for the completion of the investment projects in the AC sector, which are ongoing. Some of the funds from the second tranche were advanced so as not to delay the implementation of the investment projects; funds in the second tranche have already been obligated to activities that are being implemented in the country.

16. In noting that the work plan associated with the third tranche was proposed until 2022, the Secretariat queried whether the Government would request another advanced tranche in 2022, for the last tranche due in 2023. UNDP indicated that all investment activities are expected to be completed in 2021 with the remaining activities related only to the servicing sector that could be completed by 2024 instead of 2025. Therefore, the Government is proposing to revise its Agreement (i.e., the maximum allowable consumption would be 27.58 ODP tonnes instead of 36.78 ODP tonnes for 2022 and 2023, and 18.39 ODP tonnes instead of 27.58 ODP tonnes for 2024). UNDP also confirmed that, despite the current political situation in the country, it has signed agreements with the two remaining AC enterprises and disbursed the initial payments within the funding available.

Progress report on the implementation of the second tranche of the HPMP

Legal framework

17. The Government of Lebanon has already issued HCFC import quotas for 2020 at 35.62 ODP tonnes, which is lower than the Montreal Protocol control targets.

Manufacturing sector

18. UNDP confirmed the successful trials of HFO-1234zd polyol blend for the two remaining foam enterprises (SPEC & Prometal); with regard to the sustainability of the use of this alternative, UNDP expects that following these conversions, the two enterprises will continue using the alternative because of the upcoming ban on HCFC-141b in 2021, and that its cost is acceptable even to small users.

19. Concerning the challenge of availability and cost of HFC-32 compressors which delayed the completion of the conversion of the two AC manufacturers, UNDP explained that importers of RAC equipment were able to source these compressors from China, Japan and Thailand at reasonable prices (i.e., estimated cost of US \$55 to US \$145 for a small- or medium-sized compressor used by most manufacturers); while currently, the prices are slightly higher than that of HCFC-22 compressors, the overall cost of the resulting HFC-32-based equipment is not impacted.

Refrigeration servicing sector

20. Upon a clarification on whether the training activities that were included in the work plan for the second tranche were implemented, UNDP confirmed that some of the activities were implemented;

however, the political instability from October 2019 and later the COVID-19 pandemic have delayed some other activities as vocational schools were closed and training had to be suspended; these are expected to resume before the end of the year.

Impact of the COVID-19 pandemic on HPMP implementation

21. The Government of Lebanon faced numerous challenges related to the political instability (October 2019), the COVID-19 pandemic (March 2020) resulting in travel restrictions imposed by the lockdowns, and the Beirut Harbour explosion (August 2020). As a result, activities were limited to the first quarter of the year; one training workshop for customs officers was completed, and three meetings with beneficiary enterprises and vocational schools (for the training programme) were held. Consultants continue to work remotely to provide advice to the NOU and stakeholders, and the Government expects that towards the end of the year, it may be possible to start smaller face-to-face trainings within the restrictions imposed by the Government. UNDP also confirmed that the country has already signed agreements with the two remaining AC enterprises and disbursed the initial payments within the funding available, therefore the conversions continue despite these challenges.

Revision to the HPMP Agreement

22. In view of the proposed change in the duration of stage II of the HPMP resulting in changes in the targets and funding schedule, paragraph 1 and Appendix 2-A of the Agreement between the Government of Lebanon and the Executive Committee has been updated and paragraph 16 has been added to indicate that the updated Agreement supersedes that reached at the 75th meeting, as contained in Annex I to the present document. The full updated Agreement will be appended to the final report of the 86th meeting.

Gender policy implementation

23. In line with decision 84/92(d),³ the NOU took into consideration the policies on gender mainstreaming and has put in place measures to encourage the participation of women in the RAC sector. A checklist has been prepared for project implementation to ensure gender mainstreaming has been taken into consideration in project planning. The NOU will organise one training on gender issues at each training centre as it becomes operational, and that each training centre would be required to develop an action plan to promote the increased participation of women in the refrigeration servicing training.

Sustainability of the HCFC phase-out

24. To achieve the long-term sustainability of HCFC phase-out, the Government will ensure that the technician certification system which had been established, can be fully enforced with the support of the training centre that was established in 2019 and to promote the use of certified technicians in the market. The Government will continue to enforce the HCFC licensing and quota systems to control the imports of HCFC in the country. The successful testing and trials of a low-global-warming potential alternative (HFO-1234zd) for small foam enterprises and manufacturers of water heaters will ensure the completion of their conversions by December 2021, and the use of this alternative is expected to be broadly accepted because of performance and cost.

Conclusion

25. The HCFC consumption in 2019 was around 40 per cent below the HCFC baseline for compliance and 10 per cent below the Agreement with the Executive Committee. The Government continues to implement its licensing and quota systems for monitoring and controlling HCFCs, and is

³ Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

providing training to customs and law enforcement officers on enforcement of regulations on import and export of ODS and their alternatives as well as to refrigeration technicians on servicing equipment with HCFC-free alternatives. The verification report confirmed the effective implementation of the ODS licensing system, and the Government has committed to implement the recommendations of the verification as part of the implementation of the third tranche of the HPMP. Further, the Government is fully committed to completing the phase-out of HCFCs in the remaining AC manufacturing and foam enterprises by March 2021 and December 2021, respectively. The Government has also successfully completed trials for the use of HFOs in the foam sector, ensuring that the use of the interim foaming agent (HFC-365mfc) has now ceased. Disbursement under stage II of the HPMP is 85 per cent.

RECOMMENDATION

26. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the second tranche of stage II of the HCFC phase out management plan (HPMP) for Lebanon;
- (b) Noting with appreciation the report provided by UNDP and the efforts made by the Government of Lebanon and UNDP to discontinue the temporary use of a technology with high global-warming potential (GWP) and to introduce the approved low-GWP technology in both foam and room air-conditioning manufacturing sectors;
- (c) Noting that the ban on imports of HCFC-141b in bulk and contained in imported pre-blended polyols is postponed to 1 January 2021;
- (d) Noting the request of the Government of Lebanon to accelerate completion of stage II of its HPMP from 2025 to 2024;
- (e) Noting the commitment of the Government of Lebanon to reduce HCFC consumption by 62.5 per cent by 2022 and 75 per cent by 2024;
- (f) Approving the revised duration of stage II of the HPMP from 2015 to 2024;
- (g) Noting that the Fund Secretariat has revised the Agreement between the Government of Lebanon and the Executive Committee, as contained in Annex I to the present document, specifically: paragraph 1 to revise the target consumption to be met by Lebanon in 2024, and Appendix 2-A to reflect the change of the duration of stage II, the change of the targets referred to in sub-paragraph (e) and the revised funding schedule to advance the funding tranche for 2021 to 2020 and 2024 to 2023, and paragraph 16 was added, to indicate that the revised updated Agreement superseded that reached at the 75th meeting.
- (h) Approving the third tranche of stage II of the HPMP for Lebanon and the corresponding 2020-2022 tranche implementation plan, at the amount of US \$420,462, plus agency support costs of US \$29,432, noting that recommendations from the verification of HCFC consumption will be implemented during the implementation of the third tranche of the HPMP.

Annex I

TEXT TO BE INCLUDED IN THE REVISED 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 II OF THE HCFC PHASE-OUT MANAGEMENT PLAN
(Relevant changes are in bold font for ease of reference)

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 **18.39** ODP tonnes by 1 January **2024** in compliance with Montreal Protocol schedule.

16. **This revised Agreement supersedes the Agreement reached between the Government of Lebanon and the Executive Committee at the 75th meeting of the Executive Committee.**

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	66.15	66.15	66.15	66.15	66.15	47.78	47.78	47.78	47.78	23.88	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	66.15	66.15	60.64	60.64	48.71	36.78	36.78	27.58	27.58	18.39	n/a
2.1	Lead IA (UNDP) agreed funding	2,410,000	0	0	1,114,000	0	420,462	0	0	259,364	0	4,203,826
2.2	Support costs for Lead IA	168,700	0	0	77,980	0	29,432	0	0	18,155	0	294,268
3.1	Total agreed funding (US \$)	2,410,000	0	0	1,114,000	0	420,462	0	0	259,364	0	4,203,826
3.2	Total support costs (US \$)	168,700	0	0	77,980	0	29,432	0	0	18,155	0	294,268
3.3	Total agreed costs (US \$)	2,578,700	0	0	1,191,980	0	449,894	0	0	277,519	0	4,498,094
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)											14.22
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)											9.41
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)											12.32
4.2.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)											0.05
4.2.2	Phase-out of HCFC-123 to be achieved in the previous stage (ODP tonnes)											0
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)											22.43
4.3.2	Phase-out of HCFC-141b to be achieved in the previous stage (ODP tonnes)											15.10
4.3.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)											0

*Date of completion of stage I as per stage I Agreement: anticipate in 2017.