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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Eighty-first Meeting  
Montreal, 18-22 June 2018

**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 I, fourth tranche) UNEP and UNIDO

**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS**

**Malawi**

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (Stage I)	UNEP (lead), UNIDO	62 <sup>nd</sup>	35% by 2020

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2017	7.08 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2017	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					7.08				7.08

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	10.80	Starting point for sustained aggregate reductions:	10.80
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	3.78	Remaining:	7.02

(V) BUSINESS PLAN		2018	2019	2020	Total
UNEP	ODS phase-out (ODP tonnes)	0.43		0.38	0.81
	Funding (US \$)	45,200		39,550	84,750

(VI) PROJECT DATA			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	
Montreal Protocol consumption limits			n/a	n/a	n/a	10.80	10.8	9.72	9.72	9.72	9.72	9.72	7.02	n/a	
Maximum allowable consumption (ODP tonnes)			n/a	n/a	n/a	10.80	10.8	9.72	9.72	9.72	9.72	9.72	7.02	n/a	
Agreed funding (US\$)	UNEP	Project costs	60,000	0	0	55,000	0	0	40,000	0	40,000	0	35,000	230,000	
		Support costs	7,800	0	0	7,150	0	0	5,200	0	5,200	0	4,550	29,900	
	UNIDO	Project costs	60,000	0	0	0	0	0	60,000	0	0	0	0	0	120,000
		Support costs	5,400	0	0	0	0	0	5,400	0	0	0	0	0	10,800
Funds approved by ExCom (US\$)	Project costs	120,000	0	0	55,000	0	0	100,000	0	0	0	0	0	275,000	
	Support costs	13,200	0	0	7,150	0	0	10,600	0	0	0	0	0	30,950	
Total funds requested for approval at this meeting (US\$)	Project costs	0	0	0	0	0	0	0	0	0	40,000	0	0	40,000	
	Support costs	0	0	0	0	0	0	0	0	0	5,200	0	0	5,200	

<b>Secretariat's recommendation:</b>	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 fourth tranche of stage I of the HCFC phase-out management plan (HPMP), at the amount of US \$40,000, plus agency support costs of US \$5,200 for UNEP only.<sup>1</sup> The submission includes a progress report on the implementation of the third tranche and the tranche implementation plan for 2018 to 2020.

### Report on HCFC consumption

2. The Government of Malawi reported a consumption of 7.08 ODP tonnes of HCFC in 2017, which is approximately 34 per cent below the HCFC baseline for compliance. The 2013-2017 HCFC consumption is shown in Table 1.

**Table 1. HCFC consumption in Malawi (2013-2017 Article 7 data)**

HCFC-22	2013	2014	2015	2016	2017	Baseline
Metric tonnes	185.00	170.00	162.00	149.64	128.80	196.36
ODP tonnes	10.18	9.35	8.91	8.23	7.08	10.80

3. The country uses HCFC mostly for servicing refrigeration and air-conditioning (RAC) equipment; the consumption has been decreasing because of implementation of licensing and quota system and adoption of HCFC-free alternatives, mainly HFC-134a, HFC blends, and limited quantities of ammonia and CO<sub>2</sub>, in RAC applications.

### *Country programme (CP) implementation report*

4. The Government of Malawi reported HCFC consumption data under the 2017 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

### Progress report on the implementation of the third tranche of the HPMP

#### *Legal framework*

5. The licensing and quota system has been established for all ODS, including HCFCs. Currently, the ODS regulations provide for registration of all stakeholders involved with ODS including importers of ODS and alternatives and refrigeration technicians. The Government plans to prohibit import, sale and installation of HCFC-based equipment by 2020, and the import of HCFCs from 2022. The Government is revising the regulations to incorporate HFC phase-down control measures, and expected to be adopted by June 2019. The Government has adopted Environmental Impact Assessment (EIA) guidelines, which *inter alia* relates to monitoring RAC installations, and advise users to adopt ozone and climate-friendly technologies in the RAC sector.

#### *Refrigeration servicing sector*

6. The following activities were implemented:

- (a) One hundred law enforcement officers were trained in four workshops on ODS regulations implementation, ODS identification procedures and import controls; seven portable identifiers were distributed to the entry points; two district council staff were trained on HCFC phase-out activities for raising awareness among local community; recommendations were made by customs on correct use of Customs codes and proper handling of seized and unwanted ODS which were taken into consideration by the National

<sup>1</sup> As per the letter dated 21 February 2018 from the Environmental Affairs Department of Malawi to UNEP.

Ozone Unit (NOU) during discussions with importers and the customs clearing agents;

- (b) Seventy-five technicians were trained in three workshops on good servicing practices and alternatives to HCFCs that are being phased-out in different equipment, and impact of proper servicing and maintenance on their energy efficient operations; three meetings were conducted with Refrigeration Association of Malawi on role of technicians on phase-out activities and enforcement of best practices in servicing; the NOU prepared a document with codes of good practices related to flammable refrigerants in collaboration with the Association; and
- (c) Range of tools and equipment for refrigeration technicians (e.g., recovery machines, refrigerant identifiers, refrigerant storage cylinders, weighing machines) were procured and will be distributed to three Centres of Excellence.

*Project implementation and monitoring unit (PMU)*

7. The NOU recruited a consultant to assist in monitoring the implementation of all the HPMP activities and to collect data.

Level of fund disbursement

8. As of April 2018, of the US \$275,000 approved so far, US \$264,995 had been disbursed (US \$149,995 for UNEP and US \$115,000 for UNIDO) as shown in Table 2. The balance of US \$10,005 will be disbursed in 2018.

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

Agency	First tranche		Second tranche		Third tranche		Total approved	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNEP	60,000	60,000	55,000	55,000	40,000	34,995	155,000	149,995
UNIDO	60,000	60,000	0	0	60,000	55,000	120,000	115,000
<b>Total</b>	120,000	120,000	55,000	55,000	100,000	89,995	275,000	264,995
<b>Disbursement rate (%)</b>	100.0		100.0		90.0		96.4	

Implementation plan for the fourth tranche of the HPMP

9. The following activities will be implemented between July 2018 to December 2020:
- (a) Four workshops for 100 customs officers and law enforcement agents on control and identification of HCFCs and HCFC-based equipment (US \$20,000);
  - (b) Three training workshops for 60 participants on good refrigeration servicing practices including safe handling of hydrocarbon (HC) refrigerants (US \$15,000); and
  - (c) Monitoring and evaluation of the implementation of HPMP (US \$5,000).

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

#### Progress report on the implementation of the third tranche of the HPMP

##### *Legal framework*

10. The Government of Malawi has already issued HCFC import quotas for 2018 at 5.5 ODP tonnes which is lower than the Montreal Protocol targets. UNEP also clarified that the Government would implement a prohibition on import, sale and installation of HCFC-based equipment by 2020.

11. Following recommendations contained in the verification report submitted to the 77<sup>th</sup> meeting, the NOU provides import permits to customs entry points for cross-checking the permit presented by the importer for monitoring HCFC imports. Customs Department is encouraged to submit quarterly report on import of HCFCs to the NOU for records. The NOU has also conducted joint inspections with Customs Department for monitoring compliance of importers with ODS regulations. The NOU also provided identifiers to the customs entry points and conducted training of customs officers for strengthening HCFC import monitoring.

##### *Refrigeration servicing sector*

12. UNEP clarified that in view of the priority set by the Government, and sustained training of technicians, the funds under UNIDO component was used for the strengthening of the three regional training centres of excellence by providing equipment to the centres and to technicians; and hence, the pilot project for replacement of existing HCFC-based air-conditioners with new HC-based air-conditioners planned for the third tranche was not implemented. This project would be appropriately redesigned and implemented in stage II.

13. In respect of the retrofitting of HCFC-22-based equipment with flammable refrigerants, UNEP reported that the Government is well aware of the relevant decisions of the Executive Committee,<sup>2</sup> and had advised that refrigeration technicians have been informed not to retrofit existing equipment using flammable refrigerants. Through information outreach, training and adoption of codes of practices, retrofitting equipment designed for non-flammable refrigerants with flammable alternatives is prevented. The RAC Association also provides codes of conduct to the technicians on safe handling of flammable refrigerants.

14. The Government is also promoting awareness activities to ensure that consumers are well informed of the alternative technologies to HCFC-22. Majority of the new air-conditioners imported are based on R-410A refrigerant, while cold rooms and other applications are based on R-404A, R-407C, HFC-134a and R-600a refrigerants.

15. Concerning sustainability of activities implemented under the HPMP, UNEP informed that Montreal Protocol requirements are mainstreamed in the training curricula of refrigeration technicians in Malawi; the RAC Association is fully involved in the training of technicians including those who have acquired skills on-the-job; and it actively promotes the safe adoption of new technologies. The NOU works closely with the centres of excellence which have been provided with equipment to continue implementing technicians training on good practices and safe adoption of new technologies.

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<sup>2</sup> Decisions 72/17 and 73/34.

Conclusion

16. The Secretariat noted that the country's import licensing and quota system is operational and issues identified in the previous verification report were resolved. The planned activities for the HPMP were progressing satisfactorily; the country has prioritised use of funds for providing equipment to training centres, which will enhance their capacity to train technicians. RAC association is involved in training of technicians including refresher training of technicians who have acquired skills on-job and safe adoption of new technologies. The Government is also taking measures to include regulations relating to HFC phase-down in the next two years. Ninety per cent of the funds approved for the third tranche have been disbursed. The activities planned under the fourth tranche will further strengthen the servicing sector and ensure the long term sustainability of the activities.

**RECOMMENDATION**

17. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the third tranche of stage I of the HCFC phase-out management plan (HPMP) for Malawi, and further recommends blanket approval of the fourth tranche of stage I of the HPMP for Malawi, and the corresponding 2018-2020 tranche implementation plan, at the funding level shown in the table below, on the understanding that if Malawi were to decide to proceed with retrofits and associated servicing to flammable and toxic refrigerants in refrigeration and air-conditioning equipment originally designed for non-flammable substances, it would do so assuming all associated responsibilities and risks and only in accordance with the relevant standards and protocols:

	<b>Project title</b>	<b>Project funding (US \$)</b>	<b>Support cost (US \$)</b>	<b>Implementing agency</b>
(a)	HCFC phase-out management plan (stage I, fourth tranche)	40,000	5,200	UNEP