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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 agenda¹

PROJECT PROPOSAL: PERU

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, fourth tranche) | UNDP and UNEP | Blanket approval |
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¹ UNEP/OzL.Pro/ExCom/97/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Peru

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

(II) LATEST ARTICLE 7 DATA (Annex C, Group I)	Year: 2024	13.25 ODP tonnes
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(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					13.28				13.28

(IV) CONSUMPTION DATA (ODP tonnes)			
2009–2010 baseline:	26.88	Starting point for sustained aggregate reductions:	54.79
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	53.00	Remaining:	0.0

(V) ENDORSED BUSINESS PLAN		2025	2026	2027	Total
UNDP	ODS phase-out (ODP tonnes)	1.22	0.0	0.0	1.22
	Funding (US \$)	124,869	0	0	124,869
UNEP	ODS phase-out (ODP tonnes)	0.22	0.0	0.0	0.22
	Funding (US \$)	23,504	0	0	23,504

(VI) PROJECT DATA			2017	2018	2019	2020*	2021	2022	2023 2024	2025	Total
Montreal Protocol consumption limits (ODP tonnes)			24.19	24.19	24.19	17.47	17.47	17.47	17.47	8.74	n/a
Maximum allowable consumption (ODP tonnes)			24.19	24.19	24.19	17.47	17.47	17.47	17.47	8.74	n/a
Funding agreed in principle (US \$)	UNDP	Project costs	350,100	0	233,400	0	0	466,800	0	116,700	1,167,000
		Support costs	24,507	0	16,338	0	0	32,676	0	8,169	81,690
	UNEP	Project costs	62,400	0	41,600	0	0	83,200	0	20,800	208,000
		Support costs	8,112	0	5,408	0	0	10,816	0	2,704	27,040
Funds approved by ExCom (US \$)	Project costs		412,500	0	0	275,000	0	550,000	0		1,237,500
	Support costs		32,619	0	0	21,746	0	43,492	0		97,857
Total funds recommended for approval at this meeting (US\$)	Project costs									137,500	137,500
	Support costs									10,873	10,873

*The second tranche was due in 2019 but was submitted in 2020.

Secretariat's recommendation:	Blanket approval
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PROJECT DESCRIPTION

1. On behalf of the Government of Peru, UNDP as the lead implementing agency has submitted a request for funding for the fourth and final tranche of stage II of the HCFC phase-out management plan (HPMP), at a total cost of US \$148,373, consisting of US \$116,700, plus agency support costs of US \$8,169, for UNDP and US \$20,800, plus agency support costs of US \$2,704, for UNEP.² The submission includes a progress report on the implementation of the third tranche, the verification report on HCFC consumption for 2022 to 2024, and the tranche implementation plan for 2026.

Report on HCFC consumption

2. The Government of Peru reported a consumption of 13.25 ODP tonnes of HCFCs in 2024, which is 50.7 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 Peru (2017-2021 Article 7 data)

HCFC	2020	2021	2022	2023	2024	Baseline
Metric tonnes (mt)						
HCFC-22	223.75	169.39	220.17	269.85	241.37	433.29
HCFC-123*	0.84	0.79	0.00	0.00	***-1.13	0.00
HCFC-124	0.00	0.00	0.00	0.00	0.00	2.77
HCFC-142b	0.00	0.93	0.00	0.00	0.00	18.15
Total (mt)	224.59	171.11	220.17	269.85	240.24	470.46
HCFC-141b in imported pre-blended polyols**	43.69	26.54	11.99	0.40	0.00	****253.73
ODP tonnes						
HCFC-22	12.31	9.32	12.11	14.84	13.27	23.85
HCFC-123*	0.02	0.02	0.00	0.00	***-0.02	0.00
HCFC-124	0.00	0.00	0.00	0.00	0.00	0.06
HCFC-142b	0.00	0.06	0.00	0.00	0.00	1.18
Total (ODP tonnes)	12.32	9.39	12.11	14.84	13.25	26.88
HCFC-141b in imported pre-blended polyols**	4.81	2.92	1.32	0.04	0.00	****27.91

* As HCFC-123 was not consumed before 2015, it is not included in the HCFC baseline or starting point for aggregated reductions.

** Country programme implementation reports.

*** The verification confirmed the export of 1.13 mt (0.02 ODP tonne) of HCFC-123 in 2024.

**** Starting point established in the Agreement with the Executive Committee.

3. The effects of the COVID-19 pandemic and an economic depression in the country caused a higher than anticipated decline in HCFC-22 consumption in 2020 and 2021. Subsequently, HCFC-22 consumption increased in 2022 and 2023 due to the demand for servicing equipment that had not been serviced in the 2020–2021 period, but fell by almost 6 per cent of the baseline from 2023 to 2024, maintaining the long-term downward trajectory as a result of implementation of HPMP measures and the gradual transition to alternative technologies. The consumption of HCFC-141b in pre-blended polyols ceased in 2024 due to higher imports of similar systems based on hydrofluorocarbon (HFC), hydrofluoroolefin (HFO) and cyclopentane blowing agents used in polyurethane (PU) foam manufacturing.

Country programme implementation report

4. The Government of Peru 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

² As per the letter of 4 September 2025 from the General Directorate of Environmental Affairs for Industry of the Ministry of Production of Peru to UNDP.

Montreal Protocol. The 0.03 ODP tonne difference between the two data sets reflects the export of HCFC-123 from the country's 2021 stockpile, noted in the CP report.

Verification report

5. The verification report confirmed that the Government was implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs reported under Article 7 of the Montreal Protocol for 2022 to 2024 was correct (as shown in table 1 above). The verification report recommended continued monitoring of imports of controlled substances to ensure that they were recorded under the appropriate tariff codes to avoid confusion between controlled substances and alternatives with zero or low global-warming potential (GWP). The verification had also revealed data inconsistency between Article 7/CP data and the Customs records for 2022, traced to an error while updating the Harmonized System (HS) codes in the Customs system. The national ozone unit (NOU) and the Customs confirmed that tariff codes were correctly updated and import data was consistent across systems.

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

Legal framework

6. Peru has an operational electronic HCFC import licensing and quota system, with the NOU issuing import quotas and the Customs authorizing imports through the “Single Window for Foreign Trade” mechanism. This integration enables real-time cross-checking of import data and verification of quotas, thereby strengthening the monitoring and control of HCFC trade. Supreme decree 019-2021-PRODUCE amended the existing regulatory framework to include HFCs following Peru's ratification of the Kigali Amendment in August 2019.

7. The country's Technical Committee for Standardization adopted three standards related to refrigeration and air-conditioning (RAC), including NTP ISO 11650:2023 on the performance of refrigerant recovery and/or recycling equipment, NTP ISO 17584:2024 on the properties of refrigerants, and NTP 351.006:2024 on energy-efficiency labelling for commercial equipment.

8. In coordination with the Ministry of Labour, the revised version of a Standard of Labour Competency in Good Practices in RAC (RDG No. 066-2024-MTPE/3/19) was approved in November 2024 and the corresponding evaluation instruments were validated in August 2025.

9. In May 2025, 50 customs officers received training on control measures for HCFCs and HCFC-based equipment, illegal trade prevention, and safe handling of flammable refrigerants.

Refrigeration servicing sector

10. During the third tranche, the following activities were implemented:

- (a) *Technical and institutional support for the operationalization of the certification system:* Representatives of the NOU and four technical training institutes went on a study tour of certification procedures in Colombia; following the approval of a revised RAC competency standard, seven evaluators were identified and trained; awareness workshops, including organization of seminars and distribution of brochures, were held in Lima with training institutes and private sector stakeholders to promote certification as distinct from training; and a multi-channel campaign was conducted, including seminars, brochures, and events;
- (b) *Application of good refrigeration practices and procedures in the use of alternative refrigerants with low GWP:* 390 servicing technicians (including 129 women) were trained

in good refrigeration servicing practices and the safe management of hydrocarbon (HC) refrigerants in 15 workshops and at one national event;

- (c) *Implementation of a training programme and strengthening of formal education for RAC technicians:* Training was provided to 550 technicians (including 32 women) in 31 workshops, using the redesigned course on good practices in servicing with HCFCs and alternative technologies; a digital RAC training programme and four digital booklets were developed, covering issues such as regulations, good practices in refrigeration, safe handling of applications charged with low-GWP alternatives, specialised welding and leak-tightness, and applied electronics for zero/low-GWP refrigerants; tools and equipment were delivered to three selected RAC technical training institutes,³ along with a common syllabus on good practices in refrigeration; and a list of institutes and universities offering refrigeration courses was compiled;
- (d) *Establishment of a refrigerant recovery, recycling (RR) and reclamation (RRR) scheme:* Continuous technical assistance was provided to consolidate the national network of five RR centres, with six-monthly reporting to the NOU and annual meetings held in 2022 and 2023; 218 technicians, including 10 trainers, received RR training; and a draft public call and equipment list for establishing a national reclaiming centre for refrigerants was prepared;
- (e) *Technical assistance for the adoption of low-GWP technologies at commercial refrigeration end users:* A desk review of end users from the supermarket, agroindustry, and warehouse sectors was undertaken to identify stakeholders and technical requirements for the conversion or replacement of HCFC-based RAC systems with transcritical carbon dioxide (CO₂) technology; technical assistance was provided to three enterprises to assess their conversion to refrigeration technologies based on CO₂; a consultancy was launched to identify other potential end users after the three initially selected enterprises lost interest in the project due to high associated costs; and a seminar was held to promote voluntary agreements with end users for the technological conversion of refrigeration equipment based on HCFCs (38 participants); and
- (f) *Public awareness to promote HCFC phase-out:* Around 1,000 participants attended 20 in-person and virtual seminars on HCFC phase-out and low-GWP alternatives; and digital materials on low-GWP alternatives for RAC equipment, technician certification, RR, and country commitments to HCFC phase-out were developed and disseminated.

Project implementation and monitoring

11. The project management unit (PMU), established within the Ministry of Production (PRODUCE), reports directly to the NOU, with UNDP's oversight and guidance. The PMU is headed by a project manager and supported by an administrative assistant. Technical support is delivered by national consultants and one international expert in RAC. The amount of US \$44,000 allocated for PMU expenditures in the third tranche was disbursed as follows: project coordinator (US \$24,000), project assistant (US \$13,000), and verification of HCFC consumption (US \$7,000).

Level of fund disbursement

12. As of September 2025, of the US \$1,237,500 approved so far (US \$1,050,300 for UNDP and US \$187,200 for UNEP), US \$990,693 (80.1 per cent) had been disbursed (US \$825,625 for UNDP and

³ Note that document UNEP/OzL.Pro/ExCom/90/36 referred to 11 selected institutions rather than three. This has been corrected through UNEP/OzL.Pro/ExCom/90/36/Corr.1.

US \$165,068 for UNEP), as shown in table 2. The balance of US \$242,885⁴ will be disbursed in 2025 and 2026.

Table 2. Financial report of stage II of the HPMP for Peru (US \$)

Tranche		UNDP	UNEP	Total	Disbursement rate (%)
First	Approved	350,100	62,400	412,500	100.0
	Disbursed	350,100	*62,302	412,402	
Second	Approved	233,400	41,600	275,000	98.6
	Disbursed	233,400	*37,777	271,177	
Third	Approved	466,800	83,200	550,000	55.8
	Disbursed	242,125	**64,990	307,115	
Total	Approved	1,050,300	187,200	1,237,500	80.1
	Disbursed	825,625	165,068	990,693	
	Balance	224,675	22,131	246,807	

* The remaining balances were returned to the Multilateral Fund.

** The balance of US \$18,210 is committed for activities under the third tranche.

Implementation plan for the fourth and final tranche of stage II of the HCFC phase-out management plan

13. The following activities will be implemented between January and December 2026:

- (a) *Technical and institutional support for the operationalization of the certification system and adoption of safety standards:* Three workshops to promote and train 150 stakeholders on the certification process; certification of at least 250 technicians under the labour competency standard; and continued technical assistance in strengthening the national framework for the safe management of flammable refrigerants through adopting and strengthening safety standards for RAC equipment using non-ODS and zero- or low-GWP refrigerants (including flammables) (UNEP) (US \$20,800 plus US \$18,210 from previous tranche);
- (b) *Application of good refrigeration practices and RAC technician training:* Three training workshops on good practices in refrigeration; two workshops to train 10 trainers; nine specialized training workshops on the use of HCs for 50 RAC technicians; and updating of the RAC technician database (UNDP) (US \$14,400 plus US \$25,548 from previous tranche);
- (c) *Strengthening formal education for refrigeration technicians:* Training for formal education technical institutions; and application of the syllabus on good practices in refrigeration by three priority institutions, with follow-up and technical support (UNDP) (US \$4,500);
- (d) *Establishment of a RRR scheme:* Procurement, installation and commissioning of equipment⁵ for the national refrigerant reclamation centre; virtual and in-person assistance by an international consultant; monitoring of five RR centres, including annual meetings; liaison with the new reclamation centre; and training on RRR for 132 technicians (UNDP) (US \$139,000 from previous tranche);

⁴ Excluding US \$3,922 that had already been returned to the Fund.

⁵ The list of equipment for the RR centres includes: four refrigerant recovery machines, 10 units of RR equipment for the most common fluorinated refrigerants, 175 units of recovery cylinders and tanks of different sizes, five electronic charging precision scales, and 10 units each of spark-free vacuum pump, gas analyser for a wide range of refrigerants, digital thermometer, and sets of manifold gauges and hoses.

- (e) *Promoting low-GWP alternatives for the cold chain:* Identification of end users capable of financing a refrigeration technology transition; signing of at least three voluntary agreements to convert HCFC-based equipment, with a target of one enterprise applying the new technology (UNDP) (US \$20,000 plus US \$60,127 from previous tranche);
- (f) *Public awareness programme to promote HCFC phase-out:* Organization of four awareness campaigns in cities that were not previously addressed; and production of a summary video for each campaign (UNDP) (US \$55,300); and
- (g) *PMU:* Monitoring of activities under stage II of the HPMP, preparation of annual progress reports, meetings held with stakeholders, commissioning of external verifications, and submission of a verification report and annual implementation plans (UNDP) (US \$22,500 including US \$11,000 for project coordinator, US \$4,500 for project assistant, and US \$7,000 for verification activities).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC consumption and verification

14. The verification report confirmed that the consumption of HCFC-141b in pre-blended polyols for PU foam manufacturing ceased in 2024 without support from the Multilateral Fund. As HCFC-141b contained in pre-blended polyols is not controlled under the Montreal Protocol, Peru does not plan to introduce a formal ban on its import. It is expected that global supply trends and the increasing use of alternatives will sustain its phase-out.

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

Legal framework

15. The Government of Peru has issued HCFC import quotas for 2025 and 2026 at 8.74 ODP tonnes, in accordance with the Montreal Protocol control targets.

Refrigeration servicing sector

16. Noting the limited time to complete activities under stage II of the HPMP and their interdependency, including the procurement of equipment for the RRR network, implementation of the national certification system, targets for technician certification, and activities on promoting low-GWP alternatives for the cold chain, the Secretariat discussed with UNDP and UNEP the progress of stage II in the context of its scheduled completion by 31 December 2026.

17. Procurement and delivery of RRR equipment is expected to be completed in 2025, with the national reclamation centre becoming operational in 2026, once the equipment has been installed and commissioned. Following the approval of the evaluation instruments by November 2025, the certification system is scheduled for launch in the first quarter of 2026. Seven evaluators have been trained and authorised, and three institutions have been accredited to provide certification services, with two additional institutions in the process of accreditation. A new competency standard on the safe handling of flammable refrigerants is under development and expected to be finalised in the first half of 2026. Once operational, the accredited institutions will have a combined target of certifying 250 RAC technicians by December 2026.

18. UNDP confirmed that stage II of the HPMP would be completed by 31 December 2026, as stipulated in the Agreement between the Government of Peru and the Executive Committee.

Gender policy implementation

19. In line with decisions 84/92(d) and 90/48(c), women have actively participated in technical assistance, RAC training, and awareness activities under stage II of the HPMP. Between 2022 and 2024, a total of 115 female RAC technicians were trained through workshops. In addition, two video tutorials on good practices in refrigeration and specialized welding featured women specialists as technical leads. The database of RAC technicians, maintained and regularly updated by PRODUCE, collects disaggregated data, enabling the monitoring of women's participation and the development of technical capacities in the sector.

Sustainability of the HCFC phase-out and assessment of risks

20. The General Directorate of Industrial Environmental Affairs of PRODUCE acts as the NOU, ensuring technical and institutional capacity to sustain the HCFC phase-out process. The Directorate manages import control, allocates quotas, and leads cooperation projects with implementing agencies, ensuring the continued implementation and sustainability of HPMP activities. UNDP indicated that potential risks to the timely implementation of HPMP activities were actively monitored. High-level risks include government changes and high cost of conversions to such low-GWP alternatives as transcritical CO₂. UNDP will work with the NOU, following the October 2025 political transition, to update the new authorities and to continue promoting alternative, lower-cost low-GWP technologies, including HCs. Moderate risks relate to procurement delays, the initiation of reclamation activities, and implementation of the RAC certification system. To address these, UNDP and the NOU will expedite procurement through existing UNDP agreements, support the Ministry of Labour in launching the certification system, and accelerate the accreditation and awareness activities to promote the hiring of certified technicians, including through public procurement. The level of disbursement expected in the final year will be reviewed in mid-2026 to assess the need for any adjustment to implementation timelines.

Conclusion

21. The Government of Peru remains in compliance with the Montreal Protocol and its Agreement with the Executive Committee, maintaining an effective HCFC import licensing and quota system. The ban on pure HCFC-141b has been in place since 2017, and imports of HCFC-141b in pre-blended polyols ceased in 2024 due to the uptake of alternatives. Integration of the "Single Window for Foreign Trade" mechanism with the licensing system and adoption of the 2022 HS codes have strengthened import monitoring and enforcement measures. The Standard of Labour Competency in Good Practices for RAC technicians was approved in November 2024, and, following its approval, seven evaluators were identified and trained. Thus, the national certification system is advancing, and the fourth tranche of stage II will include training and certification of RAC technicians. Cumulative disbursement under stage II has reached 80.1 per cent of the total approved budget. Activities planned in the fourth and final tranche will consolidate progress, sustain compliance with the 2025 targets, and further strengthen the institutional framework to ensure the complete phase-out of HCFCs by 2030.

RECOMMENDATION

22. The Fund Secretariat recommends that the Executive Committee:

- (a) Note the progress report on the implementation of the third tranche of stage II of the HCFC phase-out management plan (HPMP) for Peru; and
- (b) Request the Government of Peru, UNDP and UNEP to submit a progress report on the implementation of the work programme associated with the final tranche and the project completion report to the first meeting of the Executive Committee in 2027.

23. The Fund Secretariat further recommends blanket approval of the fourth and final tranche of stage II of the HPMP for Peru and the corresponding 2026 tranche implementation plan at the funding levels shown in the table below.

	Project title	Project funding (US \$)	Support costs (US \$)	Implementing agency
(a)	HCFC phase-out management plan (stage II, fourth tranche)	116,700	8,169	UNDP
(b)	HCFC phase-out management plan (stage II, fourth tranche)	20,800	2,704	UNEP