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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-second Meeting
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Item 9(c) of the provisional agenda¹

PROJECT PROPOSAL: MALAWI

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, second tranche) UNEP and UNIDO

¹ UNEP/OzL.Pro/ExCom/92/1

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

Malawi

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II)	UNEP (lead), UNIDO	85 th	100% phase-out by 2030

(II) LATEST ARTICLE-7 DATA (Annex C Group I)	Year: 2022	2.51 ODP tonnes
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2022	
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					2.51				2.51

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	10.80	Starting point for sustained aggregate reductions:	10.80
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	10.80	Remaining:	0.00

(V) ENDORSED BUSINESS PLAN		2023	Total
UNEP	ODS phase-out (ODP tonnes)	1.51	1.51
	Funding (US \$)	158,200	158,200
	Energy efficiency funding	94,920	94,920
UNIDO	ODS phase-out (ODP tonnes)	1.08	1.08
	Funding (US \$)	*147,520	147,520

*Including US \$38,520 for additional activities to maintain energy efficiency

(VI) PROJECT DATA			2020	2021-2022	2023*	2024	2025	2026	2027-2029	2030	Total
Montreal Protocol consumption limits (ODP tonnes)			7.02	7.02	7.02	7.02	3.51	3.51	3.51	0.27	n/a
Maximum allowable consumption (ODP tonnes)			7.02	7.02	7.02	7.02	3.51	3.51	3.51	0.00	n/a
Funding agreed in principle (US \$)	UNEP	Project costs	180,000	0	260,000	0	0	65,000	0	65,000	570,000
		Support costs	23,400	0	32,866	0	0	8,217	0	8,217	72,700
	UNIDO	Project costs	100,000	0	100,000	0	0	0	0	0	200,000
		Support costs	9,000	0	9,000	0	0	0	0	0	18,000
Funds approved by ExCom (US \$)	Project costs		280,000	0	0	0	0	0	0	0	280,000
	Support costs		32,400	0	0	0	0	0	0	0	32,400
Total funds recommended for approval at this meeting (US \$)	Project costs		0	0	360,000	0	0	0	0	0	360,000
	Support costs		0	0	41,866	0	0	0	0	0	42,800

* Funding for 2023 includes US \$120,000 plus agency support costs of US \$15,169 for UNEP for energy efficiency activities (decision 89/6).

Secretariat's recommendation:	Blanket approval
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PROJECT DESCRIPTION

1. On behalf of the Government of Malawi, UNEP as the lead implementing agency has submitted a request for funding for the second tranche of stage II of the HCFC phase-out management plan (HPMP), at a total cost of US \$401,866, consisting of US \$260,000, plus agency support costs of US \$32,866 for UNEP, and US \$100,000, plus agency support costs of US \$9,000 for UNIDO.² The submission includes a progress report on the implementation of the first tranche, a request for funding additional activities to maintain energy efficiency in the refrigeration servicing sector,³ and the tranche implementation plan for 2023 to 2026.

Report on HCFC consumption

2. The Government of Malawi reported a consumption of 2.51 ODP tonnes of HCFC in 2022, which is 76.8 per cent below the HCFC baseline for compliance. The 2018-2022 HCFC consumption is shown in table 1.

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

HCFC-22	2018	2019	2020	2021	2022	Baseline
Metric tonnes (mt)	101.20	89.90	60.50	51.20	45.60	196.40
ODP tonnes	5.57	4.94	3.33	2.82	2.51	10.80

3. HCFC-22 is the only substance imported in Malawi and is used for servicing refrigeration and air-conditioning (RAC) equipment. The decrease in consumption of HCFC-22 is attributed to the enforcement of the license and quota system and regulations on the management of ODS; the implementation of the training programmes for customs officers and refrigeration technicians under the HPMP; and the uptake of RAC equipment based on non-HCFC-22 refrigerants (i.e., R-410A, R-404A and R-407C). There is also an increasing consumption of flammable refrigerants (i.e., R-600a and R-290) in the domestic and commercial sectors.

Country programme implementation report

4. The Government of Malawi reported HCFC sector consumption data under the 2022 country programme (CP) implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Verification report

5. UNEP indicated that the recruitment of a consultant to undertake the verification of HCFC consumption for 2020 to 2022 is ongoing, and the verification report would be prepared and submitted by the end of July 2023 and no later than 12 weeks prior to the 93rd meeting.

Status of completion of stage II of the HCFC phase-out management plan

6. Stage I of the HPMP was completed in June 2021 and the project completion report was submitted on 23 April 2023.

² As per the letter of 20 March 2023 from the Environmental Affairs Department of Malawi to the Secretariat.

³ In line with decision 89/6, low-volume-consuming countries can include in their HPMPs additional activities for the introduction of alternatives to HCFCs with low or zero global-warming potential and for maintaining energy efficiency in the refrigeration servicing sector.

Progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan

Legal framework

7. The Government of Malawi continues to implement an operational licensing and quota system for HCFC imports. Further, it has adopted the Environmental Impact Assessment (EIA) guidelines, which also help to identify and safeguard against projects (i.e., new condominium buildings that need air-conditioning, and agro-industrial projects that require refrigeration) that might use ODS including HCFCs. The Government of Malawi ratified the Kigali Amendment in 2017.

Refrigeration servicing sector

8. The following activities have been conducted:

- (a) Training of 150 customs and enforcement officers (including 49 females) in five training programmes on HCFC control measures;
- (b) Development of RAC technical standards including a stakeholder consultation workshop; and implementation of two training workshops for capacity building of 30 participants, including standards officers, environmental inspectors and other key stakeholders on monitoring and enforcement of technical standards in the RAC sector;
- (c) Development of policies for green procurement of RAC equipment for public institutions; training of 20 public procurement officers on criteria for implementing green procurement measures for RAC systems; implementation of two training workshops for 60 participants on implementation of green procurement systems;
- (d) Development of the RAC certification scheme including a stakeholder consultation workshop on formulation of an effective implementation of a RAC certification scheme and roles and responsibilities of different institutions in implementing the certification scheme; implementation of two training sessions with 40 participants from technical institutions on the certification process and procedures for testing and certification of technicians; updating of national codes of practice in the RAC servicing sector, to include, *inter alia* safe servicing practices using low-global-warming-potential (GWP) refrigerants; training of 40 RAC technicians on good servicing practices and safe adoption of alternatives; and updating of training manual and strengthening of the Refrigeration Association of Malawi; and
- (e) Development of a business model for refrigerant recovery and reclamation centres and procurement of equipment for the centres (e.g., recovery machines, recovery cylinders, vacuum pump, digital scales); procurement and distribution of complementary tools and equipment for three centres of excellence (e.g., brazing kits, four-valve manifold gauge sets for multiple refrigerants).

Project implementation and monitoring

9. In the first tranche of stage II, the US \$15,000 approved for project monitoring was fully disbursed on personnel and consultants (US \$5,000), travel and compliance monitoring visits (US \$5,000), and consultative workshops (US \$5,000).

Level of fund disbursement

10. As of March 2023, the US \$280,000 approved so far (US \$180,000 for UNEP and US \$100,000 for UNIDO) was fully disbursed.

Implementation plan for the second tranche of stage II of the HCFC phase-out management plan

11. The following activities will be implemented between June 2023 and June 2026:

- (a) Two training workshops for 40 standards officers, environment inspectors and other enforcement officers on enforcement of technical standards for RAC equipment and green procurement procedures; one sensitization workshop for 30 RAC technicians, importers, industries and identified target audience on technical standards for RAC equipment and compliance with the standards; inspections of about 60 warehouses, shops and storage facilities on compliance with technical standards and regulations (UNEP) (US \$40,000);
- (b) One border dialogue for consultations on controlling and monitoring of ODS trade and mechanisms for preventing illegal trade; two training sessions for 50 customs and other law enforcement officers on controlling and monitoring of ODS trade and other Montreal Protocol issues (UNEP) (US \$30,000);
- (c) Five training programmes covering 100 RAC technicians on good servicing practices and safe handling of HC and other technologies; one training programme for 20 RAC association members and the experts from the Technical, Entrepreneurial and Vocational Education and Training Authority on procedures for implementation of a certification programme; and one awareness programme for end-users on benefits of using low-GWP energy efficient technologies (UNEP) (US \$55,000);
- (d) Procurement and distribution of complementary tools and equipment (e.g., vacuum pumps, refrigeration servicing tool kit, refrigerant storage cylinders, training boards) for three regional centres of excellence; and establishment of one reclaim centre with necessary equipment (e.g., reclamation equipment for multiple refrigerants, storage cylinders, recovery machines, weighing scales, testing equipment and other tools) (UNIDO) (US \$100,000);
- (e) Activities to maintain energy efficiency as described in detail in paragraphs 12 and 13 below (UNEP) (US \$120,000); and
- (f) Project monitoring for planning implementation in consultation with the national ozone unit (NOU) and periodic monitoring and reporting of project progress including personnel and consultants (US \$5,000), travel and compliance monitoring visits (US \$5,000), and consultative workshops (US \$5,000) (UNEP) (US \$15,000);

Activities to maintain energy efficiency in the refrigeration servicing sector

12. The project related to energy efficiency is being submitted specifically for activities relating to coordination and collaboration between the NOUs and relevant authorities and bodies, and awareness and outreach programmes as listed in decision 89/6(b)(iii) and (iv), respectively and includes activities to strengthen understanding and cooperation of stakeholders through capacity building; consultative workshops and training on standards and labelling for adoption of low-GWP refrigerant technologies in RAC applications; outreach programmes covering different national stakeholders; and consumer behaviour survey on adoption of energy efficient low-GWP refrigerant technologies in RAC applications. These additional activities would help the country in adopting low-GWP refrigerant-based energy efficient RAC

applications which in turn strengthen activities for efficient and timely implementation of the Kigali Amendment.

13. The activities proposed to maintain energy efficiency in the servicing sector include:
- (a) Capacity building of key stakeholders for implementation and enforcement of the minimum energy performance standards (MEPS) that includes coordination meetings and consultations with key regulatory authorities on standards and labelling relating to low-GWP refrigerants and energy efficiency in the RAC sector and responsibilities of different authorities (US \$15,000); training of 60 enforcement officers on energy efficiency rating and labelling for proper enforcement of the standards (US \$30,000); and awareness and information outreach programme for wholesalers, retailers and importers of equipment on energy efficiency standards and labelling (US \$10,000); and
 - (b) Development of information outreach content and implementation of public awareness and educational campaigns for consumers through electronic and print media (US \$35,000); and consumer behaviour survey for understanding levels of adoption of low-GWP refrigerant-based energy efficient RAC equipment and factors that can facilitate adoption of these equipment (US \$30,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC consumption

Verification report

14. The request for the second tranche of stage II of the HPMP for Malawi required the submission of a verification report of HCFC consumption in the country for the years 2020-2022. As the tranche request is being submitted to the first Executive Committee meeting of the year, and noting that the 2022 HCFC consumption is 76.8 per cent below the baseline, the Secretariat recommends approval of this funding tranche request in line with decision 72/19(b)⁴ and without setting a precedent, on the understanding that:

- (a) The Treasurer would be requested to transfer the approved funds to UNEP and UNIDO only following receipt and review of the verification report by the Secretariat confirming that the country was in compliance;
- (b) UNEP has committed to submitting the verification report at the earliest by the end of July 2023 and no later than 12 weeks prior to the 93rd meeting;
- (c) The recommendations included in the verification report would be addressed during the implementation of the second tranche and that the actions implemented towards that end would be included in the progress report of the second tranche for stage II of the HPMP to be submitted with the country's request for the third tranche; and

⁴ Decision 72/19(b) states that if the verification report were not ready in time, transfer of approved funds to the agencies would occur only after receipt by the Secretariat of the verification report confirming that the country was in compliance.

- (d) In the unlikely event of non-compliance by the Government of Malawi with its Agreement with the Executive Committee, relevant actions would be taken by the Executive Committee.

Progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan

Legal framework

15. The Government of Malawi has already issued HCFC import quotas for 2023 at 2.24 ODP tonnes, which is lower than the Montreal Protocol control targets.

Refrigeration servicing sector

16. The Secretariat requested additional information on the development of policies for green procurement of RAC equipment and the impact of such policies. UNEP explained that there is limited knowledge and information on green procurement within the public and private institutions and the proposed activity will guide institutions to procure environmentally friendly and energy efficient RAC equipment. Currently, public institutions have been urged to include in their procurement manuals provisions on procurement of equipment using low-GWP refrigerants that are energy efficient; and over time, these policies would result in accelerating procurement of low-GWP refrigerant-based energy efficient equipment.

17. With regard to the certification scheme for technicians, UNEP clarified that certification would apply to both the technicians that have received formal training and those who have not received it. While it will take time to fully institutionalize this certification programme, the immediate priority will be to operationalize the legal framework that will support the process. In addition, UNEP emphasized that with the development of the standards and the consequent training that will follow, the RAC servicing technicians will be encouraged to fully implement the codes of good practice during the servicing of RAC systems.

Activities to maintain energy efficiency in the refrigeration servicing sector

18. The Secretariat noted that the submission included a detailed work plan for implementation for the period 2023 to 2026, as well as targets and performance indicators, and that UNEP had committed to ensure reporting on the project progress of implementation, in line with decision 89/6(d).

19. Upon request for clarification, UNEP explained that the current MEPS standards cover only domestic and commercial refrigeration equipment due to the high imports of these equipment which are not energy efficient and use high-GWP refrigerants. As the current market availability of low-GWP refrigerant-based energy efficient air-conditioning equipment is low, the current standards did not include air-conditioning; the Government is actively considering including MEPS standards that cover air conditioners and is expecting to include such standards by the end of December 2024.

20. The Secretariat, in the context of activities planned under capacity building of key stakeholders, requested additional information on how the institutional coordination mechanism with energy efficiency authorities are proposed to be strengthened. UNEP explained that the Government of Malawi is already involved in consultations with the energy efficiency authorities and has provided inputs during the development of MEPS for refrigeration equipment; activities planned under stakeholder awareness and consultations under the current project will further increase their understanding of the relationship between HFC phase-down and implementation of energy efficiency measures and thus, would strengthen the cooperation with energy efficiency authorities. The Government is expecting to sign a memorandum of

understanding with energy efficiency authorities on development of energy efficiency related regulations and standards in the context of HFC phase-down by December 2024.

21. The Secretariat had consultations with UNEP on budgets relating to outreach and impact assessment particularly on whether support could be available on energy efficiency to RAC service technicians while implementing HPMP. UNEP, after further consultations with the Government, agreed to reallocate funds from awareness and information outreach activities to updating training materials for training technicians on energy efficiency related matters (US \$15,000) for use during implementation of training activities. The revised budget for the project is given in the table below.

Table 2. Revised budget for activities to maintain energy efficiency

Particulars	Original budget (US \$)	Revised budget (US \$)
Capacity building of key staff and national stakeholders	55,000	55,000
Updating training materials to include energy efficiency component for training RAC service technicians	0	15,000
Outreach and impact assessment	65,000	50,000
Total	120,000	120,000

22. On availability of funds from non-Multilateral Fund sources for energy efficiency, UNEP explained that these funds are in general available for projects relating to energy efficiency covering a wide range of applications and reiterated that the funds approved under the project would be used only for those activities identified in the project; therefore, funding would not be duplicated. UNEP further indicated that the Government is committed to ensure the prudent use of the funds in line with the national regulations and guidelines of the Multilateral Fund.

Gender policy implementation⁵

23. The Government of Malawi, UNEP and UNIDO are fully committed to implementing the operational gender mainstreaming policy of the Multilateral Fund in line with decisions 84/92(d) and 90/48(c). During the first tranche, 49 female customs and enforcement officers, 39 female technicians and 36 female officers engaged in procurement and standards implementation were included in capacity building and training activities. The NOU will continue to implement measures for maximising participation of women in capacity building, training and other HPMP stage II activities. It will also continue to take steps to collect gender-disaggregated data to understand the impact of the measures implemented for the application of the gender mainstreaming policy. These steps will progressively strengthen gender mainstreaming while implementing the HPMP in the country.

Updated Agreement

24. In view of the inclusion of funding for additional activities to maintain energy efficiency in the refrigeration servicing sector and the accordingly revised funding schedule, the Agreement between the Government of Malawi and the Executive Committee has been updated. Specifically, Appendix 2-A has been revised and paragraph 17 has been added to indicate that the updated Agreement supersedes that reached at the 85th meeting, as contained in Annex I to the present document. The full updated Agreement will be appended to the final report of the 92nd meeting.

⁵ In line with decision 84/92(d), decision 90/48(c) encouraged bilateral and implementing agencies to continue ensuring that the operational gender mainstreaming policy was applied to all projects, taking into consideration the specific activities presented in table 2 of document UNEP/OzL.Pro/ExCom/90/37.

Sustainability of the HCFC phase-out and assessment of risks

25. The Government of Malawi continues to implement its import/export control policies for controlling HCFC consumption in line with the Montreal Protocol and its HPMP Agreement targets. During stage II of the HPMP, the training centres would be provided support for training technicians on good service practices, safe adoption of alternatives and procedures to ensure energy efficient operations of equipment. The Government would continue to strengthen and implement certification of technicians which would help in ensuring adoption of good practices by RAC service technicians. The Government would also implement standards for low-GWP refrigerant-based RAC equipment and green procurement policies which would contribute to the sustainable use of environment friendly RAC equipment technologies in the country. The recovery and reclamation equipment would be provided to three centres in Malawi by June 2023, and this would facilitate higher levels of recovery and reuse of HCFCs. A combination of the above measures is expected to result in the sustainable phase-out of HCFCs in the country.

Conclusion

26. The Government of Malawi has reduced its consumption of HCFCs to 2.51 ODP tonnes in 2022 which is 76.8 per cent below the HCFC baseline for compliance and 64.3 per cent below the Agreement target for that year. The activities relating to the service sector and customs and enforcement training are under implementation. All funds approved under the first tranche have been fully disbursed. Stage II activities relating to HCFC phase-out for training and capacity building of service technicians along with activities planned under the energy efficiency component would accelerate adoption of low-GWP refrigerant-based energy efficient RAC equipment in the country. In addition, activities to control and monitor HCFC imports including training of enforcement officers and implementation of green procurement policies including relevant standards would facilitate the adoption of sustainable low-GWP replacement technologies while phasing out HCFCs. UNEP has committed to submit the verification report for 2020 to 2022 at the earliest by the end of July 2023 and the Secretariat recommends *inter alia* that the Treasurer be requested to transfer approved funds to UNEP and UNIDO only after receipt by the Secretariat of the verification report confirming that the country was in compliance for that period.

RECOMMENDATION

27. The Fund Secretariat recommends that the Executive Committee note:
- (a) The progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan (HPMP) for Malawi;
 - (b) The submission of additional activities to maintain energy efficiency in the refrigeration servicing sector in the amount of US \$120,000, plus agency support costs of US \$15,169 for UNEP; and
 - (c) That the Fund Secretariat has updated the Agreement between the Government of Malawi and the Executive Committee, as contained in Annex I to the present document, specifically: Appendix 2-A, on the basis of the inclusion of funding for additional activities to maintain energy efficiency in the refrigeration servicing sector referred to in subparagraph (b) above, and paragraph 17 that has been added to indicate that the updated Agreement supersedes that reached at the 85th meeting.

28. The Fund Secretariat further recommends blanket approval of the second tranche of stage II of the HPMP for Malawi, and the corresponding 2023-2026 tranche implementation plan, at the funding levels shown in the table below, on the understanding that:

- (a) The Treasurer would be requested to transfer the approved funds to UNEP and UNIDO only following receipt by the Secretariat of the verification report confirming that the country is in compliance;
- (b) UNEP committed to submitting the verification report by the end of July 2023 and no later than 12 weeks prior to the 93rd meeting;
- (c) The recommendations included in the verification report would be addressed during the implementation of the second tranche and that the actions implemented towards that end would be included in the progress report of the second tranche for stage II of the HPMP to be submitted with the request for the third tranche; and
- (d) In the unlikely event of non-compliance by the Government of Malawi with its Agreement with the Executive Committee, relevant actions will be taken by the Executive Committee.

	Project title	Project funding (US \$)	Support costs (US \$)	Implementing agency
(a)	HCFC phase-out management plan (stage II, second tranche)	260,000	32,866	UNEP
(a)	HCFC phase-out management plan (stage II, second tranche)	100,000	9,000	UNIDO

Annex I

TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF MALAWI 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)

17. This updated Agreement supersedes the Agreement reached between the Government of Malawi and the Executive Committee at the 85th meeting of the Executive Committee.

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2020	2021-2022	2023	2024	2025	2026	2027-2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	7.02	7.02	7.02	7.02	3.51	3.51	3.51	0.27	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	7.02	7.02	7.02	7.02	3.51	3.51	3.51	0.00	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	180,000	0	260,000	0	0	65,000	0	65,000	570,000
2.2	Support costs for Lead IA (US \$)	23,400	0	32,866	0	0	8,217	0	8,217	72,700
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	100,000	0	100,000	0	0	0	0	0	200,000
2.4	Support costs for Cooperating IA (US \$)	9,000	0	9,000	0	0	0	0	0	18,000
3.1	Total agreed funding (US \$)	280,000	0	360,000	0	0	65,000	0	65,000	770,000
3.2	Total support costs (US \$)	32,400	0	41,866	0	0	8,217	0	8,217	90,700
3.3	Total agreed costs (US \$)	312,400	0	401,866	0	0	73,217	0	73,217	860,700
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)									7.02
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)									3.78
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)									0.00

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