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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-first Meeting
Montreal, 5-9 December 2022
Item 9(c) of the provisional agenda¹

PROJECT PROPOSAL: MAURITANIA

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, second tranche) UNEP and UNIDO

¹ UNEP/OzL.Pro/ExCom/91/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS
Mauritania

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage I)	UNEP (lead), UNIDO	80 th	67.5 % phase-out by 2025

(II) LATEST ARTICLE-7 DATA (Annex C Group I)	Year: 2021	13.12 ODP tonnes
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2021	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					13.12				13.12

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	20.5	Starting point for sustained aggregate reductions:	6.60
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	4.46	Remaining:	2.14

(V) ENDORSED BUSINESS PLAN		2022	2023	2024	Total
UNEP	ODS phase-out (ODP tonnes)	0.5	0.0	0.0	0.5
	Funding (US \$)	75,000	0	0	75,000
UNIDO	ODS phase-out (ODP tonnes)	1.5	0.0	0.0	1.5
	Funding (US \$)	214,000	0	0	214,000

(VI) PROJECT DATA			2017	2018-2019	2020	2021	2022	2023	2024	2025	Total
Montreal Protocol consumption limits (ODP tonnes)			18.45	18.45	13.33	13.33	13.33	13.33	13.33	6.66	n/a
Maximum allowable consumption (ODP tonnes)			6.60	6.60	5.94	5.94	5.94	5.94	5.94	2.14	n/a
Funding agreed in principle (US \$)	UNEP	Project costs	150,000	0	0	0	66,750	0	0	85,750	302,500
		Support costs	19,500	0	0	0	8,678	0	0	11,148	39,325
	UNIDO	Project costs	105,000*	0	0	0	200,000	0	0	0	305,000
		Support costs	7,350*	0	0	0	14,000	0	0	0	21,350
Funds approved by ExCom (US \$)	Project costs	255,000	0	0	0	0	0	0	0	0	255,000
	Support costs	26,850	0	0	0	0	0	0	0	0	26,850
Total funds recommended for approval at this meeting (US \$)	Project costs	0	0	0	0	266,750	0	0	0	0	266,750
	Support costs	0	0	0	0	22,678	0	0	0	0	22,678

* Funds were transferred from UNDP to UNIDO at the 88th meeting.

Secretariat's recommendation:	Blanket approval
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PROJECT DESCRIPTION

1. On behalf of the Government of Mauritania, UNEP as the lead implementing agency has submitted a request for funding for the second tranche of stage I of the HCFC phase-out management plan (HPMP), at a total cost of US \$289,428, consisting of US \$66,750, plus agency support costs of US \$8,678 for UNEP, and US \$200,000, plus agency support costs of US \$14,000 for UNIDO.² The submission includes a progress report on the implementation of the first tranche, an HCFC survey report to determine the actual level of consumption, the verification report on HCFC consumption from 2017 to 2021, and the tranche implementation plan for 2023 to 2024.

Report on HCFC consumption

2. The Government of Mauritania reported a consumption of 13.12 ODP tonnes of HCFC in 2021, which is 36 per cent below the HCFC baseline for compliance. The 2017-2021 HCFC consumption is shown in table 1.

Table 1. HCFC consumption in Mauritania (2017-2021 Article 7 data)

HCFC-22	2017	2018	2019	2020	2021	Baseline
Metric tonnes (mt)	287.26	273.55	252.98	239.90	238.60	372.73
ODP tonnes	15.8	15.05	13.91	13.19	13.12	20.5

3. HCFC-22 is the sole HCFC consumed in Mauritania and is used for servicing refrigeration and air-conditioning (RAC) equipment. The consumption of HCFC-22 in Mauritania has been decreasing from 2017 to 2021 due to market forces, the implementation of the HCFC quota system and other HPMP activities such as the technicians training in good servicing practices.

Country programme (CP) implementation report

4. The Government of Mauritania reported HCFC sector consumption data under the 2021 CP implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Verification report

5. The verification confirmed that Mauritania has a reliable licensing and quota system for controlling HCFCs and that the monitoring system established by the National Ozone Bureau (NOU) is working well. It further confirmed that the actual consumption in Mauritania for 2017 to 2021 was in line with the Montreal Protocol targets, starting from the baseline of 20.5 ODP tonnes. There were slight differences in the Article 7 data initially reported from 2017 to 2020 due to discrepancies between the reports from importers and the customs' register. Based on the verified consumption, the Article 7 data and the CP data were corrected by the Government. The verification report recommended enhancing the policy and regulatory framework through bans on the import of HCFC-based and HFC-based equipment; and introducing a shared online platform for the NOU and customs department to monitor the quota and licensing system.

HCFC consumption survey and revision of the starting point

6. Stage I of the HPMP was approved at the 80th meeting following a suspension of activities related to the Montreal Protocol between 2008 and 2015. At that time, given the lack of reliable data in the country, the starting point for aggregate reductions in HCFC consumption was established at 6.60 ODP tonnes, on the understanding that it could be revised once a comprehensive survey to determine the actual level of

² As per the letter of 23 September 2022 from the Ministry of Environment and Sustainable Development of Mauritania to the Secretariat.

consumption was conducted, and an independent verification was undertaken³ to corroborate the validity of the survey and to ascertain that an effective HCFC import, licensing, and quota system was operational. The results of the survey submitted with the tranche request, indicate that the level of HCFC consumption during the baseline years was 20.5 ODP tonnes, as reported by the Government of Mauritania under Article 7. Accordingly, the Government of Mauritania is requesting that the maximum allowable consumption and the eligible funding for stage I of the HPMP be revised to reflect these findings.

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

Legal framework

7. The Ministry of Environment and Sustainable Development is the focal point for implementation of the Montreal Protocol and is responsible for the NOU, which was re-established in early 2016. In July 2017, an inter-ministerial decree to regulate the import, sale, and distribution of HCFCs, HFCs, other refrigerants and equipment using these substances went into effect. The decree also included an import/export licensing and quota system for HCFCs, and subsequent training sessions were held for stakeholders on the licensing and quota system.

8. A total of 80 trainers and 120 customs and other law enforcement officers were trained on relevant aspects of the Montreal Protocol and requirements for ODS control; the identification of all ODS and alternative refrigerants (HCFCs, HFCs, hydrocarbons and blends), and ODS-containing products including pressurized fluids contained in gas bottles and cans. A simplified booklet on operating procedures has been drafted and is being finalized for customs officers. Training for another 80 customs officers is planned before the end of 2022.

Refrigeration servicing sector

9. As of September 2022, a total of 80 engineer and technician trainers (including seven women) and 390 refrigeration technicians (including 20 women) were trained on good practices in RAC servicing, and an additional 100 technicians will be trained by December 2022. The NOU conducted a comprehensive survey in the RAC sector to collect HCFC consumption data, as well as equipment details and age, with a particular focus on large air-conditioning (AC) applications. A needs assessment was undertaken for the phase-out of HCFCs in commercial refrigeration sectors, such as fishing and mining. The results of both the survey and the needs assessment were presented at a national workshop in October 2022.

10. The component to strengthen two centres of excellence, two refrigerant storage centres, five regional recovery centres, and training centres in major cities, to establish a central storage centre, and to acquire 10 refrigerant identifiers for customs' training, initially approved for UNDP, was transferred to UNIDO in December 2021.⁴ As of September 2022, UNIDO had received the transferred funding and was in communication with the NOU to start activities.

Project implementation and monitoring

11. For project implementation and monitoring, national consultants were recruited to set up monitoring systems for annual consumption of HCFCs. They worked in close coordination with the customs department, importers, and distributors to obtain HCFC consumption data. The US \$21,525 approved for the monitoring of activities in the first tranche was disbursed on project staff and consultants (US \$10,000), monitoring-related travel (US \$6,525), and coordination meetings (US \$5,000).

³ Decision 80/57(c), (f) and (g)

⁴ Decision 88/28 (b)(i) and (ii)

Level of fund disbursement

12. As of September 2022, of the US \$255,000 approved so far (US \$150,000 for UNEP and US \$105,000 for UNIDO), US \$150,000 had been disbursed (US \$150,000 for UNEP and no disbursements for UNIDO), reaching 59 per cent of the budget for the first tranche. The balance of US \$105,000 will be disbursed in 2023.

Implementation plan for the second tranche of the HPMP

13. The following activities will be implemented between January 2023 and December 2024:
- (a) Supporting the implementation and enforcement of an HCFC licensing and quota system, the implementation of a ban on the import of HCFC-based RAC equipment, and consolidating and deploying the database developed under the first tranche (UNEP) (US \$5,750);
 - (b) Organizing at least five training workshops for 125 customs officers, environmental inspectors, and other enforcement officials on the Montreal Protocol and the regulatory requirements for the control of HCFCs and on the identification of suspicious shipments of substances (UNEP) (US \$20,000); and procuring and distributing 10 ODS identifiers to customs entry points (UNIDO) (US \$50,000 from previous tranche);
 - (c) Training at least 240 RAC technicians in eight workshops on good servicing practices, recovery, and recycling techniques, as well as the safe handling of hydrocarbons (UNEP) (US \$31,000);
 - (d) Strengthening two centres of excellence through the provision of toolkits including tools for handling hydrocarbons⁵ and technical assistance to promote the uptake of low-GWP alternatives in the country (hydrocarbons, CO₂, ammonia); a certified trainer programme for hydrocarbon-based equipment; awareness-raising programme on leak prevention; and gender mainstreaming activities to encourage female participation in HPMP activities (UNIDO) (US \$135,000 and US \$55,000 from previous tranche);
 - (e) Establishing a refrigerant recovery and reuse scheme, including by instituting a reclaim centre through capacity-building and the provision of the needed equipment and tools⁶ (UNIDO) (US \$65,000); and
 - (f) Project monitoring activities (UNEP) (US \$10,000) including the recruitment of two consultants (US \$6,000) to continue monitoring activities across the entire country; national travels (US \$3,000); and coordination meetings (US \$1,000).

⁵ The preliminary list for procurement includes *inter-alia* vacuum pumps, manifold gauges and standard hoses (HCFCs, hydrocarbons (HCs), and HFCs), charging station for HC, portable leak detectors for HCFC, HFC, HC and HFOs, multimeters, digital thermometers, portable refractometer, brazing unit, compression fitting tool, ODS identifiers, portable recovery and recycling machines, recovery cylinders, nitrogen cylinders, piercing pliers and tube cutters, scale, related servicing tools (wrenches, lockable aluminium tool set, screwdrivers, flaring and swaging tools, cutters, pliers, fitting brushes, etc.) and personal protection items (safety gloves and safety goggles).

⁶ The procurement list will be defined after the country's needs have been evaluated.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC consumption

14. At the 80th meeting, in the absence of reliable data at the time, the level of HCFC consumption in Mauritania to be used as the starting point for aggregate reduction was estimated at approximately 120.00 mt (6.60 ODP tonnes) based on parameters such as general population, electricity-use and economic statistics, on the understanding that the starting point could be revised following a comprehensive survey to determine the actual level of consumption and an independent verification report.

15. The HCFC survey and the verification report support the request to revise the starting point to 372 mt (20.50 ODP tonnes) rather than the 120.00 mt (6.6 ODP tonnes) initially estimated. The Secretariat and UNEP discussed several matters related to the survey results including the relatively high HCFC consumption per capita in Mauritania compared to neighbouring countries, the methodology used to determine the aggregated level of consumption per sub-sector and the leakage rates, which were unusually high, and additional detail on the consumption in the fisheries sector. Noting that not all the information had been provided yet and that these aspects of the survey were still under discussion at the time of issuance of the present document, the Secretariat agreed with UNEP to proceed at this meeting with the consideration of the tranche submission only as all the conditions for the release of funds had been fulfilled, and to finalize the discussion on the revision of the starting point based on the results of the survey at the 92nd meeting.

Verification report

16. While the estimation of the starting point based on the survey results is still under discussion, the Secretariat noted that the information provided in the verification of the consumption in the years 2017 to 2020 was properly supported, and that the consumption in Mauritania is above the maximum allowable consumption originally set out in row 1.2 of Appendix 2-A of the country's Agreement with the Executive Committee. It is also noted however that at the 80th meeting it had been decided that the clause on reductions in funding for failure to comply (Appendix 7-A) would not be applied in the event that the verified level of HCFC consumption was higher than the estimated starting point of 6.60 ODP tonnes.⁷ At the 92nd meeting, once the revision of the starting point is concluded, the Agreement between the Government and the Executive Committee will be revised accordingly.⁸

Implementation plan for the second tranche of the HPMP

Legal framework

17. The Government of Mauritania has already issued HCFC import quotas for 2022 at 12.93 ODP tonnes, which is lower than the Montreal Protocol control target, established at 13.33 ODP tonnes.

Refrigeration servicing sector

18. The Secretariat noted that activities in the UNIDO component included setting up a reclaim centre and hiring an expert to design the recovery, recycling and reclaiming (RRR) scheme. The Secretariat and UNIDO agreed that the techno-economic feasibility assessment of the RRR scheme's operation should be completed before acquiring any equipment. Furthermore, if the assessment concludes that an RRR scheme

⁷ Decision 80/57(e)

⁸ Decision 80/57(f)

would not be sustainable, the country could redirect the allocated funds to the provision of equipment for training centres or the provision of tools to trained technicians.

19. In further elaborating on the technical assistance to promote low-GWP alternative refrigerants, UNIDO explained that a train-the-trainer programme would be offered to five selected experts, with an initial online component covering basic refrigeration knowledge and the latest technological developments in the RAC sector, especially regarding safety and energy efficiency. The online training would be followed by a higher-level practical session at the Clean Cooling Hub in Vienna, Austria, leading to certification of the trainers. The project team would sign an after-training service agreement with the certified trainees, ensuring that they serve within the RAC sector in the country for an agreed period post-training as resource persons for the development of training courses on low-GWP alternatives. This would also build national capacity for the certification programme planned under stage II.

20. UNIDO also explained that the awareness-raising activities proposed under the same component would target four end-users (from fisheries, supermarkets, hotels, or the food processing industry) to assess operations and provide technical guides to demonstrate refrigerant savings, and improved RAC system efficiency and performance achieved through leak prevention and maintenance programmes.

Level of fund disbursement

21. The overall level of disbursement for the first tranche is above the 20 per cent requirement for the consideration of the tranche. The reason for the lack of disbursement on the UNIDO component is that the transfer of funds from UNDP to UNIDO following the change of cooperating agency approved at the 88th meeting only took place in September 2022.

Gender policy implementation⁹

22. In line with decisions 84/92(d) and 90/48(c) the NOU is discussing with the relevant stakeholders on strategies to empower female participation in the HPMP. To date female enrolment has been encouraged in the vocational training centres by raising awareness each year for new undergraduate degree and diploma holders. Annual recognition has taken place via the distribution of tool kits to women who have obtained their industrial technical diploma or professional aptitude certificate in RAC; and female participation has been promoted in the various training courses carried out as part of the HPMP. Under the second tranche gender-disaggregated data will be collected from the training sessions for customs officers and refrigeration technicians.

Sustainability of the HCFC phase-out and assessment of risks

23. The Secretariat discussed with UNEP the risks to successful HCFC phase-out and to the sustainability of HPMP achievements. The main risks identified were external causes such as the market availability of low-GWP technologies, global health issues and the political situation. Therefore, the implementing agencies will be attentive to potential political or health crises in the country so that they can adjust project implementation, just as they have done in response to the COVID-19 pandemic. Furthermore, the implementing agencies will report to the Executive Committee and seek guidance on managing critical situations where needed.

24. Regarding whether the sustainability of the customs officers' training on Montreal Protocol controlled substances and equipment could be ensured beyond the support provided by the Multilateral Fund project, UNEP responded that the ODS regulations, including the import/export licensing system, an

⁹ 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.

overview of HCFC alternatives and technologies, and techniques for refrigeration equipment inspection would be included in the curriculum of the customs training school.

25. To ensure the sustainability of technician training, the RAC training centres are encouraged to incorporate good practices into their course syllabuses. Furthermore, the centres of excellence will provide advice on technological issues, and lend tools to technicians for equipment maintenance, which are challenges faced by the RAC sector when it comes to implementing good practices and reducing leakage. Furthermore, the refrigerant recovery and reuse scheme is to be developed as a commercial business to sustain that process over the long term.

Conclusion

26. The Secretariat notes that Mauritania is in compliance with the Montreal Protocol consumption targets and that its 2021 HCFC consumption is 36 per cent below the baseline level. The levels of consumption reported for the years 2017 to 2021 are above the maximum allowable consumption levels in the Agreement with the Executive Committee; however, in line with decision 80/57(e) no penalty should be applied. In line with decision 80/57(f) and (g) the Government of Mauritania completed an HCFC consumption survey and requested a revision of the starting point for aggregate HCFC reductions and the maximum allowed consumption based on the results of the survey. In agreement with the lead agency, the Secretariat will submit to the 92nd meeting the report on the HCFC survey, recommendations on the revised starting point, and the revised Agreement, including the maximum allowable consumption per year and revised funding if applicable, upon receipt of additional clarifications to be provided by UNEP and the country.

27. Regarding the request for the second tranche, the overall disbursement rate for the first tranche of stage I of the HPMP is 59 per cent, and despite delays caused by the challenges associated to the COVID-19 pandemic and a change of cooperating agency (from UNDP to UNIDO) activities under the tranche are now advancing with the customs training, the RAC servicing technician training, and the development of a survey on the current uses of HCFCs. The activities planned under the second tranche will further strengthen the licensing and quota system and the training of customs officers, expand the technicians training, promote low-GWP alternatives, and leakage reduction.

RECOMMENDATION

28. The Fund Secretariat recommends that the Executive Committee:

- (a) Takes note of the progress report on the implementation of the first tranche of stage I of the HCFC phase-out management plan (HPMP) for Mauritania; and
- (b) Notes that the Secretariat will present at the 92nd meeting the review of the report on the HCFC survey for Mauritania, recommendations on the revised starting point for aggregate reduction in HCFC consumption and the revised Agreement between the Government and the Executive Committee on the basis of the further consultations with UNEP on the HCFC survey submitted to the 91st meeting.

29. The Fund Secretariat further recommends blanket approval of the second tranche of stage I of the HPMP for Mauritania, and the corresponding 2023-2024 tranche implementation plan, at the funding level shown in the table below:

	Project title	Project funding (US \$)	Support costs (US \$)	Implementing agency
(a)	HCFC phase-out management plan (stage I, second tranche)	66,750	8,678	UNEP

	Project title	Project funding (US \$)	Support costs (US \$)	Implementing agency
(b)	HCFC phase-out management plan (stage I, second tranche)	200,000	14,000	UNIDO