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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Ninety-fourth Meeting  
Montreal, 27-31 May 2024  
Item 9(c) of the provisional agenda<sup>1</sup>

**PROJECT PROPOSAL: LESOTHO**

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) Germany

<sup>1</sup> UNEP/OzL.Pro/ExCom/94/1

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

## Lesotho

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II)	Germany	87 <sup>th</sup>	100% phase-out by 2030

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2022	0.43 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-142b					0.00				0.00
HCFC-22					0.43				0.43

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	3.50	Starting point for sustained aggregate reductions:	1.54
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	1.54	Remaining:	0.00

(V) ENDORSED BUSINESS PLAN		2024	2025	2026	Total
Germany	ODS phase-out (ODP tonnes)	0.28	0.00	0.00	0.28
	Funding (US \$)	182,945	0	0	182,945

(VI) PROJECT DATA		2021	2022	2023*	2024	2025-2026	2027	2028-2029	2030	Total
Montreal Protocol consumption limits (ODP tonnes)		2.28	2.28	2.28	2.28	1.14	1.14	1.14	0.00	n/a
Maximum allowable consumption (ODP tonnes)		1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.00	n/a
Funding agreed in principle (US \$)	Project costs	168,900	0	100,000	162,400	0	91,200	0	47,500	570,000
	Support costs	21,957	0	12,651	20,545	0	11,538	0	6,009	72,700
Funds approved by ExCom (US \$)	Project costs	168,900	0	100,000	0	0	0	0	0	268,900
	Support costs	21,957	0	12,651	0	0	0	0	0	34,608
Total funds recommended for approval at this meeting (US \$)	Project costs	0	0	0	162,400	0	0	0	0	162,400
	Support costs	0	0	0	20,545	0	0	0	0	20,545

\*Funding for 2023 is for additional activities to maintain energy efficiency (decision 89/6).

<b>Secretariat's recommendation:</b>	Blanket approval
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## PROJECT DESCRIPTION

1. On behalf of the Government of Lesotho, the Government of Germany as the designated implementing agency has submitted a request for funding for the second tranche of stage II of the HCFC phase-out management plan (HPMP), in the amount of US \$162,400 plus agency support costs of US \$20,545.<sup>2</sup> The submission includes a progress report on the implementation of the first tranche, the verification report on HCFC consumption for 2018 to 2022, and the tranche implementation plan for 2024 to 2027.

### Report on HCFC consumption

2. The Government of Lesotho reported a consumption of 0.43 ODP tonnes of HCFCs in 2022, which is 87.7 per cent below the country's HCFC baseline for compliance. Article 7 data and country programme (CP) data for 2023 have not been reported yet. The 2019-2022 HCFC consumption is shown in table 1.

**Table 1. HCFC consumption in Lesotho (2019-2022 Article 7 data)**

HCFC	2019	2020	2021	2022	Baseline
<b>Metric tonnes</b>					
HCFC-22	10.27	8.34	8.06	7.88	62.70
HCFC-142b*	0.00	0.00	0.00	0.00	0.00
<b>Total (mt)</b>	<b>10.27</b>	<b>8.34</b>	<b>8.06</b>	<b>7.88</b>	<b>62.70</b>
<b>ODP tonnes</b>					
HCFC-22	0.56	0.46	0.44	0.43	3.50
HCFC-142b*	0.00	0.00	0.00	0.00	0.00
<b>Total (ODP tonnes)</b>	<b>0.56</b>	<b>0.46</b>	<b>0.44</b>	<b>0.43</b>	<b>3.50</b>

\* A component of R-406A, a refrigerant blend used in cold rooms.

3. HCFC is used for servicing refrigeration and air-conditioning (RAC) equipment. The reduction in consumption of HCFCs is attributed to a combination of the enforcement of the licensing and quota system and implementation of HPMP activities including training of RAC technicians; technical assistance provided to the RAC servicing sector; and public awareness activities. Furthermore, imports of HFC-based equipment (air-conditioning equipment based on R-410A and HFC-32, and commercial refrigeration equipment based on HFC-134a and R-404A) and zero-global-warming-potential (GWP) equipment (R-600a-based domestic refrigerators, and display cabinets based on R-600a and R-290) also contributed to the reduction of HCFC consumption. The COVID-19 pandemic also played a part in increasing the retirement of old ODS equipment in the country.

### *Country programme implementation report*

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

### *Verification report*

5. The verification report confirmed that the Government of Lesotho was implementing a licensing and quota system for HCFC imports and exports, had achieved the targets specified in the Agreement between the country and the Executive Committee and was in compliance with the Montreal Protocol from 2018 to 2022. The Government of Germany indicated that the preparation of the verification report on HCFC consumption for 2023 is ongoing and would be submitted by September 2024.

<sup>2</sup> As per the letter of 19 April 2024 from the Lesotho Meteorological Services to the Secretariat.

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

*Legal framework*

6. The Government of Lesotho approved the revised ODS and non-ODS regulation in March 2024. The regulation includes provisions for mandatory registration of importers; mandatory record keeping for importers; the requirement for valid licenses and permits to import ODS and HFCs and related equipment; import quotas and environment taxes on controlled substances including HFCs; and a ban on HCFC-based equipment.

*Refrigeration servicing sector*

7. Between September 2021 and March 2024, the following activities were carried out:

- (a) Enforcement of ODS regulations: Training of 90 customs officers from 10 border posts on control and monitoring of HCFCs, including training on the use of refrigerant identifiers and monitoring relating to illegal trade of controlled substances; training of customs trainers on the detection of illegal trade;
- (b) Assistance to the RAC servicing industry: Certification of three trainers, including one female, in good refrigeration practices and safe handling of refrigerants in South Africa; training of 90 RAC technicians (including 15 females) on good refrigeration practices and safe handling of hydrocarbon refrigerants; and
- (c) Public awareness and outreach: Organization of workshops for a total of 81 stakeholders in three towns to discuss the activities that are being implemented under stage II to ensure the sustained phase-out of HCFCs.

*Project implementation and monitoring*

8. The national ozone unit (NOU) has been overseeing the implementation of the HPMP with the cooperation of the Government of Germany including monitoring activities, reporting progress, and working with stakeholders to phase out HCFCs. Of the US \$15,000 assigned to project monitoring and coordination, US \$14,961 was disbursed for consultants (US \$7,540) and travel (US \$7,421).

Level of fund disbursement

9. As of March 2024, of the US \$168,900<sup>3</sup> approved so far, US \$140,400 (83 per cent) had been disbursed. The balance of US \$28,500 will be disbursed in 2024.

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

10. The following activities will be implemented between June 2024 and December 2027:

- (a) Enforcement of ODS regulations: training of 70 customs officers on the monitoring and control of HCFC imports and data reporting requirements (target 20 per cent female); purchase of one refrigerant identifier (US \$17,900);
- (b) Assistance to RAC servicing industry: training and certification of one trainer in good refrigeration practices and safe handling of refrigerants in South Africa; six technical

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<sup>3</sup> This excludes funding in the amount of US \$100,000 approved at the 93<sup>rd</sup> meeting for additional activities to maintain energy efficiency pursuant to decision 89/6.

training courses for a total of 100 RAC technicians (with a target of 20 per cent female) on low-GWP refrigerant technologies; purchase of training equipment including two R-290-based demonstration air-conditioning units for training institutions, and tools for RAC technicians including 20 manifold gauges and 20 portable nitrogen cylinders;<sup>4</sup> information campaigns to encourage technicians to register with the RAC association; independent assessment of RAC technicians with a target of 100 technicians to be licensed; technical assistance to support the assessment of RAC technicians (US \$81,500);

- (c) Recovery and recycling (R&R) scheme: Procurement and delivery of two R-600a and two R-290 demonstration refrigeration units, two brazing kits with trolleys, two nitrogen cylinders and regulators, three recovery units, and 10 recovery cylinders (US \$10,000);
- (d) Incentive scheme: Support for 50 beneficiaries to replace cold rooms/condensing units and display cabinets with R-600a or R-290 units: one workshop, incentive scheme, and technical assistance (US \$34,000);
- (e) Public awareness: one awareness workshop for at least 30 stakeholders on stage II (US \$4,000); and
- (f) Project coordination and monitoring: monitoring activities including consultants and travel (US \$15,000).

## SECRETARIAT’S COMMENTS AND RECOMMENDATION

### COMMENTS

#### Report on HCFC consumption

##### *Verification report*

11. The verification revealed small differences between the Article 7 data and the verified amounts of HCFC-22 for the years 2018 to 2022, and also between the verified amounts of HCFC-142b derived from R-406A for those years as shown in table 2.

**Table 2. Verified HCFC-22 and HCFC-142b consumption in Lesotho (mt) (2018-2022)**

	2018	2019	2020	2021	2022
<b>HCFC-22 (pure and in blends)</b>					
Article 7	11.45	10.27	8.34	8.07	7.88
Verification	11.53	10.18	8.36	8.00	7.82
<b>HCFC-142b (from R-406A)</b>					
Article 7	0.01	0.00	0.00	0.00	0.00
Verification	0.01	0.02	0.03	0.01	0.01

12. The Government of Germany indicated that data errors could be due to importers using paper forms to report their ODS data to the Bureau of Statistics. It was also possible that there were errors in calculating the amounts of HCFC-142b and HCFC-22 derived from refrigerant blends. As a result, the Government of Lesotho will be requesting the Ozone Secretariat to revise the Article 7 data for the years 2018 to 2022 by 15 May 2024.

<sup>4</sup> Remaining funds from the first tranche of stage II of the HPMP will be used to purchase two demonstration units for R-290 air-conditioning, 20 manifold gauges, and 20 portable nitrogen cylinders.

### Recommendations of the verification report

13. The verification report included recommendations for the full digitalization and integration of the customs systems; that all the business licensing required operations should be available at the “one-stop centre” of the Ministry of Trade and Industries; further capacity building for the NOU and relevant stakeholders; and awareness raising on the legal framework for the licensing and quota system. The Government of Germany indicated that the Government of Lesotho is willing to implement the recommendations of the verification report; they would continue to discuss with customs and related authorities on financial support to extend the network including network infrastructure and upgrade of old computers. The funding available under the project is not sufficient for upgrading network infrastructure and old computers; in the interim period, they would continue to closely work with customs and border control authorities on controlling HCFC imports. The verification report on HCFC consumption for 2023 would be submitted by September 2024.

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

#### *Legal framework*

14. The Government of Lesotho has already issued HCFC import quotas for 2024 at 0.50 ODP tonnes, which is lower than the Montreal Protocol control targets and the maximum allowable consumption set in the Agreement for the year.

15. The Gazette notification process for the 2024 ODS and non-ODS regulation is at an advanced stage. Publication and awareness among stakeholders and the industry is likely to take several months, thus the country anticipates that proper enforcement of the regulations including the ban on the import of HCFC-based equipment will be effective from 1 January 2025. The RAC market in Lesotho is dependant upon the market in the region, particularly South Africa where HFC-based and HC-based RAC equipment is available.

16. Regarding the adoption of safety standards for using flammable refrigerants and establishment of mandatory certification of technicians in line with decision 87/41(b),<sup>5</sup> the Government of Germany is working with the NOU and relevant authorities to address the challenges and to complete these activities by the end of 2024. The process of adoption of standards and establishment of certification will ensure technicians’ skill enhancement allowing the country to transition to low-GWP alternatives, which are available in the region. Following discussions on the findings of a study trip to Namibia and South Africa in December 2023 that the NOU carried out with the Curriculum Development Authority to better understand how RAC training courses and licensing are being implemented in the region, the RAC certification will be piloted in 2024. Given the importance of these activities for the sustainable adoption of low-GWP alternatives to HCFCs in the country, it was agreed that the Government of Germany would provide an update on the status of implementation of these activities at the first meeting of every year beginning in 2025 until the submission of the third tranche of stage II of the HPMP.

#### *Refrigeration servicing sector*

17. Progress was made in customs training, RAC technicians’ training and public awareness; however, there was slow progress of other activities in the first tranche of stage II including development of the certification scheme, RAC curriculum development, equipment purchase and the R&R scheme. The Government of Germany explained that the delays were in part due to the restrictions related the COVID-19

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<sup>5</sup> Upon the approval of stage II of its HPMP, the Government of Lesotho had committed to adopt safety standards for flammable refrigerants by 31 December 2022, and to establish mandatory certification of technicians by 31 December 2023.

pandemic, competing priorities such as preparation of the Kigali HFC implementation plan, and the lack of availability of RAC trainers. The Government of Germany is working with the NOU and relevant stakeholders to expeditiously implement the planned activities.

18. On the overspending of budgets relating to enforcement of ODS regulations, the Government of Germany explained that due to the high turnover of customs staff, the NOU gave priority to customs training to ensure the control of imports and thus compliance with the Montreal Protocol and this resulted in over expenditures on customs training activities. Furthermore, the refrigerant identifier originally slated under the first tranche will be purchased under the second tranche of stage II of the HPMP.

19. With regard to the R&R scheme, the Government of Germany informed that based on market analysis and consultations with the NOU and other stakeholders, it is proposed to undertake the R&R scheme for handling decommissioning/servicing of large HCFC-based installations. The NOU plans to organize the workshop to discuss the implementation modalities of the R&R scheme by the end of 2024 and purchase the equipment to be provided to the service technicians. The Government would also implement measures for recording and reporting of quantities of HCFCs recovered from the equipment.

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

20. The Government of Lesotho is requesting support for 50 beneficiaries to replace cold rooms/condensing units and display cabinets including one workshop, and technical assistance at a cost of US \$34,000. As there may be only a small number of eligible units in the country, the proposed incentive scheme plans to explore modalities to encourage replacement of the existing units with units based on R-600a or R-290, which are available in South Africa. A cost sharing basis will be explored, and no retrofits will be conducted. The project plans to showcase R-290 air-conditioning units and to create a viable supply chain that works beyond the life of the project. The Government of Germany would submit detailed reports on the results of the incentive schemes for end-users once they have been completed, to allow the Secretariat to develop fact sheets to inform future projects, in line with decision 84/84(d).

#### *Activities to maintain energy efficiency in the refrigeration servicing sector*

21. Following the approval at the 93<sup>rd</sup> meeting of US \$100,000 for additional activities to maintain energy efficiency in the refrigeration servicing sector under decision 89/6(b), the NOU has initiated discussions with the Lesotho Standards Institute (LSI) on the standards for the safe handling of low-GWP refrigerants and energy efficiency. The agency noted that the implementation of the project might be impacted by delays in the adoption of safety standards with flammable refrigerants, although it may benefit from the fact that the LSI is also involved in the Southern African Development's energy efficiency efforts. The NOU is working closely with the relevant officers in the recently created LSI who have assured the NOU of their support.

#### Gender policy implementation

22. In line with the Multilateral Fund's operational policy on gender mainstreaming, the NOU has encouraged the engagement of women in the implementation of HPMP activities and training programmes and initiated efforts to collect gender disaggregated data. During the first tranche, 64 per cent of customs trainees were women, one female RAC trainer was certified in South Africa, and 15 of 75 RAC technicians (20 per cent) trained were women. Lesotho has a women's RAC association with 15 members who serve as mentors in local schools encouraging women to join the RAC profession which is currently male dominated. The NOU plans to encourage female-led companies to benefit from the incentive scheme proposed for the second tranche of stage II of the HPMP.

### Sustainability of the HCFC phase-out and assessment of risks

23. The Government of Lesotho continues to implement policies for controlling HCFC imports and consumption in line with the Montreal Protocol commitments and the targets in its Agreement with the Executive Committee. Other activities contributing to the sustainability of HCFC phase-out include the training of trainers, training of technicians on best practices, and the development of the RAC training curriculum. The adoption of low-GWP technologies while phasing out HCFCs, has been supported through RAC technician training on the safe handling of low-GWP refrigerants and low-GWP refrigerant-based equipment. Creation of a supply chain for R-290-based air-conditioning units through the proposed incentive scheme will strengthen the sustainability of adoption of low-GWP alternative. In addition, the activities to maintain energy efficiency in the refrigeration servicing sector approved at the 93<sup>rd</sup> meeting will result *inter alia* in the reduction in import of energy inefficient obsolete RAC equipment. The NOU and Curriculum Development Authority are working closely to fast-track progress of the RAC curriculum development and establish the certification scheme.

### Conclusion

24. The Government of Lesotho has reduced its consumption of HCFCs to 0.43 ODP tonnes in 2022 which is 87.7 per cent below the HCFC baseline for compliance and 81.1 per cent below the Agreement target for that year. As of March 2024, 83 per cent of the funds approved had been disbursed and the balance will be disbursed by the end of 2024. The Government continues to implement its licensing and quota system, and the Gazette notification process for additional controls on HCFCs would be completed in the near future and would strengthen the regulatory environment through *inter alia* a ban on HCFC-based equipment, import quotas and environment taxes on all controlled substances including HFCs. The Government is working to adopt safety standards for flammable refrigerants and establish the certification scheme for RAC technicians by the end of 2024 to support the transition to low-GWP alternatives. The verification report on HCFC consumption for 2023 would be submitted by September 2024. During the second tranche of stage II, the HPMP will continue to contribute to strengthening the capacity of service technicians and customs officers, to raise awareness about the use of low-GWP refrigerants, and encourage the replacement of ODS-based cold rooms/condensing units with low-GWP alternatives.

### **RECOMMENDATION**

25. The Fund Secretariat recommends that the Executive Committee note the progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan (HPMP) for Lesotho, and further recommends blanket approval of the second tranche of stage II of the HPMP and the corresponding 2024-2027 tranche implementation plan, at the funding level shown in the table below, on the understanding that:

- (a) The Government of Lesotho would submit revised data under Article 7 of the Montreal Protocol and country programme implementation report for the years 2018 to 2022, in line with the verified consumption for those years;
- (b) The Government of Germany had committed to submitting the verification report on HCFC consumption for 2023 by September 2024;
- (c) The Government of Germany would submit a report on the status of adoption of safety standards for flammable refrigerants and the establishment of mandatory certification of technicians in line with decision 87/41(b), at the first meeting of every year starting in 2025 until the submission of the third tranche of stage II of the HPMP; and



- (d) The Government of Germany would submit detailed reports on the results of the incentive schemes for end-users once they have been completed, to allow the Secretariat to develop fact sheets to inform future projects, in line with decision 84/84(d).

	<b>Project title</b>	<b>Project funding (US \$)</b>	<b>Support costs (US \$)</b>	<b>Implementing agency</b>
(a)	HCFC phase-out management plan (stage II, second tranche)	162,400	20,545	Germany

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