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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Ninety-seventh Meeting  
Montreal, 1–5 December 2025  
Item 9(c) of the provisional agenda<sup>1</sup>

**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<br>(stage I, third tranche) | UNEP and UNIDO | Blanket approval |
|---|------------------------------------------------------------|----------------|------------------|

<sup>1</sup> UNEP/OzL.Pro/ExCom/97/1

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Mauritania

| (I) PROJECT TITLE             | AGENCY             | MEETING APPROVED                                                         | CONTROL MEASURE         |
|-------------------------------|--------------------|--------------------------------------------------------------------------|-------------------------|
| HCFC phase-out plan (stage I) | UNEP (lead), UNIDO | Approved 80 <sup>th</sup><br>Updated 88 <sup>th</sup> / 93 <sup>rd</sup> | 67.5% phase-out by 2025 |

|                                               |            |                 |
|-----------------------------------------------|------------|-----------------|
| (II) LATEST ARTICLE 7 DATA (Annex C, Group I) | Year: 2024 | 6.81 ODP tonnes |
|-----------------------------------------------|------------|-----------------|

| (III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes) |         |      |               |               |           |         |               | Year: 2024 |                          |
|-----------------------------------------------------------|---------|------|---------------|---------------|-----------|---------|---------------|------------|--------------------------|
| Chemical                                                  | Aerosol | Foam | Fire-fighting | Refrigeration |           | Solvent | Process agent | Lab use    | Total sector consumption |
|                                                           |         |      |               | Manufacturing | Servicing |         |               |            |                          |
| HCFC-22                                                   |         |      |               |               | 6.81      |         |               |            | 6.81                     |

| (IV) CONSUMPTION DATA (ODP tonnes) |      |                                                    |       |
|------------------------------------|------|----------------------------------------------------|-------|
| 2009–2010 baseline:                | 20.5 | Starting point for sustained aggregate reductions: | 10.67 |
| CONSUMPTION ELIGIBLE FOR FUNDING   |      |                                                    |       |
| Already approved:                  | 4.01 | Remaining:                                         | 6.66  |

| (V) ENDORSED BUSINESS PLAN |                            | 2025   | 2026 | 2027 | Total  |
|----------------------------|----------------------------|--------|------|------|--------|
| UNEP                       | ODS phase-out (ODP tonnes) | 0.63   | 0.0  | 0.0  | 0.63   |
|                            | Funding (US \$)            | 96,898 | 0    | 0    | 96,898 |
| UNIDO                      | ODS phase-out (ODP tonnes) | 0.0    | 0.0  | 0.0  | 0.0    |
|                            | Funding (US \$)            | 0      | 0    | 0    | 0      |

| (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 | 6.66   | n/a     |
| Maximum allowable consumption (ODP tonnes)                   |       |               | 6.60     | 6.60      | 5.94      | 5.94    | 5.94  | 6.94  | 6.66   | n/a     |
| Funding agreed in principle (US \$)                          | UNEP  | Project costs | 150,000  | 0         | 0         | 66,750  | 0     | 0     | 85,750 | 302,500 |
|                                                              |       | Support costs | 19,500   | 0         | 0         | 8,678   | 0     | 0     | 11,148 | 39,325  |
|                                                              | UNIDO | Project costs | *105,000 | 0         | 0         | 200,000 | 0     | 0     | 0      | 305,000 |
|                                                              |       | Support costs | *7,350   | 0         | 0         | 14,000  | 0     | 0     | 0      | 21,350  |
| Funds approved by ExCom (US \$)                              |       | Project costs | 255,000  | 0         | 0         | 266,750 | 0     | 0     |        | 521,750 |
|                                                              |       | Support costs | 26,850   | 0         | 0         | 22,678  | 0     | 0     |        | 49,528  |
| Total funds recommended for approval at this meeting (US \$) |       | Project costs |          |           |           |         |       |       | 85,750 | 85,750  |
|                                                              |       | Support costs |          |           |           |         |       |       | 11,148 | 11,148  |

\*Funds were transferred from UNDP to UNIDO at the 88<sup>th</sup> meeting.

|                               |                  |
|-------------------------------|------------------|
| Secretariat's recommendation: | Blanket approval |
|-------------------------------|------------------|

## PROJECT DESCRIPTION

1. On behalf of the Government of Mauritania, UNEP as the lead implementing agency has submitted a request for funding for the third and final tranche of stage I of the HCFC phase-out management plan (HPMP), in the amount of US \$85,750, plus agency support costs of US \$11,148, for UNEP only.<sup>2</sup> The submission includes a progress report on the implementation of the second tranche, and the tranche implementation plan for 2025 to 2026.

### Report on HCFC consumption

2. The Government of Mauritania reported a consumption of 6.81 ODP tonnes of HCFCs in 2024, which is 67 per cent below the country's HCFC baseline for compliance. The 2020-2024 HCFC consumption is shown in table 1.

**Table 1. HCFC consumption in Mauritania (2020-2024 Article 7 data)**

| HCFC-22            | 2020  | 2021  | 2022  | 2023  | 2024  | Baseline |
|--------------------|-------|-------|-------|-------|-------|----------|
| Metric tonnes (mt) | 239.9 | 238.6 | 237.0 | 157.6 | 123.8 | 372.73   |
| ODP tonnes         | 13.19 | 13.12 | 13.04 | 8.67  | 6.81  | 20.5     |

3. HCFC-22 is the sole HCFC imported and consumed in Mauritania, used exclusively for the servicing and maintenance of refrigeration and air-conditioning (RAC) equipment, including on fishing vessels. Consumption decreased from 13.19 ODP tonnes in 2020 to 6.81 ODP tonnes in 2024, reflecting the combined effects of implementation of the HCFC licensing and quota system, progressive reduction of authorized imports in accordance with the Montreal Protocol control schedule, implementation of HPMP activities such as the training of customs officers and RAC technicians in good servicing practices, and the increasing adoption of alternative refrigerants with low global-warming potential (GWP), including hydrocarbons (HCs) and hydrofluorocarbons (HFCs).

### *Country programme implementation report*

4. The Government of Mauritania reported HCFC sector consumption data under the 2024 country programme (CP) implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol. No exports were reported in the CP data.

### Progress report on the implementation of second tranche of stage I of HCFC phase-out management plan

### *Legal framework*

5. The Ministry of the Environment and Sustainable Development (MESD) of Mauritania is the focal point for implementation of the Montreal Protocol and is responsible for the national ozone unit (NOU). Mauritania has strengthened enforcement of its 2017 Inter-ministerial Decree regulating HCFCs, HFCs, and related equipment. In coordination with Customs and the Ministry of Commerce, new measures were developed to enhance monitoring of HCFC use, particularly by foreign vessels. As of July 2024, importers must maintain sales registers for HCFCs sold to foreign vessels, and port authorities must submit quarterly reports on ships and quantities used. These measures enable improved tracking, licensing, and quota authorization.

6. The NOU, with technical support from UNEP and a national expert, has restructured and upgraded the national database to strengthen data management and coordination among key national stakeholders involved in the implementation of the licensing and quota system. The upgraded system facilitates real-time

<sup>2</sup> As per the letter of 18 September 2025 from the Ministry of the Environment and Sustainable Development of Mauritania to the Secretariat.

exchange of information between the MESD, the Customs Directorate, and other relevant institutions. This enhancement enables more accurate and efficient allocation of quotas based on verified needs and strengthens the monitoring and control of HCFC and HFC imports and consumption.

7. A total of 75 customs and other law enforcement officers were trained through five workshops conducted in 2024 and 2025 on the harmonized system (HS) codes and HCFC control regulations. Customs officers received hands-on training on refrigerant identifiers at two of the workshops. The NOU and Customs Directorate are finalizing a standard training manual on ODS regulations and licensing, to be integrated into the national customs training curriculum under stage II of the HPMP.

#### *Refrigeration servicing sector*

8. In October 2023, 30 trainer engineers and technicians (including seven women) were trained on good servicing practices, recovery and recycling of refrigerants, and the safe handling of HCs and between 2024 and 2025, a total of 90 refrigerant technicians received training on good servicing practices, recovery and recycling of refrigerants, and the safe handling of HCs in seven workshops organized across the country. The Association of Refrigeration Engineers and Technicians of Mauritania (AREAT) played an active role in coordinating and overseeing the training.

9. Procurement was initiated in June 2024 for 30 complete RAC tool kits,<sup>3</sup> recovery and recycling units, and equipment to handle HCs for strengthening two storage centres and five regional recovery centres, and for establishing a central storage centre. The techno-economic feasibility assessment of the refrigerant recovery, reuse, and reclamation (RRR) scheme was launched to define the operational framework and upgrading requirements for national centres.

#### *Project implementation and monitoring*

10. The NOU, operating within the MESD, is responsible for planning, supervising, monitoring, and evaluating all activities related to the Montreal Protocol, with the National Ozone Committee acting as its advisory body. The NOU works in close coordination with the Customs Department, importers, and distributors to collect data on HCFC consumption. The US \$10,000 approved for monitoring activities in the second tranche was disbursed on consultants to set up monitoring systems for annual consumption of HCFCs and any other ODS (US \$2,500), travel (US \$3,000), monitoring (US \$3,000), and other miscellaneous expenses (US \$1,500).

#### Level of fund disbursement

11. As of September 2025, of the US \$521,750 approved so far, US \$335,481 (64.3 per cent) had been disbursed (US \$216,595 for UNEP and US \$118,886 for UNIDO), as shown in table 2. The balance of US \$186,269 will be disbursed in 2025.

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

| Agency                  | First tranche  |                | Second tranche |                | Total          |                |                |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                         | Approved       | Disbursed      | Approved       | Disbursed      | Approved       | Disbursed      | Balance        |
| UNEP                    | 150,000        | 149,845        | 66,750         | 66,750         | 216,750        | 216,595        | 155            |
| UNIDO                   | 105,000        | 48,386         | 200,000        | 70,500         | 305,000        | *118,886       | 186,114        |
| <b>Total</b>            | <b>255,000</b> | <b>198,231</b> | <b>266,750</b> | <b>137,250</b> | <b>521,750</b> | <b>335,481</b> | <b>186,269</b> |
| <b>Disbursement (%)</b> | <b>77.7</b>    |                | <b>51.5</b>    |                | <b>64.3</b>    |                |                |

\*Excluding committed funds

<sup>3</sup> Each including essential RAC servicing and recovery tools such as a refrigerant recovery unit with spare filters, hoses, cylinders, a vacuum pump, scale, manifold, leak detector, and a full set of hand tools and accessories for the maintenance and handling of HCs.

Implementation plan for the third and final tranche of stage I of the HCFC phase-out management plan

12. The following activities will be implemented by UNEP between December 2025 and December 2026:

- (a) Conducting two consultation meetings and two workshops for 30 participants each, including representatives from the Customs Directorate, MESD, importers, and RAC associations, focusing on the review and update of national ODS and HFC regulations, operation of the revised licensing and quota system; data reporting and stakeholder coordination in preparation for stage II of the HPMP; and consolidating the database to facilitate inter-agency quota exchange, ensure equitable distribution based on stakeholders' needs, and strengthen monitoring and control of consumption (UNEP) (US \$10,250);
- (b) Organization of five training workshops on HCFC control regulations and the use of HS codes for 125 enforcement officers, including 95 customs officers, 15 trade officers, and 15 environmental inspectors (target of 10-15 per cent female participation) (UNEP) (US \$30,000);
- (c) Organization of five training workshops on good refrigeration practices, leak reduction, refrigerant recovery and recycling techniques and the safe handling of HCs for at least 240 RAC technicians (15-20 per cent female participation) (UNEP) (US \$35,000);
- (d) Establishing a refrigerant recovery and reuse scheme based on the outcome of the techno-economic feasibility assessment<sup>4</sup> (UNIDO) (funds from previous tranche); and
- (e) Project monitoring activities including the recruitment of consultants (US \$3,000), national travel (US \$3,000), monitoring (US \$3,000), and miscellaneous expenses (US \$1,500) (UNEP) (total of US \$10,500).

**SECRETARIAT'S COMMENTS AND RECOMMENDATION**

**COMMENTS**

Report on HCFC consumption

13. At the 95<sup>th</sup> meeting, the Executive Committee requested the Government of Mauritania to start including the types and amounts of HCFCs used by foreign vessels in both its CP and Article 7 data reports as of 2024 (decision 95/20(b)(ii)). Following the Secretariat's enquiry about the implementation of this decision, UNEP notified the country and a comment was added to the 2024 Article 7 and CP reports to state that of the 123.8 mt consumed in 2024, 36 mt is estimated to have been used in the fisheries sector, and of that, 18 to 19 mt (0.99 to 1.05 ODP tonnes) is estimated to have been used by foreign vessels.

14. The Secretariat noted that in the CP data reports for 2020, 2022 and 2023, the country's entire HCFC consumption was filed under "lab use," while "servicing" was reported at zero. The same issue occurred in the 2024 report but was later revised by the country correcting the consumption initially reported under "lab use" to "servicing." UNEP notified the country, and the data for 2020, 2022, and 2023 have all been corrected to reflect use in servicing. UNEP, in collaboration with the NOU, will continue to support the Government of Mauritania in the preparation and submission of Article 7 and CP data reports.

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<sup>4</sup> The procurement list for any equipment will be defined based on the outcome of the techno-economic feasibility assessment expected to be finalized in December 2025.

Progress report on the implementation of second tranche of stage I of HCFC phase-out management plan

*Legal framework*

15. The Government of Mauritania has issued HCFC import quotas for 2025 at 6.44 ODP tonnes, which is lower than the Montreal Protocol control targets. UNEP informed the Secretariat that the Government of Mauritania would implement a ban on the import of HCFC-based equipment under stage II of the HPMP as the country transitions to low-GWP and energy-efficient technologies.

*HCFCs used by foreign vessels*

16. In addition to training its customs and enforcement officers on HS codes and HCFC-related regulations, to better monitor HCFC imports and exports, the Government of Mauritania has strengthened the control mechanisms over operations involving foreign vessels with regard to refrigerant sales, purchase, circulation and use. Since July 2024, importers must provide a sales register for HCFCs used by foreign vessels, and port authorities must submit, on a quarterly basis, lists of docked ships detailing HCFC quantities they purchased and used. In response to decision 95/20(b)(ii), the country has been compiling information on the types and amounts of HCFCs used by foreign vessels in 2023 and 2024; this data will be submitted along with the request for stage II of the HPMP, in addition to the field study on the uses of HCFCs by foreign vessels in 2023, as requested by decision 95/20(b)(i). The Government of Mauritania, through UNEP, provided preliminary data on HCFC-22 used by foreign vessels, which indicated that the servicing of fishing vessels accounted for about 56 per cent, 52 per cent, and 29 per cent of the country's total HCFC consumption in 2022, 2023 and 2024, respectively. The fisheries sector, historically the main consumer of HCFCs, recorded a 73 per cent decline in consumption (from 132 mt in 2022 to 36 mt in 2024), largely, it would appear, due to foreign fleets adopting non-HCFC technologies. No exports were reported in CP data.

*Refrigeration servicing sector*

17. Procurement delays and global supply challenges have slowed the implementation of the UNIDO component under the second tranche of stage I of the HPMP. Following the transfer of UNDP activities to UNIDO, the procurement of equipment for both tranches was consolidated under a single order to optimize costs, logistics, and supplier coordination. The delivery of RAC toolkits and equipment to strengthen two storage centres and five regional recovery centres and to establish a central storage centre is expected in December 2025. Due to a global shortage of refrigerant identifiers, the budget for identifiers (US \$12,200) was used to purchase alternative tools. Procurement of identifiers will resume once supply constraints ease.

18. The planned target of strengthening two storage centres and five regional recovery centres and establishing one central storage centre is being reviewed under the ongoing techno-economic feasibility assessment, which will define operational design of the RRR scheme, including the upgrading of existing facilities and establishment of the reclaim centre. Final locations and equipment specifications will be confirmed based on the assessment's results, in consultation with the NOU. The Secretariat recalled that at the 91<sup>st</sup> meeting, UNIDO agreed that the assessment of the RRR scheme's operation should be completed before acquiring equipment. Furthermore, if the assessment concluded that an RRR scheme 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. UNIDO was not able to provide any interim results of the assessment; the findings will be shared once the study is completed in December 2025. It was agreed that UNEP and UNIDO will provide, to the 98<sup>th</sup> meeting, a report on progress made in implementing the remaining activities under stage I of the HPMP, including the outcome of the techno-economic feasibility assessment.

19. Once the equipment is installed and commissioned at two storage centres, five regional recovery centres, and one central storage centre, training will be provided to at least 240 RAC technicians on safe

handling of flammable refrigerants, recovery and recycling procedures, and equipment operation at the training centres. This training will be coordinated with UNEP's technician training programme, and the NOU will coordinate with the centres to encourage the participation of women. The courses will be delivered by certified national trainers from RAC professional associations and training institutes who were previously trained under the HPMP.

#### Implementation plan for the third and final tranche of stage I of the HCFC phase-out management plan

20. During the third tranche, the Government of Mauritania will continue consolidating the database system by completing the integration of data-sharing functions and ensuring inter-operability among the relevant agencies. A training session for NOU staff on the operation and maintenance of the upgraded licensing and database system is planned as part of ongoing efforts to strengthen inter-agency coordination and national capacity. The session will focus on data entry, validation, and practical use of features introduced under the upgraded system to improve oversight and control of ODS and HFCs.

#### Gender policy implementation

21. The Government of Mauritania, through the NOU, continues to promote women's inclusion in all HPMP activities, in line with the Multilateral Fund's gender policy. Efforts include awareness campaigns to encourage women's enrolment in vocational training, provision of starter kits to women obtaining technical diplomas, recognition of female engineers and refrigeration technicians, and active promotion of their participation in training programmes. Under the third tranche of stage I, the gender ratio of participants in training sessions for customs officers and RAC technicians will be systematically tracked, with a 10 to 15 per cent female participation target set for customs training. The Government, with support from UNEP and UNIDO, is strengthening outreach to vocational schools and collaborating with AREAT to continue promoting women's membership, visibility, and engagement in the servicing sector.

#### Completion of stage I of the HCFC phase-out management plan

22. UNEP confirmed that stage I of the HPMP for Mauritania will be completed on 31 December 2026 as established in paragraph 14 of the Agreement revised at the 93<sup>rd</sup> meeting.

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

23. The overall risk level for HPMP implementation in Mauritania is assessed as low to moderate. Market availability of low-GWP technologies and potential procurement delays present moderate risks, which will be mitigated through collaboration with suppliers, regional networks, and coordination with UNIDO to ensure timely delivery and technician training. Political or global health disruptions are considered low to moderate risk and will be managed through continuity of operations within the MESD, remote support from implementing agencies, and flexible training modalities. Data availability, particularly for the fishing sector, will be improved through strengthened cooperation among the customs, port authorities, and the Ministry of Fisheries. The HCFC licensing and quota system poses a low risk, as it has been operational since 2017 and is continually strengthened. To ensure long-term sustainability, technician and customs training programmes will be integrated into national vocational and customs curricula, with ongoing refresher courses and collaboration with professional associations.

#### Conclusion

24. The Government of Mauritania remains in compliance with the Montreal Protocol and its Agreement with the Executive Committee, with 2024 HCFC consumption reported at 67 per cent below the baseline level. The country has strengthened its licensing and quota system, including record-keeping requirements for HCFC imports and exports from 2024 on to better account for HCFC use by foreign vessels. The country has begun to fulfil decision 95/20(b)(ii) by including in both 2024 Article 7 and CP

implementation reporting the types and amounts of HCFC used by foreign vessels. The database for registering HCFC end users was restructured to improve data management and coordination among national stakeholders. All customs training includes the use of HS codes, while RAC technicians are trained in HCFC control, good servicing practices, and safe handling of low-GWP refrigerants. Under the UNIDO component, procurement of RAC toolkits and recovery equipment faced delays due to global supply constraints, but delivery is expected by late 2025. The techno-economic feasibility assessment for the national RRR scheme is scheduled for completion by December 2025. Implementation risks remain low to moderate, with mitigation steps in place. The overall disbursement rate for the first and second tranches of stage I of the HPMP exceeds 64 per cent. Mauritania is expected to complete stage I of the HPMP by December 2026 and to submit stage II in 2026, as planned.

## RECOMMENDATION

25. The Fund Secretariat recommends that the Executive Committee:

- (a) Note the progress report on the implementation of the second tranche of stage I of the HCFC phase-out management plan (HPMP) for Mauritania; and
- (b) Request UNEP and UNIDO to provide, to the 98<sup>th</sup> meeting, a report on progress made in implementing the remaining activities under stage I of the HPMP, including the outcome of the techno-economic feasibility assessment detailing whether a national recovery, recycling and reclaiming scheme for Mauritania would be sustainable or not, the operational framework for the scheme and its links to the existing recovery centres, and equipment to be procured.

26. The Fund Secretariat further recommends blanket approval of the third and final tranche of stage I of the HPMP for Mauritania and the corresponding 2026 tranche implementation plan at the funding level shown in the table below.

|     | <b>Project title</b>                                    | <b>Project funding<br/>(US \$)</b> | <b>Support costs<br/>(US \$)</b> | <b>Implementing<br/>agency</b> |
|-----|---------------------------------------------------------|------------------------------------|----------------------------------|--------------------------------|
| (a) | HCFC phase-out management plan (stage I, third tranche) | 85,750                             | 11,148                           | UNEP                           |