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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: ANGOLA

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) UNDP

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

ANGOLA

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase out plan (Stage II)	UNDP (lead)	79 th	67.5% by 2025

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2020	9.16 (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-141b					0.44				0.44
HCFC-22					8.72				8.72

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	15.95	Starting point for sustained aggregate reductions:	15.95
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	10.77	Remaining:	5.18

(V) BUSINESS PLAN		2021	2022	2023	Total
UNDP	ODS phase-out (ODP tonnes)	3.69	0	0	3.69
	Funding (US \$)	389,052	0	0	389,052

(VI) PROJECT DATA			2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Montreal Protocol consumption limits			14.36	14.36	14.36	10.37	10.37	10.37	10.37	10.37	5.18	0
Maximum allowable consumption (ODP tonnes)			14.36	14.36	14.36	10.37	10.37	10.37	10.37	10.37	5.18	0
Agreed funding (US \$)	UNDP	Project costs	450,000	0	0	0	363,600	0	0	0	90,400	904,000
		Support costs	31,500	0	0	0	25,452	0	0	0	6,328	63,280
Funds approved by ExCom (US \$)	UNDP	Project costs	450,000	0	0	0	0	0	0	0	0	450,000
		Support costs	31,500	0	0	0	0	0	0	0	0	31,500
Total funds requested for approval at this meeting (US \$)	UNDP	Project costs	0	0	0	0	363,600	0	0	0	0	363,600
		Support costs	0	0	0	0	25,452	0	0	0	0	25,452

Secretariat's recommendation:	Blanket approval
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PROJECT DESCRIPTION

1. On behalf of the Government of Angola, UNDP, 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 \$363,600, plus agency support costs of US \$25,452.² The submission includes a progress report on the implementation of the first tranche, the verification report on HCFC consumption for 2017 to 2020 and the tranche implementation plan for 2022 to 2024.

Report on HCFC consumption

2. The Government of Angola reported a consumption of 9.16 ODP tonnes of HCFC in 2020, 42.5 per cent below the HCFC baseline for compliance. The 2016-2020 HCFC consumption is shown in Table 1.

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

HCFC	2016	2017	2018	2019	2020	Baseline
Metric tonnes (mt)						
HCFC-22	210.00	189.96	189.95	170.00	158.50	290.00
HCFC-141b	0.00	0.00	0.00	0.00	4.00	0.00
Total (mt)	210.00	189.96	189.95	170.00	162.50	290.00
ODP tonnes						
HCFC-22	11.55	10.45	10.45	9.35	8.72	15.95
HCFC-141b	0.00	0.00	0.00	0.00	0.44	0.00
Total (ODP tonnes)	11.55	10.45	10.45	9.35	9.16	15.95

3. The HCFC-22 consumption has been decreasing due to the implementation of the activities under the HPMP, particularly the enforcement of the licensing and quota system, training of customs officers, improved servicing practices and containment strategies in the refrigeration servicing sector. In addition, old HCFC-based equipment has been replaced by HFC-based equipment, mainly based on R-410A and R-404A refrigerants. For the first time HCFC-141b was imported for flushing refrigeration circuits in 2020; this consumption will be dealt with by the Government through regulations.

Country programme (CP) implementation report

4. The Government of Angola 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

5. Due to the restrictions imposed by the COVID-19 pandemic, the verification was conducted virtually by an international consultant, with the assistance of the National Ozone Unit (NOU). The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports, that the total consumption of HCFCs reported under Article 7 of the Montreal Protocol and under CP data report showed discrepancies in 2017 and 2018, with the verified consumption 40 and 50 kg lower than the reported data, respectively, and was correct for 2019 and 2020 (as shown in Table 1 above). The report also confirmed that the verified consumption is consistent with the maximum allowed consumption, and that the quota allowance/licensing system is operating correctly and the customs registries are accurate. The country has resubmitted the corresponding revised data reports for 2017 and 2018.

6. The verification report recommended adopting a fully online HCFC license authorization process, noting that issuance of the import licenses is presently done manually and establishing a complete online

² As per the letter of 30 August 2021 from the Ministry of Culture, Tourism and Environment of Angola to UNDP.

license system to allow for the control of information at the different stages of the process; adjusting prosecution mechanisms for non-compliance with the licensing and quota issuance system (Article 9 of Executive Decree 528/18) to include a precise procedure for collecting fines to avoid differentiated treatment; revising customs codes to differentiate individual refrigerants from blends; blocking the tariff codes for HCFCs except for HCFC-22; and banning the import of HCFC-based equipment.

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

Legal framework

7. The HCFC licensing system has been operational since 2013. The regulations include a quota system to control the import quantities of HCFCs and HCFC-based equipment. The Ministry of Environment is responsible for approving applications for import; the Ministry of Commerce issues the import license after consultation with the Ministry of Environment. Angola ratified the Kigali Amendment on 16 November 2020.

8. The Government of Angola confirmed that the regulation banning the import of controlled substances that have already been phased out is in force. The Customs Department continues to monitor all controlled ODS. Prevention of illegal trade is carried out through physical and document inspection of ODS shipments performed according to risk profile analysis at all customs entry points. Furthermore, a province-based monitoring network has been established since 2019. No cases of illegal trade of phased out ODS or commercial stockpiles of those substances have been identified in the country. The Customs Department has included the ODS licensing system and ODS-related issues in the customs training curriculum.

Refrigeration servicing sector

9. During the first tranche, the following outputs were achieved:

- (a) *Strengthening the enforcement capacity to control the HCFC consumption:* Continuous review of customs training curriculum incorporating new requirements into the training manual; an international specialist in customs procedures and the Montreal Protocol was hired to provide technical support; all customs offices located in the provinces and in the capital (seven in total) have access to refrigerant identifiers; two training sessions for 175 participants and a virtual training seminar for 145 customs officers and other enforcement officers were carried out on import controls and identification of HCFCs; two stakeholder workshops on HCFC licensing system quotas and future procedures for registering alternative substances, and one workshop to raise awareness on consumption data and stocks of refrigerants regulated by the Montreal Protocol were held, with an average of 85 participants per workshop;
- (b) *Capacity building and awareness-raising of refrigeration and air-conditioning (RAC) service sector and end-users to eliminate the consumption of HCFCs:* A technical expert from Brazil was hired as a trainer for the training courses, assisted in the development of the RAC training material, and provided technical support to build the capacity of the training institutions in Angola. Since 2018, a commitment from the Education Authorities and Education and Training Centres in six provinces has made it possible to include good practices, refrigerant recovery and recycling (R&R) and safe handling of refrigerants in their curriculum, and classes are offered to approximately 100 students per province every two years. One train-the-trainer seminar for ten trainers was carried out in 2019; four virtual train-the-trainer sessions, each targeting one to ten trainers from four different provincial vocational schools were carried out in 2020; 390 refrigeration technicians were trained through face-to-face workshops on good practices in refrigeration, R&R, and flammable

refrigerants in 2018 and 2019, while during 2020, the respective training was conducted online for 90 technicians. Training material and guidelines were developed (in Portuguese) for safety procedures for flammable refrigerants following the safety standards adopted in Brazil; and six awareness-raising workshops on substances regulated by the Montreal Protocol were organized with an average of 50 students of RAC servicing per workshop;

- (c) *Strengthening the R&R network and vocational training institutions:* One R&R pilot centre was set up in a laboratory of a training institution (located in Ugie province); 20 refrigerant identifiers were acquired and distributed to the training institutions at the provincial level; and four recovery units and 80 good practices tool kits³ were acquired and will be distributed to R&R centres and servicing technicians in November 2021, as COVID-19 restriction measures in the country prevented the completion of the activity in 2020. In addition, a virtual seminar is scheduled for November 2021 with a live demonstration by the R&R laboratories of the Heating Ventilation and Air-Conditioning Association of Brazil (ABRAVA) to show the operation requirements of a R&R centre; and
- (d) *Monitoring, coordination and reporting:* The national ozone unit (NOU) monitored and coordinated the HPMP implementation. Of the US \$60,000 budgeted for the first tranche, US \$36,092 was disbursed (US \$9,023 for meetings, US \$21,655 for monitoring-related travels, and for communication and other maintenance costs US \$5,414).

Level of fund disbursement

10. As of 1 September 2021, of the US \$450,000 approved so far, US \$341,411 (76 per cent) had been disbursed. The balance of US \$108,589 will be disbursed in 2021 and 2022.

Implementation plan for the second tranche of the HPMP

- (a) *Strengthening the enforcement capacity to control the HCFC consumption:* Updating the material for customs officers training courses; conducting at least six training courses⁴ (25 participants each from the Customs Department and other enforcement agencies), on ODS legislation including customs codes, and the prevention of illegal ODS trade, refrigerant identification and RAC equipment inspection; organizing an annual outreach workshop on controlled substances and HCFC quotas for at least 60 importers; developing and distribution of 3,000 units of ODS phase-out control measures calendars to key stakeholders; printing the guidelines and information tools to support the screening of ODSs and distributing them among the customs officers trained; (US \$38,800 and US \$7,982 from the first tranche);
- (b) *Capacity-building and awareness-raising of the RAC servicing sector and end-users to eliminate the consumption of HCFCs:* Two train-the-trainer seminars on good practices and alternative refrigerants with an emphasis on natural refrigerants and other low-GWP refrigerants for 20 trainers; a six-day training workshop for 160 refrigeration technicians in good servicing practices, R&R techniques, and safe handling of flammable refrigerants, prioritizing those provinces that had not received training in the first tranche; replacement of units in four end-user facilities with low-GWP technology for demonstration purposes, and four seminars on low-GWP alternatives targeting at least 100 RAC end-users from hotels and supermarkets; awareness raising activities including development of posters,

³ Nitrogen regulator adapters, 1-litre Nitrogen cylinders, refrigerant recovery cylinders, portable electronic charging stations, refrigerant leak detectors, flaring & swaging tool set, midi tube cutter, pressure testing regulator kit, torch medium duty kits, infrared laser thermometer, and personal protection items.

⁴ During 2020-2021 courses were performed virtually and the training material was distributed after the courses. UNDP expects to resume in-person workshops in 2022.

information brochures, booklets, technical data sheets, and a video about HPMP activities (US \$167,540 and US \$35,714 from the first tranche);

- (c) *Strengthening of the R&R network and vocational training institutions:* Development of a model for the operation of an R&R network; procurement of four R&R units to support the R&R centres and 50 toolkits for servicing technicians (US \$95,220 and US \$40,985 from the first tranche); and
- (d) *Monitoring, coordination and reporting:* The NOU will coordinate and monitor the HPMP through meetings and site visits to all provinces since local activities will be implemented; organize at least two annual meetings among the NOU, UNDP, and the Ministry of Environment to review the HPMP implementation. (US \$54,040 and US \$23,908 from the first tranche including costs for consultants and travels to all provinces).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

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

Legal framework

11. The Government of Angola has already issued HCFC import quotas for 2021 at 6.05 ODP tonnes, which is lower than the Montreal Protocol control targets.

Verification report

12. As per the verification report recommendations, the Government of Angola will adopt appropriate measures as follows: banning the import of HCFCs except for HCFC-22 and HCFC-based equipment as of 1 January 2025; and modifying ODS legislation⁵ on defining the procedure to collect fines for violations of the Regulation on ODS as of 1 January 2025; adopting the harmonized system (HS) codes and developing an online licensing and quota system by 1 January 2024. Accordingly, the funding for strengthening the enforcement capacity to control HCFC consumption was adjusted from US \$38,800 to US \$64,750.

Refrigeration servicing sector

13. During the project review process, UNDP confirmed that the Government of Angola was aware of decisions 72/17 and 73/34 for the eventual retrofitting of RAC equipment, and that, retrofitting had not been encouraged and had not taken place under the HPMP. UNDP also clarified that R-600a is being imported for refrigeration applications and that R-290-based commercial refrigeration units are already present in the local market in Angola; the training workshops have focussed on strengthening the technicians' skills in good service practices including R&R of refrigerants and safe handling of flammable refrigerants, but not in retrofitting of HCFC-based equipment.

14. With regard to the activities for the replacement of the refrigeration systems in four end-user facilities with low-GWP-based refrigerants for demonstration purposes, UNDP reported that after further consultations with the Government, and noting the requirements under decision 84/84, the proposed demonstration activity will be replaced by reinforcing the R&R network and training institutes with 30 additional R&R units and toolkits, and four simulators of R-290-based split units fixed in a particular

⁵ Article 9 of Executive Decree 528/18

setting for RAC training purposes. Furthermore, UNDP confirmed that no replacement of RAC units in the end-user sector would be funded through the HPMP.

15. Regarding the R&R network, expected outputs and the reasons to requesting additional R&R units, UNDP clarified that the success of this project component would be ensured by the country's accelerated phase-out schedule, and supported with the awareness and capacity building of technicians. The expected increase in the cost of virgin HCFC-22 after the planned HCFC quota reduction in 2025 and a potential taxation increase for HCFC imports post-2025, will encourage the R&R scheme. UNDP and the Government of Angola are confident that the R&R network will be self-sustaining, as it is expected to recover an amount that may be used to service the remaining HCFC-22-based equipment until its end-of-life. The experience gained by the main stakeholders, and the infrastructure established under this project component would also be used for R&R of HFCs.

16. As a result of the consultations between the Government of Angola and UNDP, the original tranche budget was revised, as shown in Table 2.

Table 2. Revised budget for the second tranche of stage II of the HPMP for Angola (US \$)

Activity	As submitted	Revised
Strengthening the enforcement capacity to control HCFC consumption	38,800	64,750
Capacity-building and awareness-raising of the RAC servicing sector	167,540	99,035
Strengthening of the refrigerant R&R network and vocational training institutions	95,220	163,725
Monitoring and coordination	54,040	36,090
Total	363,600	363,600

Gender policy implementation⁶

17. Consistent with the mandate to promote gender equality, the Government of Angola and UNDP have streamlined gender considerations into the work done in Angola under the Montreal Protocol and have recorded gender-disaggregated data. The second tranche will continue incorporating gender considerations, which will be strengthened by developing innovative approaches for women's inclusion in the RAC sector.

Sustainability of the HCFC phase-out

18. The country has developed local expertise to control HCFC imports within customs and monitor the HPMP implementation in the provincial offices of the Ministry of Environment. ODS issues are integrated into customs training, and the curriculum is reviewed regularly to incorporate new requirements into the training manual. The recommendations from the verification report will be implemented during the second tranche of the HPMP. Six RAC training institutions have included good refrigeration practices, R&R of refrigerants, and safe handling of flammable refrigerants as part of their regular courses, and the capacity of RAC service technicians is being built by the HPMP with the help of international experts. In addition, five R&R centres are being established in the country. All these measures will contribute to the sustainability of the HCFC phase-out and strengthened relevant capacity in the country.

Conclusion

19. The Secretariat noted that the Angola's import licensing and quota system was operational and that the verified consumption levels from 2017 to 2020 were lower than the maximum allowed consumption. The current country-level consumption is 22 per cent lower than the 2020 maximum allowed consumption. Implementation of the first tranche is progressing well despite the restrictions caused by the COVID-19 pandemic; the expected outputs for the first tranche were delivered, and the disbursement rate reached

⁶ Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

75 per cent of the tranche approval. Furthermore, the Government has revised its second tranche implementation plan to include the recommendations from the verification report and reinforce the R&R network and training institutes with additional equipment (instead of replacement of end-users' equipment for demonstration purpose) to sustain the HCFC phase-out achieved and meet the future reduction targets.

RECOMMENDATION

20. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan (HPMP) for Angola; and further recommends blanket approval of the second tranche of stage II of the HPMP for Angola, and the corresponding 2021-2025 tranche implementation plan, at the funding level shown in the table below:

Project title	Project funding (US \$)	Support cost (US \$)	Implementing agency
HCFC phase-out management plan (stage II, second tranche)	363,600	25,452	UNDP