



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/87/37
14 June 2021

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-seventh Meeting
Montreal, 28 June-2 July 2021¹

PROJECT PROPOSAL: SIERRA LEONE

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, first tranche) UNEP and UNIDO

¹ Online meetings and an intersessional approval process will be held in June and July 2021 due to coronavirus disease (COVID-19)

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

SIERRA LEONE

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage II)	UNEP (lead), UNIDO

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2020	0.56 (ODP tonnes)
-----------------------------------------------------	------------	-------------------

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2020	
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					0.56				0.56

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	1.70	Starting point for sustained aggregate reductions:	1.67
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	0.58	Remaining:	1.09

(V) BUSINESS PLAN		2021	2022	2023	Total
UNEP	ODS phase-out (ODP tonnes)	0.10	0	0	0.10
	Funding (US \$)	59,250	0	0	59,250
UNIDO	ODS phase-out (ODP tonnes)	0.20	0	0.20	0.40
	Funding (US \$)	64,583	0	65,000	129,583

(VI) PROJECT DATA			2021	2022	2023	2024	2025	2026	2027-2029	2030	Total
Montreal Protocol consumption limits			1.10	1.10	1.10	1.10	0.55	0.55	0.55	0	n/a
Maximum allowable consumption (ODP tonnes)			0.56	0.56	0.56	0.56	0.26	0.26	0.26	0	n/a
Projects costs requested in principle (US \$)	UNEP	Project costs	135,000	0	90,000	0	0	70,000	0	58,000	353,000
		Support costs	17,550	0	11,700	0	0	9,100	0	7,540	45,890
	UNIDO	Project costs	117,000	0	70,000	0	0	0	0	0	187,000
		Support costs	10,530	0	6,300	0	0	0	0	0	16,830
Total project costs requested in principle (US \$)			252,000	0	160,000	0	0	70,000	0	58,000	540,000
Total support costs requested in principle (US \$)			28,080	0	18,000	0	0	9,100	0	7,540	62,720
Total funds requested in principle (US \$)			280,080	0	178,000	0	0	79,100	0	65,540	602,720

(VII) Request for approval of funding for the first tranche (2021)		
Agency	Funds requested (US \$)	Support costs (US \$)
UNEP	135,000	17,550
UNIDO	117,000	10,530
Total	252,000	28,080

Secretariat's recommendation:	Individual consideration
--------------------------------------	--------------------------

PROJECT DESCRIPTION

Background

1. On behalf of the Government of Sierra Leone, UNEP as the lead implementing agency has submitted a request for stage II of the HCFC phase-out management plan (HPMP), at a total cost of US \$602,720, consisting of US \$353,000, plus agency support costs of US \$45,890 for UNEP, and US \$187,000, plus agency support costs of US \$16,830 for UNIDO, as originally submitted.² The implementation of stage II of the HPMP will phase out the remaining consumption of HCFCs by 2030.

2. The first tranche of stage II of the HPMP being requested at this meeting amounts to US \$280,080, consisting of US \$135,000, plus agency support costs of US \$17,550 for UNEP, and US \$117,000, plus agency support costs of US \$10,530 for UNIDO, as originally submitted.

Status of implementation of stage I of the HPMP

3. Stage I of the HPMP for Sierra Leone was approved at the 65th meeting,³ to meet the 35 per cent reduction from the baseline by 2020, at a total cost of US \$210,000, plus agency support costs, to phase out 0.58 ODP tonnes of HCFCs used in the refrigeration and air-conditioning (RAC) servicing sector. The fifth and final tranche of stage I of the HPMP was approved under the intersessional approval process for the 85th meeting in May 2020; stage I will be completed by 31 December 2021.

HCFC consumption

4. The Government of Sierra Leone reported a consumption of 0.56 ODP tonnes of HCFC in 2020, which is 67 per cent below the HCFC baseline for compliance. The 2016-2020 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Sierra Leone (2016-2020 Article 7 data)

HCFC-22	2015	2016	2017	2018	2019	2020	Baseline
Metric tonnes (mt)	18.02	11.00	10.35	10.27	10.18	10.24	30.91
ODP tonnes	0.99	0.61	0.57	0.57	0.56	0.56	1.70

5. HCFC-22, the only HCFC imported, is used for servicing RAC equipment. There is a reduction of consumption by 7 mt between 2015 and 2016 attributed to the implementation of HPMP activities, including enforcement of the licensing and quota system, engagement of prominent stakeholders in the refrigeration servicing sector, and the uptake of non-HCFC-22-based RAC equipment. Sierra Leone has experienced a growing trend in the introduction of non-HCFC-based RAC equipment from 2012 following the economic growth in the country. While consumption of HFC-based refrigerants has increased by 75 per cent, consumption of HCFC-22 remained almost stable since 2016. The current import levels of HCFC-22 are attributed to servicing equipment in commercial refrigeration, followed by domestic air-conditioning (AC) units; the slight increase in 2020 was due to the reliance on additional medical equipment to preserve samples related to the COVID-19 pandemic.

Country programme (CP) implementation report

6. The Government of Sierra Leone reported HCFC sector consumption data under the 2020 CP implementation report consistent with the data reported under Article 7 of the Montreal Protocol.

² As per the letter of 9 March 2021 from the Ministry of Environment of Sierra Leone to the Secretariat.

³ UNEP/OzL.Pro/ExCom/65/48, Annex XVIII of UNEP/OzL.Pro/ExCom/65/60.

Verification report

7. At the 83rd meeting, the Government of Sierra Leone submitted a request for the fourth tranche of stage I of the HPMP together with a verification report for the period 2013-2017. The verification report confirmed that the Government had implemented a licensing and quota system for HCFC imports and exports capable of ensuring the country's compliance with the HCFC phase-out schedule and making recommendations for improvements.⁴ At the 85th meeting, the Government submitted a request for funding the fifth tranche of the HPMP; in the submission UNEP confirmed that the Government of Sierra Leone had developed and implemented the electronic system, Environmental Cadastral Administration System (ECAS), providing an online platform for importers to register and apply for import licenses and quotas, to enhance the efficiency of monitoring the licensing system as recommended by the verifier). In addition, UNEP reported that the procurement and distribution of additional refrigerant identifiers recommended by the verifier, would be included in the request for stage II of the HPMP.

8. At the 86th meeting, funds for a second verification report were approved for the years 2018 to 2020. This second verification report confirmed that the total consumption of HCFCs reported under Article 7 of the Montreal Protocol was correct (as shown in Table 1 above), and that since 2011 the country had banned imports of CFCs and other phased-out ODS. The second verification concluded that Sierra Leone should expedite the finalization of the ECAS electronic system to enhance the online monitoring of ODS trade to duly implement the recommendations from the first verification report. UNEP explained that ECAS could not be completed in 2020 because of a change in Government officials. Furthermore, institutional coordination and capacity-building are required. The online system is therefore expected to be launched by 1 January 2023.

9. Other specific recommendations included in the second verification report are as follows: training for customs officers and brokers on the harmonized systems codes for all Montreal Protocol controlled substances; strengthening the monitoring of the quality of refrigerants and controlling imported HCFC-based equipment; providing additional ODS identifiers to perform adequate controls at all the customs entry points; and revising penalties applicable to potential infractions of the ODS regulations. UNEP has confirmed that the Government of Sierra Leone would address the recommendations of the second verification report in the first tranche of stage II of the HPMP.

Status of progress and disbursement

Legal framework

10. The quota and licensing system for HCFCs is operational; annual quotas are approved by the National Chemicals Committee, and the National Ozone Unit (NOU) in collaboration with the customs department monitors the usage of quotas by importers. Records of imports for both HCFCs and HCFC-based equipment are maintained. ECAS will facilitate importers' registration and the process for applying for import licenses and quotas; discussions are ongoing to coordinate the ECAS with the customs department.

11. The Government of Sierra Leone has established a certification system for refrigeration technicians and a registration system for importers of HCFC-22 and alternative refrigerants. The Refrigeration and Engineers Association has the mandate to control the operations of servicing technicians.

⁴ The recommendations from the first verification report included the need to develop an electronic system to enhance efficiency of monitoring the licensing and quota system; an online system for importer registration and application of import allocation and licenses; and strengthening the capacity of customs and training of officers to monitor illegal imports at all points of entry by providing additional refrigerant identifiers.

Refrigeration servicing sector

12. The following activities were implemented:

- (a) Twelve training sessions for a total of 420 customs officers and other enforcement officers on the identification of refrigerants, monitoring and prevention of illegal trade in ODS, enforcement of the licensing and quota system, and Montreal Protocol issues; six explanatory meetings on ODS regulations were conducted for importers, distributors, refrigeration technicians, and policy makers; seven ODS identifiers were distributed to customs entry points; five inspection visits to major refrigeration workshops were conducted by the NOU to monitor servicing practices and compliance with the national code of refrigeration;
- (b) Twenty-two refrigeration trainers/lecturers from training institutes were trained in good principles of refrigeration, a total of 460 RAC technicians (including those not registered) were trained in good servicing practices including the safe use of equipment based on flammable refrigerants; and
- (c) Training equipment (e.g., vacuum pumps, leak detectors, brazing tools, and other basic tools) was procured and distributed to three vocational training institutions that are also performing as centres of excellence that provide technical support to the sector and let the technicians borrow the tools in addition to training RAC technicians and vocational students.

Level of fund disbursement

13. As of March 2021, of the US \$210,000 approved under stage I of the HPMP, US \$199,000 had been disbursed (US \$99,000 for UNEP and US \$100,000 for UNIDO). The balance of US \$11,000 belongs exclusively to the fifth tranche (US \$21,000) and will be disbursed in 2021.

Stage II of the HPMPRemaining consumption eligible for funding

14. After deducting 0.58 ODP tonnes of HCFCs associated with stage I of the HPMP, the remaining consumption eligible for funding for complete phase-out in stage II amounts to 1.09 ODP tonnes of HCFC-22.

Sector distribution of HCFCs

15. There are approximately 1,000 technicians and 250 workshops consuming HCFC-22 to service unitary and split systems, commercial cold stores, chillers, and refrigerated transport, as shown in Table 2. HCFC-22 represents 18.5 per cent of the total refrigerants used in the servicing sector. The non-HCFC refrigerants include HFC-134a (44.3 per cent), R-600a (21.6 per cent), R-404A (8.8 per cent), R-410 (3 per cent), R-290 (2.9 per cent) and others (0.9 per cent).

Table 2. Estimated demand for HCFC-22 in the RAC servicing sector in Sierra Leone

Sector	Number of units repaired/yr	Average charge (kg)	Annual leakage (%)	Annual amount (kg)
Domestic AC	8,200	2.4	10	1,968
Other AC (e.g., offices, hotels)	2,700	4.5	20	2,430
Commercial refrigeration	1,400	6.5	17	1,547
Chillers (AC and industry)	1,240	15	20	3,720
AC/heat pumps	950	2.4	20	456

Sector	Number of units repaired/yr	Average charge (kg)	Annual leakage (%)	Annual amount (kg)
Refrigerated transport	320	2.5	15	120
Total	14,810			10,241

16. The HFC-134a consumption is basically shared between domestic refrigeration and commercial/industrial refrigeration. R-600a is used mostly in domestic refrigeration (95 per cent). The main use of R-404A is for stand-alone commercial units and freezers (71 per cent). The use of R-410A is shared among AC, commercial (low and medium temperature) refrigeration and refrigerated transport. R-290 is mainly used in stand-alone commercial units (75 per cent) followed by domestic RAC.]

Table 3. Estimated use (in kg) of non-HCFC in 2020 by RAC sub-sectors in Sierra Leone

Sub-sector	HFC-134a	R-600a	R-404A	R-410A	R-290	R-407C	R-507	
Domestic refrigeration/AC	12,004	11,400	283	0	270	124	0	
Domestic AC	0	0	0	297	125	0	0	
Commercial refrigeration	Stand-alone	3,600	220	3,200	460	1,204	0	0
	Condenser units	6,408	348	0	250	0	0	0
	Centralized system	1,720	0	849	242	0	0	280
Transport refrigeration	782	0	560	420	0	0	92	
Total	24,514	11,968	4,892	1,669	1,599	124	372	

Phase-out strategy in stage II of the HPMP

17. As originally submitted, stage II of the HPMP proposes a 67.5 per cent reduction from the country's HCFC baseline consumption by 2025 and 100 per cent reduction by 2030, on the understanding that Sierra Leone's consumption between 2029 and 2040 will be consistent with the servicing tail as provided under the Montreal Protocol. Stage II has been designed based on the experience gained during the implementation of stage I and addresses the recommendations of the verification report. It will focus on strengthening the HCFC licensing and quota system, promoting the transition to low global-warming potential (GWP) technologies in the RAC sector, implementing legal instruments related to the safe use of new technologies, further strengthening the capacity of the servicing sector including through the provision of equipment, and strengthening the certification scheme for technicians.

Proposed activities in stage II of the HPMP

18. Stage II proposes the following activities:

- (a) Strengthening the enforcement of ODS regulations: finalization of an online HCFC licensing and quota system (ESCAS) as of 1 January 2023; organizing one meeting to review the customs training manual; training 10 trainers; enhancing the capacity of 150 customs officers and other enforcement officers on regulatory measures and identification, monitoring and controlling imports of HCFCs and HCFC-based equipment; organizing a workshop for 40 customs officers and brokers on the harmonized systems codes for all Montreal Protocol controlled substances; reviewing penalties for illegal trade in ODS with a view to enforcing the penalties as of January 2023; and conducting one border dialogue with customs officers from neighbouring countries to prevent illegal trade (UNEP) (US \$100,000);
- (b) Developing and enforcing a legal framework to encourage the adoption of low-GWP alternatives: banning the imports of HCFC-based equipment as of 1 January 2025; developing national standards for the safe use of low-GWP technologies in the RAC sector to be completed by 31 December 2022; adopting a green procurement policy for RAC

systems in the public sector to be implemented by 1 January 2025; building the capacity of 150 Government officers and main stakeholders on technical standards for the RAC systems and of 40 Government officers on the green procurement policy; conducting one annual inspection campaign of imported RAC equipment to ensure compliance with the technical standards and of refrigerant suppliers to check the quality of refrigerants; and organizing four informative workshops for approximately 200 importers and end-users on the revised ODS policy, safety standards and the green procurement of RAC systems (UNEP) (US \$100,000);

- (c) Strengthening the capacity of the RAC servicing sector: conducting consultations with approximately 30 main stakeholders on the formulation of a revised RAC certification scheme; strengthening and implementing the mandatory technician certification scheme; building the capacity of 60 key stakeholders involved in the certification process; updating the training manual, and training and certifying 300 refrigeration technicians in good servicing practices; upgrading the national refrigeration codes of practice; strengthening the Refrigeration and Engineers Association with tool kits for safe servicing with flammable refrigerants according to a survey on their needs; and organizing four workshops for approximately 200 end-users on the latest developments in alternative technologies (UNEP) (US \$113,000); and
- (d) Strengthening centres of excellence and technical assistance: development of a business model to set up a refrigerant recovery/re-use infrastructure, including terms of reference for the host of the potential reclaim centre; training at least 10 trainers from vocational training institutes in the safe handling of flammable refrigerants and the servicing of equipment with HC (R-600a domestic refrigerators and R-290 commercial freezers); procuring and distributing complementary tools and equipment⁵ to set up one reclaiming centre; providing equipment and tools⁶ to five regional centres for training on servicing, repairing, installation, commissioning and decommissioning of RAC appliances with alternative refrigerants; assessing equipment operation through a comparative study of performance for AC equipment running with different refrigerants;⁷ and conducting an end-user awareness-raising programme to promote R-290 uptake (UNIDO) (US \$187,000).

Project implementation and monitoring

19. The system established under stage I of the HPMP will continue into stage II, where the NOU will monitor activities, report on progress, and work with stakeholders to phase out HCFCs. The cost of those activities amounts to US \$40,000 for stage II (US \$20,000 for hiring consultants, US \$15,000 for coordination meetings, and US \$5,000 for monitoring-related travel).

⁵ A reclaim unit for multiple refrigerants (non-flammable), ten recovery units, a refrigerant identifier to check incoming refrigerant, laboratory items for simple quality check of reclaimed refrigerant, cylinders (20 units of 100 lbs and 50 units of 30 lbs), storage tank and scale for unintended mixtures.

⁶ Charging station for HC, electronic gauge manifold, electronic leak detector for HC, safety-related tools, brazing units, compression fitting tools, personal protection devices and miscellaneous tubing tools.

⁷ It will use existing studies of performance of various AC equipment running alternative refrigerants and review the applicability in the country and the existing conditions as well as the different needs and knowledge necessary for the different stakeholders. This will also include market research and stakeholder consultations to understand the existing market/technology/financial barriers. The awareness-raising activities will be based on the different results of the assessment and target different stakeholder groups with a focus on R290-equipment-specific requirements for installation and servicing, but also on the environmental and economic benefits.

*Gender policy implementation*⁸

20. The Government of Sierra Leone will promote gender equality and women's empowerment in all the activities under stage II, including management, consultancy contracts, and training. The NOU will support the collection of sex-disaggregated data, engage stakeholders in considering gender issues, seeking their input to identify barriers, preparing effective responses, and defining target indicators.

Total cost of stage II of the HPMP

21. The total cost of stage II of the HPMP for Sierra Leone amounts US \$540,000 (plus agency support costs), as originally submitted (which is in accordance with decision 74/50(c)(xii)), was initially designed to allow for a 67.5 per cent and 100 per cent reduction of HCFC consumption in 2025 and 2030 respectively. The proposed activities and cost breakdown are summarized in paragraphs 18 and 19 above.

Activities planned for the first tranche of stage II

22. The first funding tranche of stage II of the HPMP, at the total amount of US \$252,000 will be implemented between September 2021 and December 2022 and will include the following activities:

- (a) Strengthening the enforcement of ODS regulations: finalizing an online HCFC licensing and quota system (ECAS) as of 1 January 2023; organizing one meeting to review the customs training manual; training 10 trainers; enhancing the capacity of 45 customs officers and other enforcement officers on regulatory measures and identifying, monitoring and controlling imports of HCFCs and HCFC-based equipment, organizing a workshop for 40 customs officers and brokers on the harmonized systems codes for all Montreal Protocol controlled substances, reviewing penalties for illegal trade in ODS with a view to enforcing the penalties as of January 2023; and conducting one border dialogue with customs officers from neighbouring countries to prevent illegal trade (UNEP) (US \$40,000);
- (b) Developing and enforcing a legal framework to encourage the adoption of low-GWP alternatives: banning the imports of HCFC-based equipment as of 1 January 2025; developing national standards for the safe use of low-GWP technologies in the RAC sector to be completed by 31 December 2022; adopting a green procurement policy for RAC systems in the public sector to be implemented as of 1 January 2025; building the capacity of 40 Government officers and main stakeholders on technical standards for the RAC systems and of 20 Government officers on the green procurement policy; conducting at least one annual inspection campaign on imported RAC equipment to ensure compliance with the technical standards and of refrigerant suppliers to check the quality of refrigerants (UNEP) (US \$40,000);
- (c) Strengthening the capacity of the RAC servicing sector: conducting consultations with approximately 30 main stakeholders on the formulation of a revised RAC certification scheme; strengthening and implementing the mandatory technician certification scheme, building the capacity of 60 key stakeholders involved in the certification process; updating the training manual; training and certifying 75 refrigeration technicians in good servicing practice; upgrading the national refrigeration codes of practice; strengthening the Refrigeration and Engineers Association with tool kits for safe servicing with flammable refrigerants according to a survey on their needs (UNEP) (US \$45,000);

⁸ Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

- (d) Strengthening centres of excellence and technical assistance: developing a business model to set up a refrigerant recovery/re-use infrastructure, including terms of reference for the host of the potential reclaim centre; training at least 10 trainers from vocational training institutes in the safe handling of flammable refrigerants and servicing equipment with HC, and providing equipment and tools to three regional centres for training on the servicing, repairing, installation, commissioning and decommissioning of RAC appliances with alternative refrigerants; assessing equipment operation through a comparative study of performance for AC equipment running with different refrigerants; and conducting an end-user awareness-raising programme to promote R-290 uptake; and
- (e) Project coordination and implementation: (US \$5,000 for hiring consultants, US \$3,500 for coordination meetings and US \$1,500 for monitoring-related travel) (UNEP) (US \$10,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

23. The Secretariat reviewed stage II of the HPMP in light of stage I, 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 2021-2023 business plan of the Multilateral Fund.

HCFC consumption

24. The Secretariat discussed the phase-out targets for 2021 to 2025 keeping in mind the low levels of HCFC-22 consumption reported from 2016 to 2020, and the fact that the 2021 HCFC quota issued is 0.56 ODP tonnes (67 per cent reduction from the baseline). Subsequently, UNEP indicated that the Government of Sierra Leone agreed to revise the phase-out schedule with the accelerated reduction steps of 67 per cent by 2021, 85 per cent by 2025 and 100 per cent by 2030.

Overarching strategy

25. In addition to meeting the 67 per cent, 85 per cent and 100 per cent reduction of HCFC baseline consumption by 2021, 2025 and 2030 respectively, the Government of Sierra Leone proposes to maintain a maximum annual consumption of HCFC in the period from 2030 to 2040 consistent with Article 5, paragraph 8 ter(e)(i) of the Montreal Protocol.⁹ The Government further commits to continue establishing strict criteria within its licensing system to monitor the levels of import and the uses of HCFCs during that period to ensure that they are limited to the conditions set by the Montreal Protocol.

26. In line with decision 86/51, to allow for consideration of the final tranche of its HPMP, the Government of Sierra Leone agreed to submit 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 2030-2040 period, and the expected annual HCFC consumption in the country for the 2030-2040 period.

⁹ 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 ten, does not exceed 2.5 per cent of the HCFC baseline.

Technical and cost-related issues

27. At present, R-600a (21.6 per cent of total refrigerants) is used in domestic refrigeration and stand-alone commercial units and R-290 (2.9 per cent of total refrigerants) is used in freezers, stand-alone commercial units and domestic AC equipment. However, there is a lack of safety standards, and the number of trained technicians and specific tools are still insufficient to face the challenges of servicing equipment with flammable refrigerants. Among other activities, stage II proposes developing safety standards, upgrading the regional centres of excellence for providing training in managing flammable refrigerants, and strengthening the mandatory certification scheme for technicians, including one for unskilled low-trained technicians.

28. Upon request for additional information on the technician certification programme, UNEP confirmed that current certification of RAC technicians is a statutory requirement stipulated in the updated ODS regulation of 2011. Consequently, all RAC technicians must be certified by the competent authority of the Environment Protection Agency. However, the current process should be updated to include low-GWP alternative refrigerants in the certification; the vocational schools will include matters related to the safe handling of flammable refrigerants in their training courses, and the Refrigeration and Engineers Association will discuss and adopt the national codes of practice according to safety standards. All of these elements are pre-conditions to strengthen the current certification scheme. To ensure the sustainability of the certification programme, a fee will be charged for issuing certification licenses.

29. Concerning the recovery and reclamation project, UNIDO explained that it will assist the Government in developing a comprehensive business model demonstrating the technical feasibility of the project in terms of the amounts of HCFCs to be recovered and reused, and its financial viability when submitting the request at a future tranche. The project would reduce the amount of refrigerant vented into the atmosphere when equipment is being serviced, and the recovered refrigerant will reduce the import of new HCFCs. In the event that the recovery and recycling scheme would not be feasible, other phase-out activities will be proposed.

30. Regarding the technical assistance programme to promote R-290 uptake in the country, the Secretariat recalled decisions 72/17 and 73/34 for eventual retrofitting of RAC equipment, and UNIDO confirmed that the project does not promote the retrofitting of HCFC-based equipment to HC. Instead, it is aimed at training trainers and engineers in safe practices to service equipment based on flammable or toxic alternatives as a means of possible alternatives to HCFCs and HFCs. Recognizing that the HCFC-22 alternatives currently available in the country are mainly based on high-GWP refrigerants, the Government of Sierra Leone has included this activity to assess the performance and energy efficiency of R-290-based equipment, the barriers to be addressed and the benefits of its adoption, considering that the country only imports and does not manufacture such equipment.

31. In response to the Secretariat's question about why R-290 was the pre-selected choice by Sierra Leone, UNIDO responded that although information will be provided on all low-GWP alternatives, R-290 is the most promising sustainable alternative for the country in regards to environmental and economic benefits. Overall, the R-290 uptake in the country would result in reduced energy consumption, reduced greenhouse gases footprint, and optimized space cooling.

Total project cost

32. The total project cost for stage II of the HPMP and the funding for the first tranche was agreed as submitted.

Impact on the climate

33. The proposed activities in the servicing sector, which include better containment of refrigerants through training and the provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing. Each kilogramme of HCFC-22 not emitted due to better refrigeration practices results in savings of approximately 1.8 CO₂-equivalent tonnes. Although a calculation of the impact on the climate is not included in the HPMP, the activities planned by Sierra Leone, including its efforts to promote low-GWP alternatives and good practices in RAC equipment servicing indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

Co-financing

34. The Government of Sierra Leone will provide in-kind support, such as the provision of staff, office spaces, and logistical support. The Government will also encourage private sectors to co-finance projects that will bring ozone and climate benefits.

2021-2023 draft business plan of the Multilateral Fund

35. UNEP and UNIDO are requesting US \$540,000, plus agency support costs, for the implementation of stage II of the HPMP for Sierra Leone. The total requested value of US \$458,080, including agency support costs for the period of 2021–2023, is US \$269,247 above the amount in the business plan.

Draft Agreement

36. A draft Agreement between the Government of Sierra Leone and the Executive Committee for the phase-out of HCFCs in stage II of the HPMP is contained in Annex I to the present document.

RECOMMENDATION

37. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage II of the HCFC phase-out management plan (HPMP) for Sierra Leone for the period from 2021 to 2030 for the complete phase-out of HCFC consumption, in the amount of US \$602,720, consisting of US \$353,000, plus agency support costs of US \$45,890 for UNEP, and US \$187,000, plus agency support costs of US \$16,830 for UNIDO, on the understanding that no more funding from the Multilateral Fund would be provided for the phase-out of HCFCs;
- (b) Noting the commitment of the Government of Sierra Leone:
 - (i) To reduce HCFC consumption by 67 per cent of the country's baseline by 2021, 85 per cent by 2025 and to phase out HCFCs completely by 1 January 2030, and that HCFC imports would 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;
 - (ii) To set up an online HCFC licensing and quota system by 1 January 2023; and
 - (iii) To ban the import of HCFC-based equipment by 1 January 2025.

- (c) Deducting 1.09 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;
- (d) Approving the draft Agreement between the Government of Sierra Leone and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage II 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 Sierra Leone 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) The expected annual HCFC consumption in Sierra Leone for the period 2030-2040; and
- (f) Approving the first tranche of stage II of the HPMP for Sierra Leone, and the corresponding tranche implementation plans, in the amount of US \$280,080, consisting of US \$135,000 plus agency support costs of US \$17,550 for UNEP, and US \$117,000 plus agency support costs of US \$10,530 for UNIDO, on the understanding that the recommendations included in the verification report submitted to the 87th meeting would be addressed during the implementation of the first tranche of stage II of the HPMP and that the actions implemented towards that end would be included in the tranche implementation report to be submitted with the request of the second tranche of stage II of the HPMP for Sierra Leone.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF SIERRA LEONE 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

Purpose

1. This Agreement represents the understanding of the Government of Sierra Leone (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 row 4.1.3 (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 II of the HCFC phase-out management plan (HPMP) approved (“the Plan”). In accordance with sub-paragraph 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 sub-paragraph 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; and
 - (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. UNEP has agreed to be the lead implementing agency (the “Lead IA”) and UNIDO has agreed to be the cooperating implementing agency (the “Cooperating IA”) under the lead of 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 and/or Cooperating IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring co-ordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per sub-paragraph 5(b). The Cooperating IA will support the Lead IA by implementing the Plan under the overall co-ordination of the Lead IA. The roles of the Lead IA and Cooperating IA are contained in Appendix 6-A and Appendix 6-B, respectively. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 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, the Lead IA and the Cooperating IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA and the Cooperating 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 sub-paragraph 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 sub-paragraphs 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 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	1.67

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2021	2022	2023	2024	2025	2026	2027-2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	1.10	1.10	1.10	1.10	0.55	0.55	0.55	0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	0.56	0.56	0.56	0.56	0.26	0.26	0.26	0	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	135,000	0	90,000	0	0	70,000	0	58,000	353,000
2.2	Support costs for Lead IA (US \$)	17,550	0	11,700	0	0	9,100	0	7,540	45,890
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	117,000	0	70,000	0	0	0	0	0	187,000

Row	Particulars	2021	2022	2023	2024	2025	2026	2027-2029	2030	Total
2.4	Support costs for Cooperating IA (US \$)	10,530	0	6,300	0	0	0	0	0	16,830
3.1	Total agreed funding (US \$)	252,000	0	160,000	0	0	70,000	0	58,000	540,000
3.2	Total support costs (US \$)	28,080	0	18,000	0	0	9,100	0	7,540	62,720
3.3	Total agreed costs (US \$)	280,080	0	178,000	0	0	79,100	0	65,540	602,720
4.1.1	Total phase-out of HCFC 22 agreed to be achieved under this Agreement (ODP tonnes)									1.09
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)									0.58
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)									0

Date of completion of stage I as per stage I Agreement: 31 December 2021.

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the first 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 sub-paragraph 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 sub-paragraph 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 sub-paragraph (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 sub-paragraphs 1(a) to 1(d).
2. In the event that in a particular year two stages of the HPMP 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. All the monitoring activities will be coordinated and managed through the national ozone unit (NOU), which is included within the Plan. The NOU will submit annual progress reports on the status of implementation of the Plan to the Lead IA. The monitoring programme will therefore ensure effectiveness of all the proposed projects within the Plan through constant monitoring and periodic review of the performance of individual project. Independent verification will be conducted by an independent consultant arranged by the Lead IA.

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 HPMP;
 - (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 sub-paragraphs 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, and should include the activities implemented by the Cooperating IA;

- (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) Co-ordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
- (k) 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 and the Cooperating IA, the allocation of the reductions to the different budget items and to the funding of the Lead IA and each Cooperating IA:
- (l) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (m) Providing assistance with policy, management and technical support when required;
- (n) Reaching consensus with the Cooperating IA on any planning, co-ordination and reporting arrangements required to facilitate the implementation of the Plan; and
- (o) 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 HPMP results and the consumption of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement and sub-paragraph 1(b) of Appendix 4-A.

APPENDIX 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCIES

1. The Cooperating IA will be responsible for a range of activities. These activities are specified in the Plan, including at least the following:

- (a) Providing assistance for policy development when required;
- (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a co-ordinated sequence in the activities;
- (c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A; and
- (d) Reaching consensus with the Lead IA on any planning, co-ordination and reporting arrangements required to facilitate the implementation of the Plan.

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 \$180 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 HPMP 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.