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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-fourth Meeting
Montreal, 27-31 May 2024
Item 9(d) of the provisional agenda[1]

PROJECT PROPOSAL: ARMENIA

This document consists of the comments and recommendation of the Secretariat on the following project proposal:

Phase-down

- Kigali HFC implementation plan (stage I, first tranche) UNIDO and UNEP

[1] UNEP/OzL.Pro/ExCom/94/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Armenia

PROJECT TITLE	AGENCY
Kigali HFC implementation plan (stage I)	UNIDO (lead), UNEP

LATEST ARTICLE 7 DATA (Annex F)	Year: 2022	163.41 mt	465,778 CO_2-eq tonnes

SECTORAL HFC CONSUMPTION DATA (CO_2-eq tonnes) AND ACTIVITIES								
	Aerosol	Foam	Fire-fighting	AC and refrigeration			Solvent	Other
				Manufacturing			Servicing		
				Refrigeration	AC	Other			
As submitted (2022)							682,271		
Latest CP report (2022)							465,778		
KIP stage I activities as agreed (Y/N)				N	N	N	Y		

AVERAGE 2020-2022 HFC CONSUMPTION IN SERVICING	133.91 mt	326,203 CO_2-eq tonnes
REVISED AVERAGE 2020-2022 HFC CONSUMPTION IN SERVICING	277.44 mt	592,464 CO_2-eq tonnes

BASELINE CONSUMPTION DATA (CO_2-eq tonnes)	2020	2021	2022	Average 2020-2022
HFC annual consumption	195,790	317,041	465,778	326,203
HCFC baseline (65%)				149,051
HFC baseline				475,254
Revised HFC annual consumption	526,260	568,860	682,271	592,464
Revised HFC baseline				741,515

HFC CONSUMPTION ELIGIBLE FOR FUNDING	
Starting point for sustained aggregate reductions	n/a
Previously approved HFC phase-down investment projects	No
Aggregate reductions from previously approved projects (CO_2-eq tonnes)	n/a

PROJECT DATA AS AGREED			2024*	2025	2026	2027	2028	2029	Total
Consumption (CO_2-eq tonnes)	Montreal Protocol limits		475,254	475,254	475,254	475,254	475,254	427,729	n/a
	Maximum allowable**		741,515	741,515	741,515	741,515	741,515	667,363	n/a
	Maximum allowable (%)***		100	100	100	100	100	90	n/a
Amounts recommended in principle (US $)	UNIDO	Project costs	99,075	0	0	106,925	0	0	206,000
		Support costs	12,880	0	0	13,900	0	0	26,780
	UNEP	Project costs	66,000	0	0	53,000	0	0	119,000
		Support costs	8,580	0	0	6,890	0	0	15,470
	Total project costs		165,075	0	0	159,925	0	0	325,000
	Total support costs		21,460	0	0	20,790	0	0	42,250
	Total funds		186,535	0	0	180,715	0	0	367,250

* Recommended for approval at the present meeting.
** Based on the revised data to be approved by the Implementation Committee.
*** As a percentage of the revised baseline.

Reduction from stage I in CO_2-eq tonnes	74,151

Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

1. The present document contains the following sections:

I. Summary of the proposal as submitted

II. Background: Implementation status of the country's HCFC phase-out management plan and previous HFC-related projects

III. HFC consumption: Overview of the country's HFC consumption levels, trends, and sectoral uses

IV. Stage I of the Kigali HFC implementation plan as submitted: Overarching strategy and plan of implementation for the first tranche

V. Secretariat's comments, including the agreed cost of activities

VI. Recommendation

I. Summary of the proposal as submitted

2. On behalf of the Government of Armenia, UNIDO as the lead implementing agency has submitted a request for stage I of the Kigali HFC implementation plan (KIP), at a total cost of US $367,250, consisting of US $206,000, plus agency support costs of US $26,780 for UNIDO and US $119,000, plus agency support costs of US $15,470 for UNEP, as originally submitted.[2]

3. The implementation of stage I of the KIP will assist the Government of Armenia in meeting the target of 10 per cent reduction from its HFC baseline consumption by 1 January 2029.

4. The first tranche of stage I of the KIP being requested at this meeting amounts to US $186,535, consisting of US $99,075, plus agency support costs of US $12,880 for UNIDO and US $66,000, plus agency support costs of US $8,580 for UNEP, as originally submitted, for the period of July 2024 to December 2026.

II. Background

Status of implementation of the HCFC phase-out management plan

5. Stage II of the HPMP was completed in 2021. Project preparation funding for stage III of the HPMP was approved at the 84th meeting. The preparation of stage III of the HPMP was delayed due to the changes in Government structure and is planned to be submitted to the 95th meeting. Table 1 presents information on the HPMP in Armenia as of May 2024.

Table 1. HPMP implementation status for Armenia

	Stage I	**Stage II**
Meetings when HPMP was approved/updated	62nd/74th	77th
Reduction from baseline	10% by 2015	66.6% by 2020
Total project cost (US $)	601,838	216,000
Date of completion	31 December 2016	31 December 2021

[2] As per the letter of 1 February 2024 from the Ministry of Environment of Armenia to UNIDO.

Status of implementation of previous HFC-related activities

6. Table 2 presents an overview of activities implemented in Armenia in the context of the Kigali Amendment that have been funded by the Multilateral Fund.

Table 2. Previously approved HFC-related activities in Armenia

Approval meeting	Project title	Implementing agency	Cost (US $)	Date of completion
74th	Survey of ODS alternatives	UNEP	70,000	March 2017
80th	Enabling activities for HFC phase-down	UNIDO	150,000	December 2020

III. HFC consumption overview

HFC consumption levels

HFC consumption reported under Article 7 of the Montreal Protocol

7. Armenia only imports HFCs for use in the refrigeration servicing sector. The most consumed substances in 2022 were R-404A (71.2 per cent of total HFC consumption in CO_2-equivalent (CO_2-eq) tonnes), HFC-134a (17.2 per cent), R-410A (7.6 per cent), and other HFCs (4.0 per cent). Table 3 presents the country's HFC consumption as reported to the Ozone Secretariat under Article 7 of the Montreal Protocol.

Table 3. HFC consumption in Armenia (2019–2022[*] Article 7 data)

HFC	GWP[**]	2019	2020	2021	2022
Metric tonnes (mt)					
HFC-23	14,800.00	0.00	0.00	0.00	0.95
HFC-32	675.00	1.15	1.00	0.23	2.52
HFC-134a	1,430.00	76.17	64.49	72.14	56.08
R-404A	3,921.60	43.37	14.96	42.57	84.58
R-407C	1,773.85	42.32	0.00	3.38	0.00
R-410A	2,087.50	78.77	16.98	14.69	16.93
Others[***]		2.90	5.33	2.54	2.36
Total (mt)		**244.68**	**102.76**	**135.55**	**163.41**
CO_2-eq tonnes					
HFC-23	14,800.00	0	0	0	14,090
HFC-32	675.00	776	675	155	1,698
HFC-134a	1,430.00	108,923	92,216	103,160	80,189
R-404A	3,921.60	170,080	58,667	166,943	331,681
R-407C	1,773.85	75,069	0	5,996	0
R-410A	2,087.50	164,432	35,446	30,665	35,346
Others[***]		7,252	8,785	10,122	2,776
Total (CO_2-eq tonnes)		**526,533**	**195,790**	**317,041**	**465,778**

[*] At the time of finalization of the present document, the 2023 country programme (CP) data had not yet been reported.
[**] Global warming potential.
[***] Including HFC-125, HFC-152a, HFC-227ea, HFC-245fa, R-407A, and R-507A.

HFC consumption obtained from the survey conducted during preparation of the Kigali HFC implementation plan

8. The 2019–2022 HFC consumption obtained from the survey is significantly higher than the previously reported Article 7 data, which did not include the imports of HFCs from the countries of the Eurasia Economic Union (EAEU). Armenia joined the EAEU in 2019, leading to imports of HFCs from EAEU countries being considered as movement, not imports, and therefore not recorded by customs. The Government of Armenia requested to revise 2019–2022 HFC consumption based on the survey. The 2019

HFC consumption has been revised, and the 2020–2022 data is pending review by the Implementation Committee at its 72nd meeting in July 2024. The HFC consumption from the survey is shown in table 4 below.

Table 4. HFC consumption in Armenia (2020–2022 survey data)

HFC	GWP	2020	2021	2022
Metric tonnes (mt)				
HFC-23	14,800.00	0.00	0.00	0.95
HFC-32	675.00	1.54	1.86	5.30
HFC-134a	1,430.00	78.9	81.54	81.88
R-404A	3,921.60	40.15	41.11	46.52
R-407C	1,773.85	39.12	33.94	33.35
R-410A	2,087.50	84.86	108.58	143.55
Others*		5.22	0.72	3.23
Total (mt)		**249.79**	**267.75**	**314.78**
CO_2-eq tonnes				
HFC-23	14,800.00	0	0	14,060
HFC-32	675.00	1,045	1,258	3,578
HFC-134a	1,430.00	112,837	116,603	117,092
R-404A	3,921.60	157,474	161,222	182,448
R-407C	1,773.85	69,403	60,207	59,163
R-410A	2,087.50	177,150	226,679	299,680
Others*		8,351	2,891	6,250
Total (CO_2-eq tonnes)		**526,260**	**568,860**	**682,271**

* Including HFC-125, HFC-152a, HFC-227ea, HFC-245fa, R-407A, and R-507A.

Established HFC baseline

9. The Government of Armenia reported the Article 7 data for 2020–2022. The country's HFC consumption baseline was established at 475,254 CO_2-eq tonnes by adding 65 per cent of its HCFC baseline (expressed in CO_2-eq tonnes) to its average HFC consumption in 2020–2022, as shown in table 5.

Table 5. HFC baseline calculation for Armenia (CO_2-eq tonnes)

Baseline calculation components	2020	2021	2022
HFC annual consumption	195,790	317,041	465,778
HFC average consumption in 2020-2022			326,203
HCFC baseline (65%)			149,051
HFC baseline			**475,254**

10. If the HFC consumption data in the baseline years is revised, the HFC baseline for Armenia would be revised as 741,515 CO_2-eq tonnes, as shown in table 6 below.

Table 6. Revised HFC baseline for Armenia (CO_2-eq tonnes)

Baseline calculation components	2020	2021	2022
HFC annual consumption	526,260	568,860	682,271
HFC average consumption in 2020-2022			592,464
HCFC baseline (65%)			149,051
HFC baseline			**741,515**

Country programme implementation report

11. The sectoral HFC consumption data provided by the Government of Armenia in its CP implementation report for 2022 is consistent with the data reported under Article 7 of the Montreal Protocol.

HFC consumption trends

12. HFC consumption has been increasing since 2019 due to the growing economy. In addition to economic development, other factors influencing increased imports could be delays in shipments in previous years due to disruptions in the supply chain; stockpiling by importers and distributors during the COVID-19 pandemic; and possible reserves of refrigerants acquired to avoid a shortage of HFCs during the freeze years.

HFC consumption by sector

13. Armenia does not produce or export HFCs. The HFC imports are mainly used in the refrigeration and air-conditioning (RAC) servicing sector and, to a very small extent, in the foam and aerosol sectors. There is also minor use of HFCs in the RAC equipment assembling sector.

14. The HFCs are mainly used for servicing equipment in industrial refrigeration (39.5 per cent in mt and 41.3 per cent in CO_2-eq tonnes), followed by chillers and heat pumps (20.3 per cent in mt and 16.0 per cent in CO_2-eq tonnes), residential AC (18.2 per cent in mt and 16.7 per cent in CO_2-eq tonnes), and other subsectors, as shown in tables 7 and 8.

Table 7. HFC consumption in Armenia in the RAC servicing subsectors in mt (2022)

Sector	HFC-23	HFC-32	HFC-134a	R-404A	R-407C	R-410A	Others**	Total	Share of total (%)
Refrigeration and AC servicing									
Refrigeration subsectors									
Domestic	0.00	0.00	3.24	0.00	0.00	0.00	0.00	3.24	1.0
Commercial	0.95	0.00	8.09	21.37	0.00	0.00	0.17	30.58	9.7
Industrial	0.00	0.00	17.95	20.58	15.69	69.35	0.71	124.28	39.5
Transport	0.00	0.00	2.67	4.57	0.00	0.00	0.13	7.37	2.3
Air-conditioning subsectors									
Residential	0.00	2.42	0.00	0.00	7.90	46.96	0.00	57.28	18.2
Mobile	0.00	0.00	28.23	0.00	0.00	0.00	0.00	28.23	9.0
Other*	0.00	2.88	21.7	0.00	9.76	27.25	2.22	63.83	20.3
Total	**0.95**	**5.30**	**81.88**	**46.52**	**33.35**	**143.56**	**3.23**	**314.80**	**100.0**

* Including chillers and heat pumps. RAC equipment is also assembled in Armenia but not included in the survey; a detailed study of this subsector is planned for stage I.
** Including HFC-125, HFC-245fa, and R-507A.

Table 8. HFC consumption in Armenia in the RAC servicing subsectors in CO_2-eq tonnes (2022)

Sector	HFC-23	HFC-32	HFC-134a	R-404A	R-407C	R-410A	Others**	Total	Share of total (%)
Refrigeration and AC servicing									
Refrigeration subsectors									
Domestic	0	0	4,632	0	0	0	0	4,632	0.7
Commercial	14,060	0	11,569	83,815	0	0	608	110,052	16.1
Industrial	0	0	25,664	80,701	27,833	144,768	2,845	281,811	41.3
Transport	0	0	3,813	17,933	0	0	510	22,256	3.3
Air-conditioning subsectors									
Residential	0	1,632	0	0	14,010	98,029	0	113,671	16.7
Mobile	0	0	40,363	0	0	0	0	40,363	5.9
Other*	0	1,947	31,052	0	17,320	56,883	2,287	109,489	16.0
Total	**14,060**	**3,579**	**117,093**	**182,448**	**59,164**	**299,680**	**6,250**	**682,274**	**100.0**

*/**: Same as table 7.

Refrigeration and air-conditioning servicing sector

15. There are approximately 300 technicians (one woman) and approximately 130 to 150 servicing workshops consuming HFCs in Armenia (15 women are working as trainers in the training institutions and as sale assistants in the workshops). There are three training institutions that provide professional training for RAC technicians. The implementation of a mandatory technician certification scheme is under consideration. During implementation of the HPMP, 135 RAC technicians have been trained in good servicing practices and the safe handling of refrigerants. Tools and training equipment have been provided to servicing workshops and the RAC technician association.

Domestic, commercial, industrial and transport refrigeration servicing

16. Industrial refrigeration is the largest subsector of HFCs (39.5 per cent of all HFC use in mt), consisting of approximately 10,000 large distributed systems, industrial chiller systems and small- to medium-sized systems. Commercial refrigeration accounts for 9.7 per cent of all HFC use in mt, comprising approximately 255,000 condensing units, cold rooms, and ice-making plants installed in commercial buildings. The dominant refrigerant used in industrial and commercial refrigeration sector is R-410A (44.8 per cent) in industrial chillers, followed by R-404A (27.1 per cent), R-134a (16.8 per cent), and R-407C (10.1 per cent), with the remaining use made up of HFC-23 and R-507A. The potential alternatives to be introduced could include R-448A, R-449A, R-600a, R-290, R-717 and R-744.

17. The transport refrigeration sector only accounts for 2.3 per cent of all refrigerant use in the country and comprises approximately 4,650 units of refrigerated trucks for food distribution. Refrigerants used include R-404A, R-134a and R-507A. The potential alternatives to be introduced could include R-452A and R-744.

18. The domestic refrigeration servicing subsector consumes only 1.0 per cent of all HFCs, although it has the most equipment (estimated at 1,351,860 units of refrigerators, freezers and water coolers). Low-GWP technologies have been widely adopted, with 46.7 per cent of equipment based on R-600a and other low-GWP refrigerants, and the remaining 53.3 per cent using HFC-134a.

Residential, commercial and mobile air-conditioning servicing

19. The stationary AC subsector comprises approximately 451,660 pieces of equipment. Out of this stock, 9 per cent uses HCFC-22 and 91 per cent uses HFCs. R-410A is the dominant refrigerant used in the subsector (81 per cent of the sectoral use), followed by R-407C (13.8 per cent) and HFC-32 (4.2 per cent). The potential alternatives to be introduced could include HFC-32, R-290, R-446A, R-447A and R-744.

20. The country's mobile air-conditioning servicing sector refers to climate-control systems installed in 341,500 cars, sport utility vehicles, commercial trucks and buses, and solely uses HFC-134a as refrigerant. The potential alternatives to be introduced could include R-1234yf, R-744 and HFC-152a.

Local installation and assembly subsector

21. There are many informal small workshops offering installation and maintenance services of RAC equipment. RAC equipment is also assembled in Armenia. The survey did not cover the assembly and installation subsector. The Government plans to collect information on the subsector during the implementation of stage I of the KIP so that technicians in the sector can be included in the training and certification scheme.

IV. Stage I of the Kigali HFC implementation plan as submitted

Institutional, policy and regulatory framework

22. The Ministry of the Environment is responsible for the implementation of the Montreal Protocol. The national ozone unit (NOU) within the Ministry of Environment is responsible for the implementation of all projects for phasing out and phasing down controlled substances under the Montreal Protocol, including stage I of the KIP, in coordination with other Government departments and key stakeholders.

23. The mechanism for coordination with stakeholders established during the HPMP has been proven effective and will be continued in stage I of the KIP. The key stakeholders include customs for the control of legal entry of substances and equipment into the country; the National Body for Standards and Metrology (ARMSTANDARD) of the Ministry of Economy for the introduction of codes and standards for the safe handling of flammable and/or toxic refrigerants; the Ministry of Territorial Administration and Infrastructure for developing and promoting the national energy-efficiency policy and standards for sustainable development; the department of the EAEU and Foreign Trade of the Ministry of Economy for coordinating legislation updates related to the EAEU; and the Ministry of Education, Science, Culture and Sports for vocational training programmes for technicians and customs officers.

24. Further to ratifying the Kigali Amendment, the Government of Armenia has amended the Law on the Protection of the Ozone Layer (N 218-N) to extend the licensing system to pure HFCs as of 18 April 2021 and to HFC blends as of December 2023; and the quota system has been applied starting from 2024. The Government plans to address the minimum energy performance standards (MEPS) and labelling requirements during stage I of the KIP.

Phase-down strategy for stage I of the Kigali HFC implementation plan

Overarching strategy

25. The KIP for Armenia includes three stages: 2024 to 2029; 2030 to 2039; and 2040 to 2045. Its implementation will reduce HFC consumption by 80 per cent by 2045 following the Montreal Protocol phase-down schedule.

26. Stage I of the KIP is planned to reduce 10 per cent of HFC baseline by 2029 by strengthening the regulatory framework to limit the import of HFC-based equipment; restricting the use of high-GWP refrigerants; and promoting the adoption of low-GWP alternatives through capacity-building and awareness-raising activities.

27. Stage I of the KIP will be implemented through an integrated approach when selecting alternatives, ensuring ozone and climate benefits and minimizing the impact on climate as well as meeting health and safety and economic considerations.

Proposed activities

28. The following activities are proposed in stage I of the KIP:

(a) *Strengthening of the legal and regulatory framework:* Expanding the licensing and quota system to include HFC blends; implementing bans on imports of HFC-based equipment over different timeframes as shown in table 9 below; establishing and implementing a monitoring system for HFC imports from EAEU member countries; and undertaking a study on the codes of practices for handling low-GWP refrigerants and developing a manual for codes of practices and the safe handling of flammable refrigerants (UNIDO) (US $117,000);

Table 9: Planned bans to be introduced in stage I of the KIP for Armenia

Ban	Date	Remarks
Domestic refrigerators and freezers containing HFCs with a GWP of 150 or higher	1 January 2027	
Commercial refrigeration equipment containing HFCs with a GWP of 2,500 or higher	1 January 2027	
Moveable room air-conditioners containing HFCs with a GWP of 800 or higher	1 January 2027	
Split air-conditioners containing less than 3 kg of F-gases with a GWP of 800 or higher	1 January 2027	
Trading domestically with HFCs in non-refillable containers	1 January 2028	
Stationary refrigeration equipment containing HFCs with a GWP of 2,500 or higher, or relying on such HFCs	1 January 2029	Except when used for medical purposes or needed for safety reasons based on national standards.

(b) *Capacity-building of customs and enforcement officers:* Updating the customs training material, and four workshops to train 240 customs and enforcement officers; and holding two information and awareness-raising workshops for importers and distributors on the safe handling, storage, and repackaging of refrigerants (UNEP) (US $64,000);

(c) *Capacity-building of RAC technicians:* Conducting one international training session for two trainers on the safe use of alternative technologies; and training an additional two trainers and 80 technicians (two workshops) on low-GWP technologies, safety standards, leakage control, energy efficiency, and recovery and recycling, as well as on alternative refrigerants (HFOs, HCs, CO_2 and ammonia) (UNEP) (US $55,000);

(d) *Support to training institutions:* Providing tools and equipment to two training centres[3] for servicing RAC appliances based on low-GWP refrigerants (UNIDO) (US $40,150);

(e) *Technical assistance:* Conducting a study on the consumption and use of HFCs in the aerosol, solvent, firefighting, and foam sectors and in the RAC assembly sector, including on alternative technologies relevant for the local market (UNIDO) (US $25,000);

(f) *Awareness-raising:* Organizing an awareness-raising campaign for end-users and industries in the RAC sector on low-GWP and high-efficiency equipment and refrigerant alternatives and their economic and environmental benefits, and a campaign involving female RAC trainers to promote women in RAC (UNIDO) (US $12,000); and

(g) Project coordination and monitoring (UNIDO) (US $11,850).

Project implementation, coordination and monitoring

29. The approach established under the HPMP will continue into stage I of the KIP, with the NOU, UNIDO, and UNEP coordinating and monitoring the project, reporting on progress, and working with stakeholders. The cost of those activities for UNIDO amounts to US $11,850, and includes consultants (US $8,000), domestic travel (US $3,000), and miscellaneous costs (US $850).

Gender policy implementation

30. The Government of Armenia, UNIDO and UNEP are fully committed to implementing the gender policy of the Multilateral Fund and their own gender policies. The NOU has undertaken a gender assessment

[3] Each centre will receive: a flushing machine, a brazing kit, a demonstration AC unit, two manifold gauges, an ATEX pump, a charging station for hydrocarbons, a weigh scale, two leak detectors, two HCFC recovery machines, a contamination test kit, an ATEX air blower, three recovery cylinders, a Lockring, and servicing kits.

of women's participation in the refrigeration, air-conditioning and heat pump (RACHP) sector in Armenia. In line with the gender mainstreaming policies of the Multilateral Fund, the implementation of stage I will integrate gender equality and women's empowerment into all activity components. Efforts will be made to involve female trainees in vocational schools, and to involve female technicians, customs officers, environmental inspectors and importers in awareness-raising activities as well as training workshops. Efforts will also be made to ensure that the training materials and information are gender-responsive and that women and men are equally presented. Sex-disaggregated data will be collected.

Coordination of activities in the servicing sector under HCFC phase-out and HFC phase-down plans

31. The KIP (2024–2029) will be implemented in an integrated manner with stage III of the HPMP (2025–2030). Stage III of the HPMP is currently under preparation and will be submitted to the 95th meeting. The activities under stage III of the HPMP will be carefully designed to ensure complementarity to achieve synergies and avoid duplication of efforts. The way in which activities in stage I of the KIP are coordinated with those planned under the HPMP is presented in annex II to the present document.

Total cost of stage I of the Kigali HFC implementation plan

32. Based on the current HFC consumption reported under the Article 7 of the Montreal Protocol, the eligible funding level for Armenia should be US $180,000 for implementing stage I of the KIP to achieve a 10 per cent reduction from the HFC baseline in line with decision 92/37. The Government requested US $325,000 for achieving a 10 per cent reduction from the revised HFC baseline calculated using the consumption data obtained from the survey.

Implementation of the first tranche of stage I of the Kigali HFC implementation plan

33. The first funding tranche of stage I of the KIP, in the total amount of US $165,075, will be implemented between July 2024 and December 2026 and will include the following activities:

(a) *Strengthening of the legal and regulatory framework:* Expanding the licensing and quota system to include HFC blends; implementing bans on imports of HFC-based equipment over different timeframes; establishing and implementing a monitoring system for HFC imports from EAEU member countries; and undertaking a study on the codes of practices on the handling low-GWP refrigerants and developing a manual for codes of practices and safe handling of flammable refrigerants (UNIDO) (US $58,000);

(b) *Capacity-building of customs and enforcement officers:* Updating the customs training material, and conducting two workshops to train 120 customs and enforcement officers; and holding one information and awareness-raising workshops for importers and distributors on the safe handling, storage, and repackaging of refrigerants (UNEP) (US $36,000);

(c) *Capacity-building of RAC technicians:* Conducting one international training session for two trainers on the safe use of alternative technologies; and providing training to an additional two trainers and 40 technicians (one workshop) on low-GWP technologies, safety standards, leakage control, energy efficiency, and recovery and recycling, as well as on alternative refrigerants (HFOs, HCs, CO_2 and ammonia) (UNEP) (US $30,000);

(d) *Supports to training institutions:* To begin procurement of tools and equipment to two training centres for servicing RAC appliances based on low-GWP refrigerants (UNIDO) (US $20,075);

(e) *Technical assistance:* To undertake the study on the consumption and use of HFCs in the aerosol, solvent, firefighting, and foam sectors, including on alternative technologies relevant for the local market (UNIDO) (US $10,000);

(f) *Awareness-raising:* Organizing an awareness-raising campaign for end-users and industries in the RAC sector on low-GWP and high-efficiency equipment and refrigerant alternatives and their economic and environmental benefits, and a campaign involving female RAC trainers to promote women in RAC (UNIDO) (US $6,000); and

(g) Project coordination and monitoring (US $5,000) for consultants (US $3,500), domestic travel (US $1,000), and miscellaneous costs (US $500) (UNIDO).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

Overarching strategy

34. The Secretariat noted that the Government plans to enforce a freeze target baseline of 475,254 CO_2-eq tonnes, which is 80 per cent of the revised average HFC consumption of 592,464 CO_2-eq tonnes in 2020–2022, and queried whether the Government wishes to maintain this reduction level in stage I (to be achieved in 2029) to achieve accelerated phase-down in line with decision 92/44. UNIDO advised that the revised HFC consumption in 2022 is 682,271 CO_2-eq tonnes and the revised average 2020-2022 consumption is 592,464 CO_2-eq tonnes. The country therefore needs to achieve significant HFC reduction from the current consumption level to achieve 10 per cent reduction from the revised average HFC consumption in 2020-2022. In view of challenges in implementation, the Government of Armenia will not pursue the option for accelerated phase-down.

35. The Secretariat further enquired whether there is a risk of non-compliance in 2024 given the high HFC consumption in 2022. UNIDO advised that there is no risk for non-compliance in 2024. The 2022 HFC consumption of 682,271 CO_2-eq tonnes is still below the revised baseline of 741,515 CO_2-eq tonnes as shown in table 6. It is expected that the 2023 HFC consumption will not be higher than the revised baseline. The country is imposing a quota for 2024 based on the currently established baseline of 475,254 CO_2-eq tonnes, which will ensure that the consumption in 2024 does not exceed the revised baseline.

Institutional, policy and regulatory framework

HFC licensing and quota system

36. In line with decision 87/50(g), UNIDO has confirmed that Armenia has an established and enforceable system of licensing and quotas for monitoring HFC imports/exports. The HFC quota for 2024 will be issued at the established baseline of 475,254 CO_2-eq tonnes in line with the Montreal Protocol.

Technical and cost-related issues

37. The Secretariat noted that the HFC import from EAEU countries had not been recorded as imports by customs and sought clarification on how this would be resolved under the KIP implementation. UNIDO clarified that the legislation (Agreement on the Movement of Ozone-Depleting Substances and Products Containing Them and Recording of Ozone-Depleting Substances in the Mutual Trade of Member States of the Eurasian Economic Union) has been established to include all imports in the customs data. The Government has started to actively implement the new legislation. Coordination among the Ministry of Environment, the State Revenue Committee, the Customs Service, and the Ministry of Economy are

ongoing, and it was agreed to identify the authoritative body for overseeing the movement of regulated substances imported from the EAEU countries.

38. The Secretariat noted the study for the aerosol, solvent, firefighting, foam and assembly subsectors and queried whether this should have been part of project preparation. UNIDO clarified that the KIP preparation survey did not include the niche uses of HFCs in small sectors, as this information proved difficult to obtain for the surveyors. Furthermore, the information on consumption in these subsectors and the enterprises included therein is not of the type usually collected through the standard surveys but is rather for the purpose of research to expand the information base for further development of regulatory measures in a more comprehensive manner to address the consumption in these subsectors. Based on the clarification, the Secretariat recommends approving this component as it was proposed.

Tranche distribution and cost adjustments

39. The Secretariat noted that stage I of the KIP planned only two tranches in 2024 and 2026. In line with decision 93/105, the Secretariat considered the tranche distribution proposed by UNIDO on a case-by-case basis. The dual-tranche modality is consistent with the tranche distribution modalities for KIPs proposed in document UNEP/OzL.Pro/ExCom/94/59. To better plan tranche distribution for more efficient implementation, the second tranche was moved to 2027. In the event that the country does not comply with the maximum allowable consumption target for any year following the approval of the last tranche, the issues would be considered in line with Appendix 7-A of the future KIP Agreement ("Reductions in funding for failure to comply with the targets in the Agreement"), noting that any reduction in funding, if applicable, would be applied at the time of approval of stage II of the KIP.

Total project cost

40. Based on decision 92/37, funding eligibility to implement stage I of the KIP for Article 5 countries that had an average HFC consumption in the servicing sector during the baseline years of up to 360 mt is determined by the average HFC consumption in baseline years in the servicing sector. For Armenia, the eligible funding is US $180,000 based on the previously reported Article 7 data (baseline of 475,254 CO_2-eq tonnes). However, the eligible funding would be US $325,000 if the HFC consumption in the baseline years is revised (revised baseline of 741,515 CO_2-eq tonnes). The Secretariat reviewed the survey data and considered that the survey data more realistically reflects the level of HFC consumption in the country. Given that the country needs to enforce a stringent freeze baseline of 475,254 CO_2-eq tonnes and meanwhile the 2022 consumption of 682,271 CO_2-eq tonnes has significantly exceeded the enforced freeze target, the Secretariat recommends to the Executive Committee to consider approving funding of US $325,000 for Armenia on the understanding that the approved funding will be adjusted in line with decision 92/37 if the revision of HFC consumption in the baseline years is not approved by the Implementation Committee.

41. Stage I of the KIP will be implemented in two tranches. The Government will ensure that the funding schedule for HCFC phase-out will be planned in synchronization with HFC phase-down in order to maximize benefits and reduce administrative burden.

Co-financing

42. During the implementation of the KIP, the NOU will explore co-financing opportunities and incentives with the support of the implementing agencies. This might involve co-funding from the beneficiaries when replacing high-GWP equipment with more environmentally friendly and energy-efficient technologies; partnering with educational institutions and industry associations to enhance the training and certification process; and tapping into global funding facilities focused on social and climate concerns to support initiatives such as promoting gender equity, advancing green cooling strategies,

boosting energy efficiency, and fostering public-private collaborations in updating and improving the refrigerant management system.

2024–2026 business plan of the Multilateral Fund

43. UNIDO and UNEP are requesting US $325,000, plus agency support costs, for the implementation of stage I of the KIP for Armenia. The total value of US $186,635, including agency support costs, requested for the period of 2024–2026, is US $104,210 above the amount in the business plan.

Sustainability of the HFC phase-down and assessment of risks

44. The Government of Armenia has identified several risks to the successful implementation of stage I of the KIP to achieve sustainable reduction in HFC consumption. The proliferation of high-GWP technologies poses a risk to the introduction of low-GWP technologies. To address this, the Government has planned a comprehensive package of bans on the import of HFC-based equipment over different timeframes to limit the import of HFC-based equipment using high-GWP refrigerants. The control of imports from the EAEU countries is identified as another risk to successful implementation of the KIP, as the legal procedure for monitoring and controlling the movements of HFCs from EAEU countries is still being developed. To address this, the NOU will work actively with other Government departments to ensure that the imports from EAEU countries are properly monitored and recorded. Another risk identified is that the import control and enforcement mechanism is unable to respond to the additional challenges associated with HFC phase-down. To address this, the KIP has planned training activities for customs officers and awareness-raising workshops for importers and distributors on the safe handling, storage, and repackaging of refrigerants.

Impact on the climate

45. The activities proposed, including regulatory measures to restrict the import of appliances using high-GWP refrigerants, the training of technicians in good servicing practices and refrigerant recovery and reuse, and efforts to promote low-GWP alternatives, indicate that the implementation of stage I of the KIP will reduce HFC emissions into the atmosphere, resulting in climate benefits. While the Secretariat is not able to provide an estimate of the overall climate benefits of the KIP at the present meeting,[4] by 2029 Armenia will have reduced the country's annual emissions by approximately 74,151 CO_2-eq tonnes of HFCs, calculated as the difference between the revised HFC baseline for compliance and the 2029 target, assuming that all HFCs consumed will eventually be emitted.

Draft Agreement

46. A draft Agreement between the Government of Armenia and the Executive Committee for stage I of the KIP has not been prepared as the Agreement template is still under consideration by the Executive Committee.

47. If the Executive Committee so wishes, the funds for stage I of the KIP for Armenia could be approved in principle, and funds for the first tranche could be approved on the understanding that the Agreement would be prepared and presented at a future meeting, before the submission of the second tranche, and once the Agreement template has been approved.

[4] As noted in document 94/14, Overview of issues identified during project review, the Secretariat was in the process of developing a methodology to estimate the avoided emissions from the implementation of HFC phase-down projects supported by the Multilateral Fund.

VI. Recommendation

48. The Executive Committee may wish to consider:

(a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Armenia for the period 2024–2029 to reduce HFC consumption by 10 per cent of the country's baseline by 2029, in the amount of US $367,250, consisting of US $206,000, plus agency support costs of US $26,780, for UNIDO and US $119,000, plus agency support costs of US $15,470, for UNEP, as reflected in the schedule contained in annex I to the present document, on the understanding that annex I will be revised when the second tranche of the KIP is submitted as follows:

(i) If the revision of the consumption data in the baseline years is not approved by the Implementation Committee, the maximum allowable consumption would be adjusted in accordance with the established baseline and the funding for stage I of the KIP would be adjusted in accordance with decision 92/37;

(ii) If the revision of the consumption data in the baseline years is approved by the Implementation Committee, the Montreal Protocol targets would be adjusted in consistence with the revised baseline;

(b) Noting that the Government of Armenia will implement the following regulatory measures:

(i) A ban on the import of domestic refrigerators and freezers containing HFCs with a GWP of 150 or higher by 1 January 2027;

(ii) A ban on the import of commercial refrigeration equipment containing HFCs with a GWP of 2,500 or higher by 1 January 2027;

(iii) A ban on the import of moveable room air-conditioning units containing HFCs with a GWP of 800 or higher, and split air-conditioners containing less than 3 kg of fluorinated gases with a GWP of 800 or higher by 1 January 2027;

(iv) A ban on domestically trading HFCs in non-refillable containers by 1 January 2028;

(v) A ban on the import of stationary refrigeration equipment containing or relying on HFCs with a GWP of 2,500 or higher by 1 January 2029; and

(c) Approving the first tranche of stage I of the KIP for Armenia, and the corresponding tranche implementation plan, in the amount of US $186,535, consisting of US $99,075 plus agency support costs of US $12,880, for UNIDO, and US $66,000 plus agency support costs of US $8,580, for UNEP; and

(d) Requesting the Government of Armenia, UNIDO, UNEP and the Secretariat to finalize the draft Agreement between the Government of Armenia and the Executive Committee for the reduction in consumption of HFCs, including the information contained in the annex referred to in subparagraph (a) above, and to submit it to a future meeting once the KIP Agreement template has been approved by the Executive Committee.

Annex I

SCHEDULE OF HFC PHASE-DOWN COMMITMENTS AND FUNDING TRANCHES UNDER THE KIGALI HFC IMPLEMENTATION PLAN FOR ARMENIA

Kigali HFC implementation plan (stage I)

Row	Particulars	2024	2025	2026	2027	2028	2029	Total
1.1	Montreal Protocol reduction schedule of Annex F substances (CO_2-eq tonnes)	475,254	475,254	475,254	475,254	475,254	427,729	n/a
1.2	Maximum allowable total consumption of Annex F substances (CO_2-eq tonnes)*	741,515	741,515	741,515	741,515	741,515	667,363	n/a
2.1	Lead IA (UNIDO) agreed funding (US $)	99,075	0	0	106,925	0	0	**206,000**
2.2	Support costs for Lead IA (US $)	12,880	0	0	13,900	0	0	**26,780**
2.3	Cooperating IA (UNEP) agreed funding (US $)	66,000	0	0	53,000	0	0	**119,000**
2.4	Support costs for Cooperating IA (US $)	8,580	0	0	6,890	0	0	**15,470**
3.1	Total agreed funding (US $)	165,075	0	0	159,925	0	0	**325,000**
3.2	Total support costs (US $)	21,460	0	0	20,790	0	0	**42,250**
3.3	Total agreed costs (US $)	186,535	0	0	180,715	0	0	**367,250**

***** Based on the revised data to be approved by the Implementation Committee.

Annex II

SIMULTANEOUS IMPLEMENTATION OF THE HCFC PHASE-OUT MANAGEMENT PLAN AND THE KIGALI HFC IMPLEMENTATION PLAN IN ARMENIA

Category of activity	HPMP Stage III		KIP Stage I	
	Activities	**Cost (US $)**	**Activities**	**Cost (US $)**
Legal and regulatory framework	Harmonization of national legislation with the EU and EAEU legislation	TBD	Expanding and improving the licensing and quota system	38,000
	Updating of the guide on ODS/HFC legislation	TBD	Introduction and implementation of the ban on imports of HFC-based equipment	33,000
	Introduction of the mandatory certification scheme for RAC specialists following the EU practice	TBD	Introduction and implementation of further legal and regulatory framework for the HFC phase-down	28,000
	Establishment of the electronic register of operators	TBD	Further development of codes of practice and standards on handling low-GWP technologies	18,000
			Targeted awareness-raising campaigns on HFCs and	12,000
			Low-GWP technologies, including campaigns targeting women	
			Detailed sectoral studies	25,000
Capacity building of RAC trainers and technicians	Training for RAC technicians on good servicing practices	TBD	Training for RAC trainers and technicians on good servicing practices including refrigerant recovery	55,000
Capacity building of customs officers	Training of Customs and enforcement officers	TBD	Training for customs and enforcement officers	52,000
			Information and awareness-raising workshops for economic operators	12,000
Strengthening technical capacities for refrigeration management	Recovery, recycling, and reclamation assessment and business planning	TBD	Provision of RAC servicing tools for low-GWP equipment	40,150
	Supply of leakage detectors to the Environmental Protection and Mining Inspectorate	TBD		
	Upgrading three vocational schools through the rehabilitation of training rooms and provision of training stimulators	TBD		
Project coordination and management	Project coordination, monitoring and reporting	TBD	Project coordination, monitoring and reporting	11,850