



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/95/78
21 October 2024

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-fifth Meeting
Montreal, 4-8 December 2024
Item 9(d) of the provisional agenda¹

PROJECT PROPOSAL: TOGO

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 UNEP and UNIDO Individual
tranche) consideration

¹ UNEP/OzL.Pro/ExCom/95/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Togo

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

LATEST ARTICLE 7 DATA (Annex F)	Year: 2023	396.50 mt	736,797 CO ₂ -eq tonnes
--	-------------------	-----------	------------------------------------

SECTORAL HFC CONSUMPTION DATA (CO₂-eq tonnes) AND ACTIVITIES									
	Aerosol	Foam	Fire-fighting	AC and refrigeration			Servicing	Solvent	Other
				Manufacturing					
				Refrigeration	AC	Other			
Latest CP report (2023)							736,797		
KIP stage I activities as agreed (Y/N)							Y		

AVERAGE 2020-2022 HFC CONSUMPTION IN SERVICING	383.59 mt	698,315 CO ₂ -eq tonnes
---	-----------	------------------------------------

BASELINE CONSUMPTION DATA (CO₂-eq tonnes)	2020	2021	2022	Average 2020-2022
HFC annual consumption	607,767	635,045	852,133	698,315
HCFC baseline (65%)				426,581
HFC baseline				1,124,896

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	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406	n/a	
	Maximum allowable	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406	n/a	
	Maximum allowable (%)	100	100	100	100	100	90	n/a	
Amounts recommended in principle (US \$)	UNEP	Project costs	117,500	0	0	102,500	0	0	220,000
		Support costs	15,275	0	0	13,325	0	0	28,600
	UNIDO	Project costs	70,000	0	0	70,000	0	0	140,000
		Support costs	9,100	0	0	9,100	0	0	18,200
	Total project costs		187,500	0	0	172,500	0	0	360,000
	Total support costs		24,375	0	0	22,425	0	0	46,800
	Total funds		211,875	0	0	194,925	0	0	406,800

* Recommended for approval at the present meeting

Reduction from remaining consumption eligible for funding stage I in CO ₂ -eq tonnes	n/a
---	-----

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 Togo, UNEP 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 \$406,800, consisting of US \$220,000, plus agency support costs of US \$28,600 for UNEP and US \$140,000, plus agency support costs of US \$18,200 for UNIDO, as originally submitted.²

3. The implementation of stage I of the KIP will assist the Government of Togo 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 \$211,875, consisting of US \$117,500, plus agency support costs of US \$15,275 for UNEP and US \$70,000, plus agency support costs of US \$9,100 for UNIDO, as originally submitted, for the period of January 2025 to December 2027.

II. Background

Status of implementation of the HCFC phase-out management plan

5. Table 1 presents information on the HCFC phase-out management plan (HPMP) in Togo as of October 2024.

Table 1. HPMP implementation status for Togo

	Stage I	Stage II
Meeting when HPMP was approved	62 nd	91 st
Reduction from baseline	35% by 2020	100% by 2030
Total project cost (US \$)	630,000	1,170,000
Date of completion (actual/planned)	31 December 2022	31 December 2031

² As per the letter of 14 August 2024 from the Ministry of Environment and Forest Resources of Togo to the Secretariat.

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Togo

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
74 th	Survey of ODS alternatives	UNEP	35,000	Aug 2017
80 th	Enabling activities for HFC phase-down	UNEP	150,000	Dec 2021
93 rd	Preparation of a pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down	Germany	30,000	June 2025

III. HFC consumption overviewHFC consumption levels

7. Togo only imports HFCs for use in the refrigeration and air-conditioning (RAC) sector. The most consumed substances in 2023 were HFC-134a (44.9 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-410A (36.5 per cent), R-404A (18.4 per cent), and other HFCs (0.2 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 Togo (2018–2023 Article 7 data)

HFC	GWP*	2018	2019	2020	2021	2022	2023
Metric tonnes (mt)							
HFC-32	675	0.00	0.00	0.00	0.20	0.41	1.59
HFC-134a	1,430	225.58	257.75	160.47	199.25	231.50	231.28
R-404A	3,922	13.22	19.08	12.61	10.61	25.97	34.61
R-407C	1,774	7.84	16.84	9.52	7.70	8.10	0.20
R-410A	2,088	222.98	155.23	149.44	141.18	193.82	128.82
Total (mt)		469.62	448.90	332.04	358.94	459.80	396.50
CO₂-eq tonnes							
HFC-32	675	0	0	0	138	277	1,073
HFC-134a	1,430	322,579	368,583	229,472	284,928	331,045	330,730
R-404A	3,922	51,844	74,824	49,451	41,608	101,844	135,727
R-407C	1,774	13,907	29,872	16,887	13,659	14,368	355
R-410A	2,088	465,471	324,043	311,956	294,713	404,599	268,912
Total (CO₂-eq tonnes)		853,801	797,321	607,767	635,045	852,133	736,797

* Global warming potential

Established HFC baseline

8. The Government of Togo reported the Article 7 data for 2020-2022. The country's HFC consumption baseline was established at 1,124,896 CO₂-eq tonnes by adding 65 per cent of its HCFC baseline (expressed in CO₂-eq tonnes) to its average HFC consumption in 2020-2022, as shown in table 4.

Table 4. HFC baseline calculation for Togo (CO₂-eq tonnes)

Baseline calculation components	2020	2021	2022
HFC annual consumption	607,767	635,045	852,133
HFC average consumption in 2020-2022	698,315		
HCFC baseline (65%)	426,581		
HFC baseline	1,124,896		

Country programme implementation report

9. The sectoral HFC consumption data provided by the Government of Togo in its country programme (CP) implementation report for 2023 is consistent with the data reported under Article 7 of the Montreal Protocol.

HFC consumption trends

10. HFC consumption has been irregular since 2018, largely due to effects from the COVID-19 pandemic. R-410A decreased in 2020 and 2021 due to less servicing of air-conditioning (AC) equipment during the pandemic, followed by substantial imports in anticipation of high servicing demands; however, those needs were likely overestimated and used the following year, reducing imported quantities for that year. In contrast, R-404A continued to increase following the pandemic due to growth of the refrigeration subsectors. Similarly, consumption of HFC-134a decreased in 2020 and 2021 due to less servicing of refrigeration and mobile air-conditioning (MAC) equipment during the pandemic, followed by an increase in consumption with the recovery from COVID-19.

HFC consumption by sector

11. HFCs are exclusively used in the servicing sector, with the largest use in servicing commercial refrigeration equipment (51.4 per cent in mt and 50.1 per cent in CO₂-eq tonnes), followed by residential AC equipment (17.4 per cent in mt and 19.2 per cent in CO₂-eq tonnes), domestic refrigerators (17.4 per cent in mt and 13.3 per cent in CO₂-eq tonnes), and other subsectors, as shown in tables 5 and 6.³

Table 5. HFC consumption in Togo in the refrigeration and AC servicing subsectors in mt (2023)

Sector	HFC-134a	HFC-32	R-404A	R-407C	R-410A	Total	Share of total (%)
Refrigeration subsectors							
Domestic	63.45	0.00	0.00	0.00	0.00	63.45	17.4
Commercial	157.78	0.00	29.34	0.20	0.00	187.32	51.4
Transport	0.00	0.00	10.91	0.00	0.00	10.91	3.0
Subtotal	221.23	0.00	40.25	0.20	0.00	261.68	71.8
Air-conditioning subsectors							
Residential	0.00	1.49	0.00	0.00	62.11	63.60	17.4
Commercial	0.00	0.14	0.00	0.00	29.55	29.69	8.1
Mobile	9.54	0.00	0.00	0.00	0.00	9.54	2.6
Subtotal	9.54	1.63	0.00	0.00	91.66	102.83	28.2
Total	230.77	1.63	40.25	0.2	91.66	364.51	100

Table 6. HFC consumption in Togo in the refrigeration and AC servicing subsectors in CO₂-eq tonnes (2023)

Sector	HFC-134a	HFC-32	R-404A	R-407C	R-410A	Total	Share of total (%)
Refrigeration subsectors							
Domestic	90,730	0	0	0	0	90,730	13.3
Commercial	225,630	0	115,065	355	0	341,051	50.1
Transport	0	0	42,782	0	0	42,782	6.3
Subtotal	316,360	0	157,848	355	0	474,563	69.7

³ Paragraph 40 of the present document discusses the differences between the estimated use of HFCs by subsector and the total imports reported under Article 7 of the Montreal Protocol.

Sector	HFC-134a	HFC-32	R-404A	R-407C	R-410A	Total	Share of total (%)
Air-conditioning subsectors							
Residential	0	1,006	0	0	129,649	130,655	19.2
Commercial	0	95	0	0	61,693	61,787	9.1
Mobile	13,639	0	0	0	0	13,639	2.0
Subtotal	13,639	1,101	0	0	191,341	206,081	30.3
Total	329,999	1,101	157,848	355	191,341	680,644	100

Refrigeration and air-conditioning servicing sector

12. There are 1,588 technicians (including 276 women) and 876 workshops consuming HFCs in Togo, with approximately 8 per cent of technicians working independently. Many RAC workshops and technicians will service both RAC and MAC equipment, whereas technicians and workshops exclusive to MAC are rare; vehicle repair mechanics will often hire RAC/MAC servicing technicians as needed. An RAC certification scheme is being established under stage II of the HPMP. There are four vocational training centres in the country offering diplomas in RAC (of which three will be converted to RAC centres of excellence under the HPMP), as well as an educational centre offering a baccalaureate course in RAC and three private training institutes providing RAC courses.

Domestic, commercial and transport refrigeration servicing

13. There are approximately 530,000 refrigerators, freezers, and water coolers consuming HFC-134a in the domestic refrigeration subsector, with a reported leakage rate of 50 per cent; a further approximately 326,000 units are based on R-600a.

14. The commercial refrigeration subsector is the highest consumer of HFCs in the country and comprises approximately 30,500 stand-alone units, condensing units, and small and large centralized systems consuming HFC-134a, R-404A and R-407C. Leakage rates in the subsector are also high, estimated between 40 and 50 per cent. In addition, there are approximately 2,800 HCFC-22-based and 4,300 R-290-based units in the country, with the latter being exclusively stand-alone commercial refrigeration units.

15. The transport refrigeration subsector comprises vans, trucks, trailers, and containers, with approximately 5,800 consuming R-404A at a 40 per cent leakage rate.

Residential and commercial air-conditioning servicing

16. There are an estimated 694,872 window, split, and portable AC units consuming HFCs in the country's residential AC subsector, with leakage rates ranging from 10 per cent (HFC-32-based split units) to 50 per cent (R-410A-based window units); 94 per cent of HFC-based units in this subsector are R-410A-based split units, with a leakage rate of 30 per cent. HCFC-22 is also used to service older HCFC-22-based residential AC units still in use in the country.

17. There are an estimated 9,690 units consuming HFCs in the commercial AC subsector, which comprises multi-split, variable-refrigerant flow (VRF), and packaged rooftop equipment. HFC use in this subsector is mainly R-410A, associated with equipment leakage rates of 30 per cent; HFC-32 consumption accounts for less than 1 per cent though equipment is believed to have a higher leakage rate of 50 per cent.

Mobile air-conditioning servicing

18. The MAC subsector, which includes cars, small vans, large vehicles, and buses, consumes HFC-134a to service approximately 66,000 vehicles, comprising around 2 per cent of HFC use in the

country. The average charge per vehicle of light vehicles is 0.8 kg, of larger vehicles 2.0 kg, and of buses 10.0 kg, all with a high reported leakage rate of 50 per cent.

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

Institutional, policy and regulatory framework

19. Togo has ratified all amendments to the Montreal Protocol, including the Kigali Amendment on 8 March 2018. Several related policies and legislations have been enacted under the Constitution of 1992, which provides the right of Togolese citizens to a healthy environment and sets an obligation for the country to protect the environment. National legislation is complemented by the country's five-year Strategic framework for Environmental and Natural Resource Management (CSIGERN), as well as the subregional regulations of the Union Économique et Monétaire Ouest Africaine (UEMOA) and the Economic Community of West African States (ECOWAS), of which Togo is a member.

20. The country's HFC licensing system has been operational since 2021, and the quota system as of 1 January 2024. The country plans to set future quotas according to the agreed maximum allowable consumption minus a small buffer to account for unforeseen circumstances.⁴ Quotas were allocated to importers based on their imports during the baseline years and are provided in CO₂-eq tonnes, allowing importers to increase the metric tonnes of refrigerant they may import by importing lower-GWP refrigerants. Interministerial Decree No. 13/MERF/MEF/MCICL, adopted on 30 March 2021, includes provisions for licensing, quotas and data reporting for the import and distribution of HFCs, and obliges the importers and distributors of HFCs to label the containers with (at least) the customs code, type and quantity of the refrigerant.

21. Key stakeholders involved in the implementation of the HPMP will continue under the KIP. The national ozone unit (NOU) is the national office for coordinating the implementation of all HCFC phase-out and HFC phase-down activities in Togo, and acts as a liaison between project stakeholders. It operates on behalf of the Ministry of Environment and Forestry Resources (MERF) and is housed under MERF's Directorate of Environment. The national ozone committee (NOC), established by Decree No. 13/MERF of 28 April 2005, is an interministerial body that provides advice to the NOU and comprises Government ministries, public institutions, the private sector, non-governmental organizations, and resource persons.

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

Overarching strategy

22. Stage I of the KIP aims to reduce the country's use of HFCs by reducing supply into the country through quotas and import bans and by promoting the shift to low-GWP refrigerants. Increasing use of HFCs due to economic and population growth as well as from the shift from HCFCs will be addressed. A key focus of stage I will be on reducing the servicing demand in the commercial refrigeration subsector, as the largest consumer of HFCs, by facilitating the introduction of low-GWP technologies.

Proposed reductions

23. The Government of Togo and UNEP forecasted HFC consumption in an unconstrained scenario based on the 2023 HFC consumption and assuming an annual average growth rate between 7.6 and 8.5 per cent, based on an annual projected economic growth of 5.6 per cent (according to the African Development Bank) and population growth of 2.3 per cent (according to the World Bank) and assuming that all HCFC-22 used to service refrigeration equipment transitions to R-404A and all HCFC-22 used to service AC equipment transitions to R-410A. The forecast of HFC consumption in an unconstrained

⁴ Five per cent of the HFC baseline for compliance for 2025 and 2026; the percentage set aside as the buffer might be adjusted for 2027 and beyond, if needed.

scenario is presented in table 7 and suggests the country would be at risk of potential non-compliance in 2029 without actions to reduce growth.

Table 7. HFC consumption forecast under unconstrained scenario, Montreal Protocol limits and proposed HFC reductions under stage I (CO₂-eq tonnes)

	2023*	2024	2025	2026	2027	2028	2029
HFC consumption forecast (annual growth rate between 7.6 and 8.5 per cent)	736,797	799,452	860,231	925,873	996,766	1,073,330	1,156,020
Montreal Protocol HFC consumption limits	n/a	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406
Proposed HFC consumption under the KIP	n/a	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406
Proposed reduction in HFC consumption from baseline (%)	n/a	0	0	0	0	0	10

* As per Article 7 data.

Proposed activities

24. The overall HFC phase-down strategy for stage I of the KIP builds on the activities of the HPMP. Activities focus on strengthening the legal framework to support the HFC phase-down, capacity-building of customs and enforcement officers, capacity-building of technicians to support good servicing practices, provision of equipment, and facilitation of the introduction of low-GWP technologies, with a breakdown as follows:

- (a) *Strengthening of the legal and regulatory framework to support HFC phase-down:* Expand and improve the licensing and quota system (US \$10,000); introduce and implement a ban on imports of HFC-based equipment (US \$20,000); introduce and implement further regulations to support the HFC phase-down (US \$25,000);⁵ establish and spread awareness on a database of RAC servicing workshops and technicians, including in the informal sector (US \$20,000); update the NOU database to support the HFC licensing and quota system (US \$15,000); and carry out targeted awareness-raising campaigns on HFCs and low-GWP technologies, including campaigns targeting women (US \$10,000) (UNEP) (US \$100,000);
- (b) *Capacity-building of customs and enforcement officers:* Update customs training materials (US \$4,000); and conduct 10 workshops to train 300 customs and enforcement officers (US \$36,000) (UNEP) (US \$40,000);
- (c) *Capacity-building of RAC technicians:* Update the training curriculum for the MAC subsector (US \$6,000); and conduct 12 workshops to train 340 RAC/MAC technicians on good servicing practices, harmonized with the programme developed under the HPMP (US \$54,000) (UNEP) (US \$60,000);

⁵ Development of regulations to ensure the safe import of flammable refrigerants. In addition, the country will consider measures related to the prevention of venting of HFCs; leakage checks for large HFC-based equipment; record-keeping practices; prohibition of import of HFCs in non-refillable containers; and mandatory recovery of HFCs.

- (d) *Strengthening of the technical capacities for refrigerant management*: Provision of five sets of RAC servicing tools and equipment (including MAC) (US \$50,000);⁶ and provision of two refrigerant identifiers (US \$10,000) (UNIDO) (US \$60,000);
- (e) *Facilitating the introduction of low-GWP technologies*: Implement a demonstration project in the commercial refrigeration subsector, replacing two R-404A-based installations with CO₂ in supermarkets and large shops, including equipment, training, and awareness (UNIDO) (US \$80,000); and
- (f) Project coordination and monitoring (UNEP) (US \$20,000).

Project implementation, coordination and monitoring

25. The system established under the HPMP will continue into stage I of the KIP, with UNEP and the NOU monitoring activities, reporting on progress, and working with stakeholders to phase-out HFCs. The cost of those activities for UNEP amounts to US \$20,000, and includes locally recruited consultants (US \$10,000), meetings (US \$4,000), travel (US \$4,000), and miscellaneous costs (US \$2,000).

Gender policy implementation

26. Stage I of the KIP will integrate activities addressing gender equality and women's empowerment complementary to the approach taken under stage II of the HPMP. Gender will be considered under all activities of the KIP, and the participation of women will be targeted in training, equipment and tool distribution, and outreach and promotion. Gender-aggregated data will continue to be collected.

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

27. The Government of the Togo is committed to harmonizing the implementation of HPMP and KIP activities to the extent possible, noting that stage I of the KIP will be implemented until 2030 and the HPMP until 2031, and that UNEP and UNIDO will be the implementing agencies for both projects. Activities under stage II of the HPMP include inter alia training of customs officers, training and certification of RAC technicians on good servicing practices, strengthening of centres of excellence and distribution of tools, promoting the recovery and reuse of refrigerants, and the development of technical standards. The KIP is focused on creating an enabling environment for the adoption of low-GWP alternatives, including updates to the customs and MAC training curricula, provision of training equipment for MAC servicing, and demonstration of equipment based on low-GWP alternatives. An overview of HPMP activities compared to proposed KIP activities can be found in annex II to the present document.

Total cost of stage I of the Kigali HFC implementation plan

28. The budget for stage I has been proposed at US \$360,000. The costs of activities in the refrigeration servicing sector have been proposed in line with decision 92/37.

29. The proposed activities and cost of stage I of the KIP are summarized in table 8.

Table 8. Proposed cost of activities to be implemented in stage I of the KIP for Togo (US \$)

Activity	Agency	Total (US \$)
Strengthening of the legal and regulatory framework to support HFC phase-down	UNEP	100,000
Capacity-building of customs and enforcement officers	UNEP	40,000

⁶ Each set would include a flushing kit; brazing set; pressure gauge set; vacuum machine; electronic scale; refrigerant leak detectors; refrigerant recovery unit and filters; ventilator; 27.2 L refrigerant cylinders; lokbox and sealant; lossless valve core removal tool; dual inlet thermometer; compact clamp meter; digital pressure gauge; tube bending machine; and basic servicing tools.

Activity	Agency	Total (US \$)
Capacity-building of RAC technicians	UNEP	60,000
Facilitating the introduction of low-GWP technologies (demonstration project)	UNIDO	80,000
Strengthening of the technical capacities for refrigerant management	UNIDO	60,000
Project coordination and monitoring	UNEP	20,000
Total		360,000

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

30. The first funding tranche of stage I of the KIP, in the total amount of US \$187,500, will be implemented between January 2024 and December 2027 and will include the following activities:

- (a) *Strengthening of the legal and regulatory framework to support HFC phase-down:* Expand and improve the licensing and quota system (US \$7,500); initiate activities to assist the country to develop a ban on imports of HFC-based domestic refrigeration and commercial stand-alone refrigeration equipment (US \$10,000); introduce and implement further regulations to support the HFC phase-down (US \$12,500); establish and spread awareness on a database of RAC servicing workshops and technicians, including in the informal sector (US \$10,000); update the NOU database to support the HFC licensing and quota system (US \$12,500); and carry out targeted awareness-raising campaigns on HFCs and low-GWP technologies, including campaigns targeting women (US \$5,000) (UNEP) (US \$57,500);
- (b) *Capacity-building of customs and enforcement officers:* Begin update to customs training materials (US \$2,000); and conduct five workshops to train 150 customs and enforcement officers (US \$18,000) (UNEP) (US \$20,000);
- (c) *Capacity-building of RAC technicians:* Begin update to the training curriculum for the MAC subsector (US \$3,000); and conduct six workshops to train 180 RAC/MAC technicians on good servicing practices (US \$27,000) (UNEP) (US \$30,000);
- (d) *Strengthening of the technical capacities for refrigeration management:* Provision of five sets of RAC/MAC servicing tools and equipment (US \$50,000); and provision of two refrigerant identifiers (US \$10,000) (UNIDO) (US \$60,000);
- (e) *Facilitating the introduction of low-GWP technologies:* Preparation of the study for the demonstration project in the commercial refrigeration subsector (UNIDO) (US \$10,000); and
- (f) Project coordination and monitoring, including locally recruited consultants (US \$5,000), meetings (US \$2,000), travel (US \$2,000), and miscellaneous costs (US \$1,000) (UNEP) (US \$10,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

Overarching strategy

31. As Togo has an average HFC consumption in servicing during the baseline years of 383.59 mt (i.e., above 360 mt), the country would be considered a non-low volume consuming (LVC) country. However, in line with decision 92/37(c), the country has decided to request funding with the level determined for LVC countries with an average HFC consumption in servicing in baseline years between 300 and 360 mt.

32. The Government is proposing a 2029 target that represents a 10 per cent reduction from the country's established HFC baseline for compliance. As that proposed target represents a 37 per cent growth relative to the country's 2023 consumption, the Secretariat enquired whether the country had considered proposing a lower target. UNEP clarified that, given uncertainties from this being the initial stage of the HFC reduction process, the Government had chosen not to propose a lower target. Part of the projected growth is from UNEP assuming that all HCFC-22 used to service refrigeration equipment would shift to R-404A and none would shift to lower-GWP alternatives (e.g., no uptake of R-290 in stand-alone refrigeration), and that all HCFC-22 used to service AC equipment would shift to R-410A and none would shift to lower-GWP alternatives (e.g., HFC-32 or R-290). These factors suggest a lower target might reasonably be achieved.

33. The Secretariat is not clear that the growth projected under the business-as-usual scenario presented by UNEP is realistic as future projected growth looks considerably different from the historic trend of HFC consumption in the country. However, the Secretariat notes that consumption in 2018 and 2019 were considerably higher than in 2020 and 2021. Moreover, the average HFC consumption (in metric tonnes) in the servicing sector in the baseline years is comparable to the HCFC consumption in servicing in 2009 and 2010 (i.e., 5 per cent growth over more than a decade). Those factors suggest a prudent approach would be to retain the 2029 target proposed by the country.

Institutional, policy and regulatory framework

HFC licensing and quota system

34. In line with decision 87/50(g), UNEP has confirmed that Togo has an established and enforceable system of licensing and quotas for monitoring HFC imports and exports in place. Quotas for 2024 have been set at 1,124,043 CO₂-eq tonnes.

35. Small quantities of HFC-32 had been imported into the country in 2021-2023 notwithstanding that regulations in place in the country did not have provisions related to the import of flammable refrigerants. Those imports were undertaken following an environmental screening, whereby importers had to demonstrate that refrigerant storage would be appropriately ventilated, the refrigerant could be distributed safely, and there were measures in place to limit the flammability risk of HFC-32. The development of regulations to ensure the safe import of flammable refrigerants will be undertaken under the KIP.

Implementation of bans on HFC-based equipment

36. The Secretariat sought additional information regarding the activity to support the introduction and implementation of bans on HFC-based equipment, in particular the timeline by when different equipment may be banned, and recalled that other members of ECOWAS have been able to implement restrictions on HFC-based equipment, which the Executive Committee had noted in approving their KIPs. UNEP clarified that the purpose of the activity to introduce and implement bans on the import of HFC-based equipment was to assist the country to implement bans on HFC-based domestic refrigeration and commercial stand-alone refrigeration equipment, and that Togo was not yet able to specify a timeline by when such bans could be implemented. It was agreed that the request for the second tranche of the KIP would include a detailed report on the development of those bans, including a specific timeline for their implementation.

Regulations to support the HFC phase-down

37. The Secretariat noted while no timeline was provided for the development of regulations to support the HFC phase-down, there were considerable challenges in the implementation and enforcement of regulations to prevent venting of HFCs; to require leakage checks for large HFC-based equipment and record keeping practices; to prohibit import of HFCs in non-refillable containers; and to require recovery of HFCs. UNEP clarified that a stepwise approach would be used to assess the readiness of the RAC sector

to implement such regulations. Pilot activities, for example, in public buildings and hospitals, would be implemented to gauge readiness and demonstrate the application of such measures. A report on the outcome of those activities will be submitted with the request for the second tranche of the KIP.

Energy efficiency

38. The Secretariat noted that minimum energy performance standards (MEPS) are in effect in Togo, set by the ECOWAS standards for refrigerating products⁷ and domestic and commercial AC products⁸ and implemented under the country's national energy efficiency action plan. Noting that under the HCFC phase-out the country was funded as an LVC country and that the country has requested only preparation of an energy efficiency-related project in the context of HFC phase-down under decision 91/65, the Secretariat invited the Government to consider submitting to a future meeting a project under decision 89/6, as such a project could usefully strengthen the implementation and enforcement of the MEPS specified under the ECOWAS standards. The country was considering submitting such a project to a future meeting.

39. Regarding the status of the project preparation for the demonstration of energy-efficient, low-GWP AC technology approved at the 93rd meeting, UNEP informed that the Government of Germany had proposed to collect data on 200 AC units at the Autonomous Port of Lomé, including the data on their energy efficiency, with the view of replacing those units with R-290-based units. The terms of reference for the national consultant to carry out this task were prepared. Subsequently, the Government had requested that the focus of this project be shifted to AC units in public hospitals.

Technical and cost-related issues

40. The Secretariat noted that the 2023 estimated uses of R-410A were considerably lower than the consumption reported by the country under Article 7 of the Montreal Protocol, and that estimated uses of R-404A were considerably higher than that reported under Article 7, and sought to understand the reasons for those discrepancies. In order to estimate the sectoral uses of HFCs, UNEP had undertaken a survey from April to June 2024 that included importers and distributors of refrigerants and RAC equipment, servicing workshops, customs, training centres, end users,⁹ and the RAC association. In retrospect, UNEP considered it likely that the estimated leakage rate of 40 per cent from R-404A-based equipment may have been overestimated, and that the number R-410A-based residential split AC units used to derive the servicing needs may have been underestimated; however, additional data to refine the estimated sectoral uses was not available.

41. The Secretariat further noted that some of the leakage rates estimated by UNEP were substantially higher than anticipated. For example, while a leakage rate of approximately 50 per cent for condensing units and centralized refrigeration systems is comparable to leakage rates reported by other Article 5 countries, such a leakage rate for domestic refrigerators and stand-alone commercial refrigeration units appears quite high. While activities under the technician training could be focused on addressing such high leakage rates in stand-alone equipment that is typically hermitically sealed, the Secretariat considered it likely that those leakage rates may have inadvertently been overestimated and the number of stand-alone

⁷ ECOWAS standard ECOSTAND 071-1:2017 sets MEPS for refrigeration appliances with a storage volume up to 1,500 litres in the following categories: refrigerator with one or more fresh-food storage compartments; cellar, cellar and wine storage appliances; chiller and refrigerator with a 0-star, 1-star, 2-star, or 3-star compartment; upright freezer, chest freezer, and multi-use and other refrigerating appliances.

⁸ ECOWAS standards ECOSTAND 071-2:2017 set MEPS for domestic and commercial AC products, including portable, unitary, and split AC units, and centralized AC systems.

⁹ Including 17 respondents from shops and supermarkets, 37 respondents from banks and large enterprises, 70 respondents from Government offices, 28 respondents from hospitals and medical centres, 181 respondents from hotels and restaurants, 12 respondents from different industries, and 3 respondents from meat production and distribution.

units may have been inadvertently underestimated. Accordingly, no changes to the focus of technician training were proposed.

42. The Secretariat noted that technicians that service MAC systems have not recently benefited from training to service such equipment under the Multilateral Fund; rather, training to service MAC units is typically done on the job. Accordingly, the Secretariat considered there may be benefits to strengthen the capacity to train technicians that service MAC systems. To that end, it was agreed to include in the equipment to procure under the KIP three recovery units suitable for use in the MAC sector; those units will be capable of recovering HFC-134a and HFO-1234yf and will be distributed to three centres of excellence to enhance their training capacity.

Demonstration project

43. Regarding the demonstration project to replace two R-404A-based installations with CO₂-based systems in supermarkets and large shops, the Secretariat sought to understand the number of such R-404A installations in the country; the replicability of technology, refrigerant savings and the energy efficiency gains expected to be achieved through the demonstration project; and the timeline for the implementation of the project. In addition, the Secretariat recalled that several countries in the region chose to demonstrate the replacement of R-404A-based installations (of under 20 kW capacity) with R-290 monoblocks and sought to understand the relative advantages of the different technologies.

44. UNEP clarified that further to consultations with stakeholders, the Government had decided to shift the focus of the project to demonstrate R-290-based monoblocks. UNEP noted that while the price of R-290-based monoblocks was higher than R-404A-based systems, the replicability of the technology would be enhanced by the lower refrigerant charge and more energy efficient operation of R-290-based monoblocks, which would lead to reduced operating costs. Coordination with stakeholders, measurement of performance and energy use of the baseline R-404A-based systems; procurement of equipment and installation, and training; and collection and proper disposal of the R-404A-based units, will be undertaken within two years. The performance and energy use of the R-290-based units will be monitored for a year, followed by awareness-raising activities. In line with precedent projects and noting that the end users will provide the necessary infrastructure and civil works, it was agreed to increase the number of R-404A-based systems that would be replaced from two to three. In light of the proposed timeline, it was agreed to increase the funding allocated to the demonstration project to US \$60,000 in the first tranche; to accommodate that change, the provision of five sets of RAC/MAC servicing tools and equipment was shifted to the second tranche.

45. The country has confirmed that upon completion of the project, UNIDO will submit a final report on its implementation, including the HFC phase-out and energy-efficiency gains achieved, in line with decision 92/36(g).

Total project cost

46. The total cost for stage I of the KIP for Togo (without agency support costs) amounts to US \$360,000, as summarized in table 8 above. This is in line with decision 92/37, based on the average HFC consumption in the refrigeration servicing sector for the years 2020-2022 and the country's request to be treated as an LVC country.

47. Stage I of the KIP will be implemented in two tranches. In line with decision 94/59(b), and to reduce the country's reporting obligations and administrative burden, the Secretariat inquired whether the Government had considered revising the Agreement for stage II of the HPMP by combining the second (2026) and third (2028) tranche, and submitting that combined tranche in 2027, thereby avoiding annual tranche requests under the HPMP and KIP in the 2026-2028 period, and enabling the country to submit to the same meeting in 2027 both the requests for the second tranche of the KIP and the revised second

(combined) tranche of the HPMP. The Government wished to revise the Agreement for stage II of the HPMP accordingly. The schedule of HFC phase-down and HCFC phase-out commitments and of the KIP and HPMP tranches is presented in annex I to the present document, and the revised draft Agreement for stage II of the HPMP in annex III to the present document. The full updated Agreement will be appended to the final report of the 95th meeting and supersedes the Agreement reached between the Government of Togo the Executive Committee at the 91st meeting of the Executive Committee.

Implementation plan for the first tranche of the Kigali HFC implementation plan

48. As further detailed above, US \$50,000 for the demonstration project was shifted from the second to the first tranche; to accommodate that change, the provision of five sets of RAC/MAC servicing tools and equipment was shifted to the second tranche.

Exemption for high-ambient temperature parties

49. While Togo is amongst the list of countries operating under the high-ambient-temperature exemption, UNEP confirmed that the country had decided not to avail itself of that exemption.

Co-financing

50. The NOU will collaborate with implementing agencies throughout KIP implementation to explore additional funding opportunities and incentives such as investment grants, partnering with educational institutions, and global funding opportunities related to social and climate progress. The three end users participating in the demonstration project will provide the necessary infrastructure and civil works.

2024-2026 business plan of the Multilateral Fund

51. UNEP and UNIDO are requesting US \$360,000, plus agency support costs, for the implementation of stage I of the KIP for Togo. The total value of US \$211,875, including agency support costs, requested for the period of 2024-2026, is US \$42,747 above the amount in the business plan.

Sustainability of the HFC phase-down and assessment of risks

52. UNEP provided a risk assessment of stage I of the KIP that identified the following risks, amongst others: higher than expected HFC consumption growth occurs, leading to earlier and larger HFC consumption reductions being required than can be achieved; import control and enforcement mechanism is unable to respond to the additional challenges associated with HFC phase-down; proliferation of high-GWP technologies; lack of modern servicing capacity for both HFC- and low-GWP-based equipment; and limitations on availability, acceptance and affordability of low-GWP alternatives and slow introduction of alternative technologies to the market.

53. The KIP strategy in Togo is aligned with ongoing efforts under the HPMP. For example, the database of servicing workshops and technicians will be established during the first tranche of stage I of the KIP, which coincides with the planned timeline for the introduction of the certification scheme (i.e., within the next 24 months) that was being implemented under the HPMP. Additional activities under the KIP that will help mitigate the identified risks include inter alia a focus on reducing the servicing demand in the commercial refrigeration sector; capacity-building of customs and enforcement officers; capacity-building of RAC technicians; strengthening the capacity for refrigerant management; and a demonstration project to enhance the market acceptance of low-GWP technology in commercial refrigeration. The development of regulations to ensure the safe import of flammable refrigerants will mitigate the risk of accidents associated with the import and distribution of such refrigerants.

54. The Government of Togo is committed to ensuring that the activities under stage I of the KIP will be sustained over time with the continued implementation of the quota system for HFCs. While a timeline for the implementation of bans on imports of HFC-based domestic refrigeration and commercial stand-alone refrigeration equipment was not yet available, the Government will report on the progress in their implementation when submitting the request for the second tranche. The Secretariat considers the stepwise approach to introducing measures to support the HFC phase-down, such as requiring leakage checks for large HFC-based equipment, record-keeping practices, and preventing the venting of HFCs, through pilot projects to be a realistic approach to introducing the implementation of such measures in the country. These policy measures along with the close monitoring of all the activities being implemented under the KIP will help ensure the sustainability of activities implemented under stage I.

Impact on the climate

55. The activities proposed, including efforts to reduce HFC use and promote low-GWP alternatives, indicate that the implementation of stage I of the KIP will reduce refrigerant emissions into the atmosphere, resulting in climate benefits. While the Secretariat is not able to provide an estimate of the avoided emissions from the implementation of the KIP at the present meeting, by 2029 Togo will have reduced its annual HFC emissions by approximately 112,490 CO₂-eq tonnes, calculated as the difference between the HFC baseline for compliance and the 2029 target, assuming that all consumed HFCs would eventually have been emitted.

Draft Agreement

56. A draft Agreement between the Government of Togo 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.

57. If the Executive Committee so wishes, the funds for stage I of the KIP for Togo 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.

VI. Recommendation

58. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Togo 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 \$406,800, consisting of US \$220,000, plus agency support costs of US \$28,600, for UNEP and US \$140,000, plus agency support costs of US \$18,200, for UNIDO, as reflected in the schedule contained in annex I to the present document;
- (b) Noting:
 - (i) That upon completion of the end-user project technology demonstration project included in stage I of the KIP, UNIDO will submit a final report on the implementation of this project, including the HFC phase-out and energy-efficiency gains achieved, in line with decision 92/36(g);
 - (ii) That the Fund Secretariat had updated the Agreement between the Government of Togo and the Executive Committee for stage II of the HCFC phase-out management plan, as contained in annex III to the present document, specifically:

Appendix 2-A on the basis of combining the second and third tranches of the Agreement approved at the 91st meeting into a single tranche to be submitted in 2027, and paragraph 17 that had been added to indicate that the updated Agreement supersedes that reached at the 91st meeting by decision 91/48;

- (c) Approving the first tranche of stage I of the KIP for Togo and the corresponding tranche implementation plan, in the amount of US \$211,875, consisting of US \$117,500, plus agency support costs of US \$15,275, for UNEP and US \$70,000, plus agency support costs of US \$9,100, for UNIDO; and
- (d) Requesting the Government of Togo, UNEP, UNIDO and the Secretariat to finalize the draft Agreement between the Government of Togo 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 AND HCFC PHASE-OUT COMMITMENTS AND FUNDING TRANCHES UNDER THE KIGALI HFC IMPLEMENTATION PLAN AND THE HCFC PHASE-OUT MANAGEMENT PLAN FOR TOGO

Kigali HFC implementation plan from 2024 to 2029 (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)	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406	n/a
1.2	Maximum allowable total consumption of Annex F substances (CO ₂ -eq tonnes)	1,124,896	1,124,896	1,124,896	1,124,896	1,124,896	1,012,406	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	117,500	0	0	102,500	0	0	220,000
2.2	Support costs for Lead IA (US \$)	15,275	0	0	13,325	0	0	28,600
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	70,000	0	0	70,000	0	0	140,000
2.4	Support costs for Cooperating IA (US \$)	9,100	0	0	9,100	0	0	18,200
3.1	Total agreed funding (US \$)	187,500	0	0	172,500	0	0	360,000
3.2	Total support costs (US \$)	24,375	0	0	22,425	0	0	46,800
3.3	Total agreed costs (US \$)	211,875	0	0	194,925	0	0	406,800

HCFC phase-out management plan from 2024 to 2030 (stage II)

Row	Particulars	2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	13.00	6.50	6.50	6.50	6.50	6.50	0.00	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	13.00	6.50	6.50	6.50	6.50	6.50	0.00	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	0	0	0	390,000	0	0	185,000	575,000
2.2	Support costs for Lead IA (US \$)	0	0	0	48,471	0	0	22,993	71,464
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	0	0	0	270,000	0	0	0	270,000
2.4	Support costs for Cooperating IA (US \$)	0	0	0	18,900	0	0	0	18,900
3.1	Total agreed funding (US \$)	0	0	0	660,000	0	0	185,000	845,000
3.2	Total support costs (US \$)	0	0	0	67,371	0	0	22,993	90,364
3.3	Total agreed costs (US \$)	0	0	0	727,371	0	0	207,993	935,364

Annex II

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

HPMP – stage II		KIP – stage I		HPMP+KIP combined cost (US \$)
Activity	Cost (US \$)	Activity	Cost (US \$)	
Legal and regulatory framework				
Ensuring a functional and enforceable system of licensing and quotas for HCFC imports through legislative and regulatory measures	40,000	Expanding and improving the licensing and quota system	10,000	50,000
Development of regulatory standards and protocols on the use of flammable and toxic substances in RAC equipment	40,000	Introduction and implementation of the ban on imports of HFC-based equipment	20,000	60,000
		Introduction and implementation of further legal and regulatory framework for the HFC phase-down	25,000	25,000
		Collecting information on RAC servicing workshops and technicians, including the informal sector	20,000	20,000
		Improving the data reporting	15,000	15,000
		Targeted awareness-raising campaigns on HFCs and low-GWP technologies, including campaigns targeting women	10,000	10,000
Capacity-building of RAC trainers and technicians				
Training of, and information and awareness-raising campaigns for, refrigeration specialists on good practices in refrigeration, including techniques for the recovery, recycling and reuse of refrigerants, safety and handling of refrigerants and equipment	200,000	Training for RAC/MAC technicians on good servicing practices	54,000	254,000
Updating the training materials to reflect the challenges imposed by new refrigerants	5,000	Updating the training materials for the MAC subsector	6,000	11,000
Establishment of a certification scheme for refrigeration technicians and implementation of national certification in the RAC sector	110,000			110,000
Targeted gender-based campaign for female students to enter the RAC field	15,000			15,000
Capacity-building of customs and enforcement officers, and economic operators				
Trainings on control and identification of HCFCs and HCFCs-based equipment as well as pertinent laws and regulations on their import for customs and enforcement officers	150,000	Training for customs and enforcement officers	40,000	190,000

HPMP – stage II		KIP – stage I		HPMP+KIP combined cost (US \$)
Activity	Cost (US \$)	Activity	Cost (US \$)	
Information and awareness-raising workshops for importing traders on the procedures for issuing import licences and granting annual quotas and on the potential risks and dangers of certain refrigerant substances	40,000			40,000
Trans-border cooperation meetings in the UEMOA sub-region	40,000			40,000
<i>Facilitating the introduction of low-GWP technologies</i>				
		Demonstration project in the commercial refrigeration sub-sector	80,000	80,000
<i>Strengthening the technical capacities for refrigeration management</i>				
Strengthening the technical capacity of the centres of excellence	310,000	Provision of RAC/MAC servicing tools and equipment	50,000	360,000
Training on low-GWP ODS alternatives	135,000			135,000
Refrigerant identifiers (5)	25,000	Refrigerant identifiers (2)	10,000	35,000
<i>Project coordination and management</i>				
Project coordination and management	60,000	Project coordination and management	20,000	80,000
Total	1,170,000		360,000	1,530,000
Percentage of total (%)	76		24	100

Annex III

DRAFT TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF TOGO AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE II OF THE HCFC PHASE-OUT MANAGEMENT PLAN
(Relevant changes are in bold font for ease of reference)

Validity

17. This updated Agreement supersedes the Agreement reached between the Government of Togo the Executive Committee at the 91st meeting of the Executive Committee.

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2022	2023-2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	13.00	13.00	6.50	6.50	6.50	6.50	6.50	0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	13.00	13.00	6.50	6.50	6.50	6.50	6.50	0	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	125,000	0	0	0	390,000	0	0	185,000	700,000
2.2	Support costs for Lead IA (US \$)	15,536	0	0	0	48,471	0	0	22,993	87,000
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	200,000	0	0	0	270,000	0	0	0	470,000
2.4	Support costs for Cooperating IA (US \$)	14,000	0	0	0	18,900	0	0	0	32,900
3.1	Total agreed funding (US \$)	325,000	0	0	0	660,000	0	0	185,000	1,170,000
3.2	Total support costs (US \$)	29,536	0	0	0	67,371	0	0	22,993	119,900
3.3	Total agreed costs (US \$)	354,536	0	0	0	727,371	0	0	207,993	1,289,900
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)									13.00
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)									7.00
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)									0.00

* Date of completion of stage I as per stage I Agreement: 31 December 2023 as per decision 87/28(a)