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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-eighth Meeting
Montreal, 15-19 November 2021¹

PROJECT PROPOSAL: CAMEROON

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)

UNIDO

¹ Online meetings and an intersessional approval process will be held in November and December 2021 due to coronavirus disease (COVID-19).

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Cameroon

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage II)	UNIDO (lead)	82 nd	75% by 2025

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2020	32.53 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2020	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22				0.58	31.65	0.30			32.53

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	88.80	Starting point for sustained aggregate reductions:	77.56
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	54.01	Remaining:	23.55

(V) BUSINESS PLAN		2021	2022	2023	Total
UNIDO	ODS phase-out (ODP tonnes)	8.26	0	0	8.26
	Funding (US \$)	841,823	0	0	841,823

(VI) PROJECT DATA			2018	2019	2020	2021	2022	2023	2024	2025	Total
Montreal Protocol consumption limits (ODP tonnes)			79.92	79.92	57.72	57.72	57.72	57.72	57.72	28.86	n/a
Maximum allowable consumption (ODP tonnes)			38.08	35.40	32.70	30.10	27.50	24.80	22.20	22.20	n/a
Agreed funding (US \$)	UNIDO	Project costs	517,750	0	0	786,750	0	0	0	79,000	1,383,500
		Support costs	36,243	0	0	55,073	0	0	0	5,530	96,846
Funds approved by ExCom (US \$)		Project costs	517,750	0	0	0					517,750
		Support costs	36,243	0	0	0					36,243
Total funds requested for approval at this meeting (US \$)		Project costs				786,750					786,750
		Support costs				55,073					55,073

Secretariat's recommendation:	Blanket approval
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PROJECT DESCRIPTION

1. On behalf of the Government of Cameroon, UNIDO 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), at the amount of US \$786,750, plus agency support costs of US \$55,073.² The submission includes a progress report on the implementation of the second tranche, the verification report on HCFC consumption for 2017 to 2020 and the tranche implementation plan for 2021 to 2025.

Report on HCFC consumption

2. The Government of Cameroon reported a consumption of 32.53 ODP tonnes of HCFC in 2020, which is 63.37 per cent below the HCFC baseline for compliance. The 2016-2020 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Cameroon (2016-2020 Article 7 data)

HCFC-22	2016	2017	2018	2019	2020	Baseline
Metric tonnes (mt)	862.00	692.40	692.00	643.68	591.50	1,614.5
ODP tonnes	47.41	38.08	38.06	35.40	32.53	88.8

3. The consumption of HCFC-22, the only HCFC consumed in Cameroon, is decreasing due to the implementation of the import licensing and quota system, the implementation of the training of refrigeration service technicians and technical assistance activities under the HPMP. In addition, the introduction of refrigeration and air-conditioning (RAC) equipment, mainly based on HFC- and HFC-blend refrigerants, has also contributed to the reduction of HCFC-22 consumption.

4. Excluding the uses for domestic refrigeration, HFC-134a represents 63 per cent of the refrigerants used in servicing, followed by HCFC-22 (21 per cent), blends (R-410A and R-404A) (12.5 per cent), and other refrigerants (3.5 per cent), including HC-290 and HFC-32.

Country programme (CP) implementation report

5. The Government of Cameroon reported HCFC sector consumption data under the 2020 CP implementation report consistent with the data reported under Article 7 of the Montreal Protocol.

Verification report

6. Due to the restrictions imposed by the COVID-19 pandemic, the verification was conducted virtually by an international consultant, with the assistance of a national consultant for the data collection process. The verification report confirmed that the Government has been implementing a licensing and quota system for HCFC imports and exports since 2006, requiring the national ozone unit (NOU) to issue a “Visa Technique” (technical visa) prior to importation of ODS. A computerized/digital licensing system for the issuance of the technical visa is being applied, and communication and the flow of documents between the NOU, the General Directorate of Customs, the one-stop shop for foreign trade (Guichet Unique Des Operation Du Commerce Extérieur), and the importer is all done electronically. The verifier also reported that records of allocated quotas are well maintained by the NOU, and the importers keep the list of the local vendors, which must be submitted annually to the NOU for monitoring purposes. However, the national system of harmonized customs codes does not have a detailed breakdown of the substances, making it difficult to obtain quick data from customs through the current customs codes. The customs codes

² As per the letter of 20 August 2021 from the Ministry of Environment, Protection of Nature and Sustainable Development of Cameroon to UNIDO.

of Cameroon cannot be expanded to 10 digits to differentiate among the different substances as any change to the codes must be agreed by all members of the Central African Economic and Monetary Community, and then sent to the World Customs Organization (WCO) for information. Consequently, Cameroon will adopt the new WCO codes in 2023.

7. In 2019, the Customs intercepted an illegal shipment of 217 cylinders of refrigerants (i.e., 99 cylinders containing HCFC-22 and the remaining 118 containing HFC-134a or R404A). The refrigerants were auctioned, and the importer paid a fine equivalent to US \$5,000, has been removed from the register of importers, and has not obtained a refrigerant import license since. The seized quantity of HCFC-22 was deducted from the quota allocated for 2019. The recommendation of the verification is to continue providing portable ODS identifiers to the Customs.

8. The verification report also confirmed that a Ministerial Order on the management of ODS bans the import of HCFCs other than HCFC-22 as of 1 January 2020. Furthermore, importing, selling, installing and producing appliances and equipment using HCFCs are banned as of 1 January 2020. In applying this order, Environmental and Trade and Customs inspectors undertake different levels of monitoring activities (scheduled/routine and impromptu visits to various enterprises) to check compliance.

9. The verification concluded that the total consumption of HCFCs reported under Article 7 of the Montreal Protocol for 2017 to 2020 was correct (as shown in Table 1 above), and that Cameroon has complied with the allowable HCFC consumption targets specified in its Agreement with the Executive Committee.

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

Legal framework

10. The ban on import of HCFCs other than HCFC-22, and the ban on importing, selling, installing and producing HCFC-based equipment went into force on 1 January 2020 in line with decision 82/59(c)(ii) and (h)(ii). The Kigali Amendment was ratified on 21 August 2021.

Refrigeration and air-conditioning (RAC) servicing sector

11. The following was achieved during the first tranche:

- (a) *Strengthening capacities of customs officers and environmental inspectors:* Thirty-two environmental control posts were created; procurement and delivery of 15 portable refrigerant identifiers; one training workshop on HCFC controls and ODS illegal trade prevention for 38 participants was organized in September 2020;
- (b) *Training of servicing technicians in the RAC sector:* A technician database is under development and contains 1,970 technicians from the formal sector registered upon completing their RAC good practice training, the code of good servicing practices was revised to include ODS alternatives and the associated safety issues and will be used as training material; two training workshops for servicing technicians took place (one on the safe use of low-GWP alternative refrigerants in August 2020, and one on energy efficiency in the cold chain sector in October 2020), each one with 75 participants;

- (c) *End-user incentive programme:* In line with decision 82/(h)(i),³ a field study was developed identifying a potential of 71 units among chillers, commercial air-conditioning (AC), and commercial refrigeration to be replaced; a public call for installers and users was published and a first set of end-user beneficiaries was identified; and an action plan for the end-user component was prepared.

Project implementation and monitoring unit (PMU)

12. The PMU, within the NOU at the Ministry of Environment, Protection of Nature and Sustainable Development, managed the implementation of the first tranche of stage II of the HPMP. Administrative and logistical support was provided by the staff of the Ministry. Consultants were engaged when needed for specific tasks (total expenditure: US \$30,000).

Level of fund disbursement

13. As of June 2021, of the US \$517,750 approved so far, US \$157,425 (30.4 per cent) had been disbursed. The balance of US \$360,325 will be disbursed in 2021-2022.

Implementation plan for the second tranche of the HPMP

14. The following activities will be implemented between January 2022 and December 2025:
- (a) *Update of ODS legislation:* Updating the servicing technician database and ongoing activities in monitoring and identifying non-registered servicing workshops; issuing a Ministerial order as legal framework for the adoption of safety standards; and organizing two stakeholders' consultative workshops on the updated regulation on ODS control and on the needs assessment of female stakeholders involved in HPMP implementation (US \$70,000 and US \$35,000 from first tranche);
 - (b) *Strengthening the capacities of customs officers and environmental inspectors:* Procuring and delivering an additional 15 refrigerant identifiers, organizing one training workshop on illegal trade in ODS for around 40 participants, and organizing four training workshops for 180 customs and enforcement officers on Montreal Protocol implementation, the prevention of illegal trade and the use of identifiers (US \$100,000 and US \$109,575 from first tranche);
 - (c) *Training of servicing technicians in the RAC sector:* Organizing seven training workshops for 335 servicing technicians on good refrigeration practices (funding from first tranche), organizing 10 training workshops for 475 servicing technicians on good refrigeration practices (funding from second tranche), with a special focus on non-registered workshop and unskilled technicians and female technicians (US \$167,000 and US \$136,000 from the first tranche);
 - (d) *Strengthening of the R&R scheme:* Improving R&R capacities for HCFC-22 refrigerants, purchasing of 17 sets of R&R equipment (to be distributed among 10 servicing enterprises and seven training institutes), and installation of a reporting system so that the NOU receives detailed record-keeping on the substances used, recovered, and reused (US \$34,750 and US \$34,750 from the first tranche);

³ UNIDO was requested to review with the Government of Cameroon the implementation plan for the end-user incentive programme for stage II, including the co-financing from the identified beneficiaries, with a view to considering activities based on more detailed end-user assessment, and to provide a detailed action plan upon request of the second tranche.

- (e) *End-user incentive programme:* Signing individual commitments with 12 end-users from fisheries, agro-industry, commercial refrigeration and chillers to replace the installed HCFC-based equipment with lower-GWP alternative technology (potentially R-290, HFO or HFC-32) following UNIDO's procurement rules and Multilateral Fund decisions. The proposed equipment for the specific applications will be checked by experts for conformity with international standards and installations reviewed for the proper safety procedures; the equipment replaced will be effectively dismantled, and the HCFC-22 will be recovered and recycled by the assemblers participating in this process. The beneficiaries will contribute between 30 to 40 per cent of the cost, share progress reports, attend outreach workshops to show results of the initiative and allow in-site visits to show the process of equipment replacement. The knowledge gained in training, capacity-building, and technical assistance will be helpful for successfully implementing the end-user programme and the transferring practical experience for installing low-GWP technology to the servicing technicians; broad communication of the end-user programme's results will be conducted through mass media and through reports with countries of the region; supporting the market-led transformation through the ban on imports and installation of HCFC-based equipment (US \$360,000 and US \$30,000 from the first tranche); and
- (f) *Project implementation and monitoring:* Hiring a new staff member (technical RAC expert) to monitor and report on the activities under the HPMP and prepare annual progress reports; submission of the verification report with next tranche request. (US \$55,000 and US \$15,000 from the first tranche).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

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

Legal framework

15. The Government of Cameroon has already issued HCFC import quotas for 2021 in accordance with the target set in its Agreement with the Executive Committee.

Refrigeration servicing sector

16. Concerning the requirements of decisions 72/17 and 73/34 for eventual retrofitting of RAC equipment, UNIDO explained that the end-user programme consists of replacing commercial refrigeration units and chillers with new equipment based on low-GWP refrigerants and not retrofitting the equipment; the main objectives of the programme are to demonstrate the energy and monetary savings associated with the operation of the new equipment with alternative refrigerants; safely replace existing end-of-life HCFC systems; provide servicing technicians and assemblers with training in installing and servicing equipment with low-GWP refrigerants, conducting a flammability risk assessment, and adopting prevention measures; and to gain experience in implementing a financial incentive policy, noting that the Ministry of Finance might replicate the programme to replace the HCFC-based equipment in the end-user sector.

17. The Secretariat discussed with UNIDO issues related to the operative plan for the replacement in the 12 end-users proposed, the direct impact in the HCFC phase-out and the timing of implementation given the incipient market demand for introducing low-GWP technology and the absence of certified technicians. Further to the discussion, UNIDO, in consultation with the Government of Cameroon, agreed to replace six pieces of equipment in only four end-users (instead of 12 end-users as originally proposed), namely one cold room (30 KW cooling capacity) and three ice makers (40 KW cooling capacity) in the fishery sector,

and two chillers (200 and 350 KW of cooling capacity). If the experience is assessed as successful, the Government might include additional units to be replaced in stage III of the HPMP. It is estimated that approximately 925 pieces of equipment currently operate in the fisheries commercial refrigeration subsector and 480 in chillers, with an estimated aggregated annual leakage rate of 195 mt of HCFC-22.

18. The Secretariat confirmed that the end-user programme is integrated with other activities in the HPMP. The RAC servicing technicians training programme being implemented contains aspects of refrigerant security classification, and safe handling in the installation and maintenance of RAC equipment; workshops will be held with technicians to demonstrate the practical experience of installation, and with end-users to show the benefits of replacing their equipment. The Ministry of Environment will develop the legal framework to adopt standards for handling flammable refrigerants. The HCFC-22 from decommissioned equipment will be recovered, reclaimed and reused in the R&R scheme being developed under the HPMP. On the potential for replicability, it is expected that some end-users in the commercial refrigeration and chiller subsector will introduce RAC equipment based on R-290/HFC-32 refrigerants, based on the environmental and economic benefits associated with the programme. Although the price of HCFC-22 has been stabilized at US \$13.60/kg between 2019 and 2021, it is expected to increase due to the reduced import quotas. The Government of Cameroon will outreach to decision-makers, managers, and technical staff from end-users promoting the replacement of additional RAC units at the enterprises' cost, with technical support of the NOU. UNIDO will submit detailed reports on the results of the end-user programme once the project had been completed, in line with decision 84/84(d).

19. Further to discussions during project review, the amount requested for the end-user incentive programme was adjusted from US \$360,000 to US \$100,000; and the remaining US \$260,000 was allocated to strengthen the R&R scheme, ODS controls, and RAC servicing workshops. The actual number of equipment items to be procured will be defined after an assessment of the actual needs of the servicing sector, and will include *inter alia* reclamation units, refrigerant recovery machines, portable charging stations, lokring sets, leak detectors, sets of servicing tools, and portable ODS identifiers, including bottles of standards refrigerants for calibration and spare parts.

20. Regarding the R&R scheme, UNIDO further pointed out that currently, the HCFC import quotas are fully used in the country. As a result of reduced import quotas as the phase-out advances, the price of virgin HCFC-22 would increase and the cost of recovered and recycled HCFC-22 would be affordable. In addition, the R&R equipment will be used for extracting the refrigerant from the RAC equipment that is being discarded or replaced. The NOU will also monitor the operation of the R&R scheme, make a field assessment of equipment needs, and define an eventual expansion of the R&R for the third tranche in light of the results achieved in the second tranche. For these reasons, the Government of Cameroon and UNIDO are confident that the R&R scheme will be self-sustaining, as it is expected to recover an amount that will be used to service the remaining HCFC-22-based equipment until its end-of-life.

21. The Secretariat asked about progress in the certification scheme for RAC technicians as it is included in stage II of the HPMP. UNIDO responded that legal framework and institutional arrangements will be established for launching the certification scheme as part of the second tranche. Agreements among the Ministry of Environment, Ministry of Secondary Education, Ministry of Higher Education and Ministry of Vocational Centres will be signed, and four training centres would be selected. The curricula for the certification scheme will be developed based on the revised code of good servicing practices; and the existing database of registered technicians will be upgraded to include the technicians certified.

Gender policy implementation⁴

22. When stage II of the HPMP for Cameroon was approved at the 82nd meeting, the Multilateral Fund gender policy had not been adopted yet. In this regard, no specific gender consideration or gender-related targets were included in the project document. However, during the implementation of the first tranche, gender considerations were taken into account, mostly keeping track of the number of female participants attending training sessions. These numbers will be used to perform the baseline assessment and current status of involvement of female candidates, both as presenters and as participants, in the activities organized under the second tranche.

Sustainability of the HCFC phase-out

23. To ensure the sustainability of the HPMP activities over time, the Government continues to strengthen regulations; the recently updated code of good servicing practices and will be introduced in the curriculum of four RAC training schools; and the training institutes have been strengthened. Portable ODS identifiers will cover almost of customs entry points, the regular customs training includes matters related to the Montreal Protocol, and the customs officer training material is kept updated.

Conclusion

24. Cameroon's import licensing and quota system is operational and is fully automated; the 2020 consumption level was below, and the quota set for 2021 follow the maximum allowable consumption set in its Agreement with the Executive Committee, the ban on import of HCFCs other than HCFC-22 is in force from 1 January 2020; and importing, selling, installing and producing appliances and equipment using HCFCs were banned as of 1 January 2020. The capacity of customs and servicing technicians will continue to be strengthened to sustain HCFC phase-out in the country. The actions planned under the second tranche, such as launching the certification of technicians' scheme, continue enhancing the capacity of customs officers and RAC technicians, replacing RAC equipment of four end-users as a demonstration project, providing support to training institutions, and distributing equipment and tools will further strengthen enforcement and the performance of the servicing sector to complete the HCFC phase-out.

RECOMMENDATION

25. The Fund Secretariat recommends that the Executive Committee take note of the progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan (HPMP) for Cameroon, on the understanding that:

- (a) The incentive programme to promote the conversion of commercial refrigeration and chillers to low-global warming potential alternatives include associated training and capacity-building to ensure sustainable implementation; and
- (b) The end-users, the Government or any other source identified would provide co-financing to participate in the scheme.

⁴ Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

26. The Fund Secretariat further recommends blanket approval of the second tranche of stage II of the HPMP for Cameroon, and the corresponding 2021-2025 tranche implementation plan, at the funding level shown in the table below, on the understanding that:

- (a) Information on the implementation of the end-user programme would be included in the progress report to be submitted when requesting the third tranche of stage II of the HPMP; and
- (b) If Cameroon were to proceed with retrofits and associated servicing to use flammable substances in refrigeration and air-conditioning equipment originally designed for non-flammable substances, the country would do so assuming all associated responsibilities and risk and only in accordance with the relevant standards and protocols.

	Project title	Project funding (US \$)	Support cost (US \$)	Implementing agency
(a)	HCFC phase-out management plan (stage II, second tranche)	786,750	55,073	UNIDO