



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/95/45
19 November 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: CHAD

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) | UNEP and UNIDO | Individual consideration |
|---|----------------|--------------------------|

¹ UNEP/OzL.Pro/ExCom/95/1

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

CHAD

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

LATEST ARTICLE 7 DATA (Annex F)	Year: 2023	1,567.70 mt	3,346,060 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			
Latest CP report (2023)	0.00	0.00	0.00	0.00	0.00	0.00	3,346,060	0.00	0.00
KIP stage I activities as agreed (Y/N)	N	N	N	N	N	N	Y	N	N

AVERAGE 2020-2022 HFC CONSUMPTION IN SERVICING	1,509.15 mt	3,229,250 CO ₂ -eq tonnes
--	-------------	--------------------------------------

BASELINE CONSUMPTION DATA (CO ₂ -eq tonnes)	2020	2021	2022	Average 2020-2022
HFC annual consumption	2,838,600	3,217,693	3,631,457	3,229,250
HCFC baseline (65%)				344,362
HFC baseline				3,573,612

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)	0

PROJECT DATA AS AGREED		2024*	2025	2026	2027	2028	2029	Total
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251	n/a
	Maximum allowable	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251	n/a
	Maximum allowable (%)	100	100	100	100	100	90	n/a
Amounts recommended in principle (US \$)	UNEP	Project costs	141,000	0	0	94,000	0	235,000
		Support costs	18,330	0	0	12,220	0	30,550
	UNIDO	Project costs	75,000	0	0	50,000	0	125,000
		Support costs	9,750	0	0	6,500	0	16,250
	Total project costs		216,000	0	0	144,000	0	360,000
	Total support costs		28,080	0	0	18,720	0	46,800
	Total funds		244,080	0	0	162,720	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
 - 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 Chad, 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 \$1,123,425, consisting of US \$617,500, plus agency support costs of US \$77,925 for UNEP and US \$400,000, plus agency support costs of US \$28,000 for UNIDO, as originally submitted.²

3. The implementation of stage I of the KIP will assist the Government of Chad 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 \$673,220, consisting of US \$289,000, plus agency support costs of US \$36,470 for UNEP and US \$325,000, plus agency support costs of US \$22,750 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 HPMP in Chad as of November 2024.

Table 1. HPMP implementation status for Chad

	Stage I	Stage II
Meetings when HPMP was approved/updated	62 nd / 70 th	90 th
Reduction from baseline	35 % by 2020	100% by 2030
Total project cost (US \$)	560,000	1,040,000
Date of completion (actual/planned)	December 2022	December 2031

² As per the letter of 21 August 2024 from the Ministry of Environment, Fisheries and Sustainable Development of Chad (hereinafter Ministry of Environment) to the Secretariat.

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Chad

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
74 th	Survey of ODS alternatives at the national level	UNEP	70,000	Sep 2017
81 st	Enabling activities for HFC phase-down	UNEP	150,000	Dec 2022

III. HFC consumption overviewHFC consumption levels

7. Chad only imports HFCs for use in multiple refrigeration and air-conditioning (RAC) servicing subsectors. The most consumed substances in 2023 were R-410A (25.1 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-404A (24.9 per cent), R-407A (17.5 per cent), R-407C (15.6 per cent), and other HFCs (16.9 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 Chad (2019–2023 Article 7 data)

HFC	GWP	2019	2020	2021	2022	2023
Metric tonnes (mt)						
HFC-32	675	0.00	0.00	0.00	97.42	43.31
HFC-134a	1,430	233.30	278.37	313.74	345.86	316.26
R-404A	3,922	148.00	187.56	211.08	216.15	212.18
R-407A	2,107	220.22	246.84	276.05	308.35	278.53
R-407C	1,774	228.56	257.48	289.06	317.39	294.43
R-410A	2,088	252.77	318.53	368.87	432.41	401.72
R-507A	3,985	0.00	15.87	19.29	27.13	21.27
Total (mt)		1,082.85	1,304.65	1,478.09	1,744.71	1,567.70
CO₂-eq tonnes						
HFC-32	675	0	0	0	65,759	29,234
HFC-134a	1,430	333,619	398,069	448,648	494,580	452,252
R-404A	3,922	580,397	735,535	827,771	847,654	832,085
R-407A	2,107	464,004	520,092	581,637	649,693	586,863
R-407C	1,774	405,431	456,731	512,749	563,002	522,275
R-410A	2,088	527,657	664,931	770,016	902,656	838,591
R-507A	3,985	0	63,242	76,871	108,113	84,761
Total (CO₂-eq tonnes)		2,311,108	2,838,600	3,217,693	3,631,457	3,346,060

Established HFC baseline

8. The Government of Chad reported the Article 7 data for 2020–2022. The country's HFC consumption baseline was established at 3,573,612 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 Chad (CO₂-eq tonnes)

Baseline calculation components	2020	2021	2022
HFC annual consumption	2,283,600	3,217,693	3,631,457
HFC average consumption in 2020–2022	3,229,250		
HCFC baseline (65%)	344,362		
HFC baseline	3,573,612		

Country programme implementation report

9. The sectoral HFC consumption data provided by the Government of Chad 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. The total HFC consumption shows a sustained increasing trend from 2019 to 2022, without any visible economic impact of the COVID-19 pandemic on the RAC servicing sector of Chad. A combination of factors resulted in a sustained increase in HFC consumption during this period. Although the influence of HCFC-based-equipment substitution is still low, new RAC installations in the country increasingly rely on HFCs due to their widespread availability. Additionally, the slow adoption of low-GWP alternatives contributed to the continued rise in HFC use, as the cost and limited market presence of alternative technologies still make it difficult for industries to transition away from HFCs. The import data for 2023 shows a decrease due to commercial adjustments in HFC imports, and there is no evidence of stockpiling.

HFC consumption by sector

11. HFCs are mainly consumed for servicing in residential AC (39.7 per cent in mt and 35.9 per cent in CO₂-eq tonnes), followed by industrial refrigeration (36.4 per cent in mt and 44.3 per cent in CO₂-eq tonnes), commercial AC (9.0 per cent in mt and 7.3 per cent in CO₂-eq tonnes), and other subsectors, as shown in tables 5 and 6.

Table 5. HFC consumption in Chad by sector / in the refrigeration and AC servicing subsectors in mt (2021)

Sector	HFC-134a	R-404A	R-407A	R-407C	R-410A	R-507A	Total	Share of total (%)
Refrigeration and AC servicing								
Refrigeration subsectors								
Domestic	6.42	0.00	0.00	0.00	0.00	0.00	6.42	0.5
Commercial	Stand-alone units	4.25	0.00	0.00	0.00	0.00	4.25	0.3
	Condenser units	15.06	0.00	0.00	0.00	0.00	15.06	1.1
	Centralized systems	41.25	32.25	31.19	0.00	0.00	104.69	7.9
Industrial	120.30	178.83	165.04	0.00	0.00	19.29	483.46	36.4
Transport	4.32	0.00	0.00	0.00	0.00	0.00	4.32	0.3
Air-conditioning subsectors								
Residential	0.00	0.00	0.00	223.53	303.45	0.00	526.98	39.7
Commercial	54.25	0.00	0.00	0.00	65.42	0.00	119.67	9.0
Mobile	63.23	0.00	0.00	0.00	0.00	0.00	63.23	4.8

Sector	HFC-134a	R-404A	R-407A	R-407C	R-410A	R-507A	Total	Share of total (%)
Total for servicing	309.08	211.08	196.23	223.53	368.87	19.29	1,328.08	100.0

Note: As per the 2021 survey report, consumption was 1,328.08 metric tonnes, which is lower than the data reported under Article 7 and CP report by roughly 10 per cent.

Table 6. HFC consumption in Chad by sector / in the refrigeration and AC servicing subsectors in CO₂-eq tonnes (2021)

Sector	HFC-134a	R-404A	R-407A	R-407C	R-410A	R-507A	Total	Share of total (%)
Refrigeration and AC servicing								
Refrigeration subsectors								
Domestic	9,181	0	0	0	0	0	9,181	0.3
Commercial	Stand-alone units	6,078	0	0	0	0	6,078	0.2
	Condenser units	21,536	0	0	0	0	21,536	0.7
	Centralized systems	58,988	126,472	65,717	0	0	251,177	8.6
Industrial	172,029	701,300	347,739	0	0	76,871	1,297,939	44.4
Transport	6,178	0	0	0	0	0	6,178	0.2
Air-conditioning subsectors								
Residential	0	0	0	396,509	633,452	0	1,029,961	35.2
Commercial	77,578	0	0	0	136,564	0	214,142	7.3
Mobile	90,419	0	0	0	0	0	90,419	3.1
Total for servicing	441,987	827,772	413,456	396,509	770,016	76,871	2,926,611	100.0

Note: The total use for 2021 at **2,926,611 CO₂-eq**, which is lower than the data reported under Article 7 and CP report by roughly 9 per cent.

Refrigeration and air-conditioning servicing sector

12. There are approximately 1,846 technicians (including 330 women) distributed in 163 workshops (including both registered and no-registered) consuming HFCs in Chad. The main RAC servicing association – “*Association des Frigoristes du Tchad*” (AFT), has more than 1,423 active members throughout the country, spread out through 23 regional branches. The AFT, created in 2000 with support from the National Ozone Unit (NOU), is now involved in almost all ozone-related activities and is set to play a prominent part in KIP implementation.

13. Several public and private technical institutions offer education and training for RAC, with programmes ranging from 3 months to 3 years. Almost all the identified technicians in the RAC sector have received or will receive training under the HPMP. Participation of women in the workforce is relatively high for the country at almost 20 per cent. Chad does not yet have a technician certification programme in place but will develop one under stage II of the HPMP.

Domestic, commercial, industrial and transport refrigeration servicing

14. Domestic refrigeration, which includes equipment such as refrigerators, chest freezers, and portable cooling systems found in residential households and some commercial buildings, consumes only 0.3 per cent of HFCs in CO₂-eq tonnes, with an estimated 534,000 domestic refrigeration units installed and HFC-134a being the sole refrigerant used. Commercial refrigeration, encompassing stand-alone and

condenser units as well as centralized systems, consumes R-404A (4.3 per cent in CO₂-eq tonnes), HFC-134a (3.0 per cent), and R-407A (2.2 per cent). Industrial refrigeration comprises large centralized systems employed in industrial processes and is a major sector with R-404A (24.0 per cent of CO₂-eq tonnes), R-407A (11.9 per cent), HFC-134a (5.9 per cent) and R-507A (2.6 per cent) consumed as refrigerants for cold stores, food and fish product processing, and the oil and gas industry. Transport refrigeration for food imports and distribution in the country accounts for 0.3 per cent of total HFC use, relying solely on HFC-134a.

Residential and commercial air-conditioning servicing

15. Residential and commercial AC combined represent 42.5 per cent of total HFC consumption in CO₂-eq tonnes (residential AC 35.2 per cent and commercial AC 7.3 per cent). The predominant HFC consumed is R-410A (26.3 per cent) followed by R-407C (13.5 per cent) and HFC134a (2.7 per cent). Residential AC comprises single-split units prevalent in households and small-to-large commercial establishments (of which 38.5 per cent are R-407C-based and 61.5 per cent are R-410A-based). Residential AC units are imported from China, India, Kuwait, Nigeria, Saudi Arabia and the United Arab Emirates, and from Europe. The commercial AC sector includes multi-splits, ducted-splits, roof-top AC, AC chillers and centralized systems, commonly found in large office spaces, airports, shopping centres, hotels, hospitals, and supermarkets.

Mobile air-conditioning servicing

16. The mobile air-conditioning (MAC) sector provides climate control for small and large vehicles and consumes 3.1 per cent of HFCs in CO₂-eq tonnes, using only HFC-134a. There are 168 MAC technicians in an unspecified number of garages spread across the country who service MAC systems, with approximately 843,000 units in use. Maintenance of these units is often carried out with used spare parts, and vehicles used in Chad are usually imported and second hand.

Local installation and assembly

17. There are local assemblers of bespoke equipment in commercial refrigeration. Assembly of units from components which are often second hand, can take place at a workshop or on site. The assembled equipment is then charged. Table 7 presents the country's HFC consumption for local installation and assembly in commercial refrigeration and AC (condensing unit and centralized systems), already accounted in the servicing sectors uses. The survey carried out in 2021 identified 135 refrigeration workshops involved in installation.

Table 7 HFC consumption in Chad by local installation and assembly in mt and CO₂-eq tonnes (2021)

	HFC-134a	R-404A	R-407A	R-407C	R-410A	Total for local installation and assembly	Total use in RAC servicing	Share of total (%)
Consumption in mt	22.15	55.00	25.00	45.82	14.36	162.30	1,328.08	12
Consumption in CO ₂ -eq tonnes	31,675	215,688	52,675	81,278	29,977	411,292	2,926,611	14

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

Institutional, policy and regulatory framework

18. The Government of Chad ratified the Kigali Amendment on 26 March 2019, and the import of HFCs and equipment containing HFCs is subject to official authorization, in line with the Kigali Amendment. Chad has had an HFC licensing system in place since 2019 and a quota allocation system since 2024. The inclusion of appropriate codes for HFCs and HFC-based mixtures in the Harmonized System (HS) 2022 facilitates the collection and comparison of HFC data imports. In addition to the licensing

and quota system the existing legislation introduces a number of measures to control HFCs efficiently, including controls on HFC-based equipment, a reporting requirement of quantities of refrigerants imported by port of entry, and mandatory recovery of refrigerants for final disposal, recycling or reclamation.

19. The import of HCFC-based equipment will be banned by 1 January 2029. However, as of 24 April 2014, imports of HCFC-based equipment were regulated by establishing a system for issuing approvals for the import, export and re-export of HCFC-based equipment. Used cars over three years old and trucks over five years old cannot be imported into the country.

20. The Ministry of Environment, Fisheries and Sustainable Development is the national body that implements the Montreal Protocol. It houses the National Ozone Unit (NOU), a dedicated unit for the implementation of the country's obligations under the Vienna Convention, the Montreal Protocol, and its amendments. The NOU is responsible for operating the licensing system, allocating total annual quotas and supervising the implementation of all projects approved by the Multilateral Fund including the KIP. The NOU is also responsible for collecting data and reporting actual consumption of controlled substances as per Article 7 of the Montreal Protocol.

21. An inter-ministerial Ozone Committee comprising key stakeholders serves as an advisory body to the NOU and is responsible for tasks such as ensuring compliance with the Montreal Protocol, monitoring imports and consumption of controlled substances, setting annual import quotas per HFC importer, and participating in awareness campaigns. The NOU in turn acts as an interface between the Inter-ministerial Ozone Committee and all other partners.

22. The Ministry of Commerce and Industry is in charge of issuing HFC import authorizations for registered importers. Each authorization is granted within the limits of the annual quota allocated to each importer, and the requested import quantities by substance are subsequently checked for compliance with the CO₂-eq tonnes limits established to the Montreal Protocol targets.

23. The Directorate General of Customs within the Ministry of Finance registers and controls the imports and exports of controlled substances through the licensing system. Importers, the General Directorate of Customs, the General Directorate of Trade, and the National Ozone Office are linked online through the "Sydonia World" computerized system. That system makes it possible to establish manifests and declarations online and transmit them in electronic form to all customs posts, which helps facilitate legal trade and combat illegal imports.

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

Overarching strategy

24. The Government of Chad aims to follow the established Montreal Protocol reduction targets for HFCs from 2024 to 2028 with a 10 per cent reduction of the baseline by 2029. Concerted measures are needed to reverse growth in HFC consumption at a time when the country is working under its HPMP to eliminate HCFCs and prevent their replacement by high-GWP HFCs. The strategy in stage I involves the effective control and reduction of the HFC supply and demand along with capacity building for the servicing sector and end users, including the promotion of low-GWP alternatives and raising stakeholder awareness to ensure support for low/zero GWP technology and energy-efficient alternatives.

Proposed reductions

25. Chad is basing its request for funds for stage I of the KIP on its commitment to eliminate a total 357,361 CO₂-eq tonnes of HFCs by 2029, representing a consumption reduction of 10 per cent from the baseline. The phase-out of HCFC-22 between 2024 and 2029 will lead to an increase in HFC consumption, in addition to organic growth, as the HCFC equipment base will inevitably shift to HFCs if no guidance or

programme is put in place to effectively promote low-GWP non-HFC equipment and systems in lieu of high-GWP HFCs. However, the country did not introduce an HFC consumption forecast due to the lack of a clear trend in the consumption from 2019 to 2023.

Table 8. Montreal Protocol limits and proposed HFC reductions under stage I (CO₂-eq tonnes)

	2023*	2024	2025	2026	2027	2028	2029
Montreal Protocol HFC consumption limits	n/a	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251
Proposed HFC consumption under the KIP	n/a	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251
Proposed reduction in HFC consumption from baseline (%)	n/a	0	0	0	0	0	10

* 2023 HFC consumption corresponds to 3,346,060 CO₂-eq tonnes

Proposed activities

26. The proposed activities and their costs are presented in table 9.

Table 9. Activities planned for implementation in stage I of the KIP for Chad (as submitted)

Activities and sub-activities		Cost (US \$)	
		UNEP	UNIDO
Component 1: Strengthening the regulatory framework and awareness raising			
1.1	<i>Strengthening the HFC licensing and quota system and reporting:</i> Assess the existing system and make a proposal to establish and implement an electronic system for issuing licences and quotas, and registering, controlling and monitoring HFC imports; set up the digital system and link it to customs; develop a guide for the import of controlled substances and provide training to at least 50 operators ³ on the updated system.	40,000	0
1.2	<i>Strengthening record-keeping and reporting by enterprises and market monitoring:</i> Establish and implement a regulation requiring authorized importers to keep a register of HFCs distributed in the market to support the monitoring of HFCs and equipment containing them; carry out at least two meetings to inform stakeholders on the reporting requirements; undertake a study on illegal trade and how to prevent it; and use the record-keeping system for a continuous survey of HFC uses by subsector and refrigerant.	25,000	0
1.3	<i>Capacity building of customs and other enforcement officers:</i> Update the curricula ⁴ for customs training to include controls on HFCs and HFC-based equipment, the safe handling of refrigerants, and train at least 200 customs and other enforcement officers in the prevention and control of illegal HFC trade, with a 20 per cent target in female participation.	40,000	0
1.4	<i>Provision of refrigerant identifiers:</i> Procure and distribute 14 identifiers for multiple refrigerants for use by customs officers at border posts.	0	70,000
1.5	<i>Awareness-raising campaigns:</i> Develop 25 targeted awareness-raising activities for stakeholders on project components (e.g., HFC licensing and quota system, reporting requirements for importers, code of practices for RAC and MAC servicing, recovery and recycling (RR), technician training and certification, and results of the demonstration projects, among other subjects).	50,000	0
<i>Subtotal for component 1</i>		<i>155,000</i>	<i>70,000</i>

³ From: Importers, General Directorate of Customs, Ministry of Trade, and the National Agency for Investment and Export.

⁴ The updated training curricula for customs training will also be used for training organized under the HPMP once the curricula is available.

Activities and sub-activities		Cost (US \$)	
		UNEP	UNIDO
Component 2: Capacity building of main stakeholders in the RAC and MAC sectors			
2.1	<i>Strengthening industry associations:</i> Provide technical and organizational support to registered and unregistered refrigeration servicing associations to consolidate them into a single national RAC/MAC association to facilitate coordination of Government policies, foster formalization of the sector, increase participation in training activities and promote women's participation in the process.	20,000	0
2.2	<i>Development of codes of practice:</i> Revise the existing Code of Good Practices to include the RAC and MAC servicing sectors and organize a launching workshop; disseminate standardized service procedures, with a focus on promoting recovery, recycling, reducing emissions and non-venting of refrigerants.	10,000	0
2.3	<i>Operationalizing the certification system:</i> Expand the technician certification scheme being developed under the HPMP to develop a specialized certification for the domestic/commercial refrigeration and MAC sectors, certify ten certifiers for this purpose and conduct a pilot certification of 150 servicing technicians, and prepare plastic certification cards and other material; and carry out an outreach campaign including posters, radio spots, information sessions, and workshops to encourage technicians' participation in the certification system.	100,000	0
2.4	<i>Training of domestic/commercial refrigeration and MAC:</i> Train at least 200 technicians ⁵ in the good servicing practices of recovery, minimization of leaks and safe handling of flammable low-GWP alternatives, following the Code of Good Practices as a guide for the training.	40,000	0
2.5	<i>Provide operational support and equip the six recovery and recycling centres:</i> Provide educational and reference materials, as well as outreach programmes to inform domestic refrigeration and MAC technicians, and cover part of the operational costs ⁶ of RR for six centres; and equip ⁷ six existing centres with equipment and tools for strengthening the RR of refrigerants.	50,000 0	0 80,000
2.6	<i>Provision of tools and equipment⁸ for training:</i> Equip at least three training institutions, and the AFT with equipment and tools for training on low-GWP refrigerants.	0	100,000
2.7	<i>Demand-side management:</i> Draft regulations for the mandatory labelling of domestic refrigeration and residential air-conditioning appliances and the production of labels and stickers with information on the low GWP of the refrigerants and the energy efficiency of the equipment; implement outreach programmes for consumers and retailers on labelling, low-GWP technologies and energy efficiency; design and implement an incentive programme for commercial and industrial refrigeration equipment for the purchase of energy-efficient, low-GWP equipment or for the replacement of old equipment running on high-GWP HFCs; and support consultations on the implementation of regulations aimed at reducing demand for high-GWP HFC-based equipment.	150,000	0
2.8	<i>Demonstration project in air-conditioning:</i> Conduct a study to assess the technology by application and the potential targeted participants, identify local importers willing to act as distributors for the low-GW-based-AC, procure a consignment of 200 units ⁹ and encourage local importers to bulk purchase to benefit	0	150,000

⁵ 100 MAC technicians out of 168 and 100 RAC technicians out of 1,678.

⁶ Staff, equipment maintenance, utility bills and consumables required to maintain the centres and ensure smooth operations while enhancing the services offered to technicians.

⁷ Tentative list of procurement per centre: four recovery and three recycling units, 12 recovery cylinders (27 and 61 litres), two leak detectors, two electronic scales, one refrigerant identifier and other tools.

⁸ Tentative list of procurement: 6 units R-290 AC split system for training, 20 recovery machines for hydrocarbons, 20 portable charging stations for hydrocarbons, 10 leak detectors for HFC and 10 for hydrocarbons, 20 digital vacuum micro gauges, 15 brazing kits with accessories, 10 tube expander sets, and other tools.

⁹ Residential AC units up to 7.5 kW based on R-290.

Activities and sub-activities		Cost (US \$)	
		UNEP	UNIDO
	from the reduced price, provide technical support to installers, undertake a demonstration at a public-service building to showcase 10 R-290-based units of residential AC equipment, including comparing the energy-efficiency gains between old and new units, monitoring operations and raising awareness about the programme,		
<i>Subtotal for component 2</i>		<i>370,000</i>	<i>330,000</i>
Total per implementing agency		525,000	400,000
Total for activities in the servicing sector		925,000	
Project implementation, coordination and monitoring (UNEP)		92,500	
Total US\$		1,017,500	

Project implementation, coordination and monitoring

27. The NOU with the technical support of the implementing agencies will monitor activities, report on progress, and work with stakeholders to phase down HFCs, ensuring maximum coordination and synergy with the HPMP. The cost of those activities amounts to US \$92,500 and includes national and international consultants¹⁰ (US \$35,000), monitoring travels (US \$17,000), the organization of meetings (US \$14,000) and other fees¹¹ (US \$26,500).

Gender policy implementation

28. Chad recognizes the importance of gender equality, women's empowerment and women's involvement, and the participation of women technicians in the RAC sector is around 20 per cent. Codes of practice proposed under the KIP will include a section to remove misconceptions about women as servicing technicians. Several tools delivered under the KIP will also be prioritized for use by women technicians as appropriate to enhance the participation of women in the sector. Gender-disaggregated data will be collected to measure the participation of women when relevant. The KIP sets indicators and targets that will be used by the implementing agencies to measure the quantity, quality, and timeliness of the interventions and their results. The collected information will be included in the tranche progress reports, in alignment with mandatory requirements for gender mainstreaming indicators.

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

29. Stage II of the HPMP and stage I of the KIP will be implemented simultaneously. The Government of Chad will coordinate a combination of parallel and integrated implementation of the two programs, enabling closer monitoring of individual activities and the minimizing of expenses or logistical costs through integration. For stage I of the KIP, Chad proposes to strengthen the regulatory framework and control mechanisms, prioritizing technician training in the subsectors not attended by the HPMP; operationalize RR activities; ensure the sustainable implementation of the technician certification programme to be established under stage II; equip training institutes; implement a demonstration project in

¹⁰ Some coordination and monitoring activities are to be carried out by international consultants due to their extensive experience in managing multi-country projects and their familiarity with the procedures of implementing agencies. Their role also includes drafting terms of reference, progress reports, and other essential project coordination and monitoring tasks.

¹¹ Other fees include miscellaneous services, logistical support, documentation, communication efforts, and unforeseen expenditures that support the coordination and management of the project. While no specific breakdown is provided, this budget allocation ensures flexibility and coverage for ancillary services essential to maintaining project momentum.

commercial refrigeration; and undertake demand-side management to limit the import of HFC-based equipment, which were not included in the HPMP.

Total cost of stage I of the Kigali HFC implementation plan

30. The budget for stage I has been proposed at US \$1,017,500. The costs of activities in the refrigeration servicing sector have been proposed in line with decision 92/37. The proposed activities and cost of stage I of the KIP are summarized in table 9 above. The tranche distribution for stage I of the KIP is aligned with the Executive Committee decision 94/59 and the tranche distribution for stage II of the HPMP.

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

31. The first funding tranche of stage I of the KIP, in the total amount of US \$614,000, will be implemented between January 2025 and December 2027 and will include the following activities:

- (a) *Strengthening the regulatory framework and awareness raising:*
 - (i) Assess the existing system and make a proposal to establish and implement an electronic system for issuing licences and quotas, and for registering, controlling and monitoring HFC imports; set up the digital system, link it to customs and provide training to 50 customs operators on the updated system (UNEP) (US \$35,000);
 - (ii) Establish and implement a regulation requiring authorized importers to keep a register of HFCs distributed in the market to support the monitoring of HFCs and equipment containing them; carry out one meeting to inform stakeholders on the reporting requirements (UNEP) (US \$10,000);
 - (iii) Update the curricula for customs training to include HFC controls and the safe handling of refrigerants, and at least 40 customs and other enforcement officers trained in the prevention and control of illegal HFC trade (UNEP) (US \$16,000);
 - (iv) Provide 14 refrigerant identifiers to customs (UNIDO, US \$70,000); and
 - (v) Develop ten targeted awareness-raising activities for stakeholders on project components (UNEP) (US \$20,000).
- (b) *Capacity building of main stakeholders in the RAC and MAC sectors:*
 - (i) Provide technical and organizational support to registered and unregistered refrigeration servicing associations to increase participation in training activities and promote women's participation in the process; and revise the existing Code of Good Practices to include the RAC and MAC servicing sectors and organize a launching workshop (UNEP) (US \$16,000);
 - (ii) Expand the technician certification scheme being developed under the HPMP to develop a specialized certification for the domestic/commercial refrigeration and MAC sectors, certify five certifiers for this purpose and conduct a pilot certification of 75 servicing technicians; prepare plastic certification cards and other material; carry out one workshop to encourage technicians' participation in the certification system; train at least 100 technicians in the good servicing practices of recovery, minimization of leaks and safe handling of flammable

low-GWP alternatives, following the Code of Good Practices as a guide for the training (UNEP) (US \$70,000);

- (iii) Equip at least three training institutions and the AFT with equipment and tools for training on low-GWP refrigerants, and six refrigerant identifiers (UNEP) (US \$25,000), (UNIDO) (US \$130,000);
 - (iv) Draft regulations for the mandatory labelling of domestic refrigeration and residential air-conditioning appliances and the production of labels and stickers with information on the low GWP of the refrigerants and the energy efficiency of the equipment; implement outreach programmes for consumers and retailers on labelling, low-GWP technologies and energy efficiency; design and implement, for the first batch, an incentive programme for commercial and industrial refrigeration air-conditioning equipment for the purchase of energy-efficient, low-GWP equipment or for the replacement of old equipment running on HFCs (UNEP) (US \$60,000);
 - (v) Conduct a study to assess the technology by application and the potential targeted participants, identify local importers willing to act as distributors for the low-GWP-based-AC, procure a consignment of 200 units and encourage local importers to engage in bulk purchasing to benefit from the reduced price, provide technical support to installers, undertake a demonstration at a public-service building to showcase 10 HC-based units of residential AC equipment up to 7.5 kW, including comparing the energy-efficiency gains between old and new units, and monitoring of operations (UNIDO) (US \$125,000); and
- (c) Project coordination and monitoring (UNEP) (US \$37,000) with the following breakdown: national and international consultants (US \$14,000), monitoring travels (US \$11,000), organization of meetings (US \$6,000) and other fees (US \$6,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

Overarching strategy

32. Stage I of the KIP involves activities to address the challenges in the RAC and MAC servicing sectors according to the country's priorities and resource availability, in coordination with activities implemented under stage II of the HPMP.

HFC consumption levels

33. UNEP explained that the growing consumption of HFCs is due to the particular circumstances of the country's economy (based on oil, mining, agriculture, and services) along with a military infrastructure that requires a large RAC equipment base. The consumption in HFCs indicates a growing equipment base of HFC-based equipment since the consumption also includes the charging of new equipment. Furthermore, there may be a significant number of unidentified technicians not applying good practices and consuming large amounts of refrigerants.

34. The growth of HFC consumption in Chad is difficult to explain or justify after a comparison of socioeconomic data and HCFC and HFC consumption of Chad with other countries in the region. For instance, the fluctuation in HFC usage in Chad may indicate potential weaknesses in the customs records of HFC imports. Furthermore, limitations are inherent to the methodology associated with the HFC survey

analysis.¹² For the Secretariat, there are no obvious reasons why Chad's HFC consumption should be higher than that of other countries in the region with larger populations and economies, or greater access to electricity.

35. Noting that the HFC consumption reported during the baseline years may not be representative of the local market's regular consumption needs, thus reflecting a need for deeper enquiry, and in line with similar cases discussed in KIP proposals considered in previous meetings of the Executive Committee, the Secretariat and UNEP agreed that the Government of Chad would continue to monitor the situation in order to understand the extent to which consumption reported in baseline years was representative of the local market's needs and to assess future HFC demand. The Government would provide that analysis when submitting the second tranche of the KIP. Accordingly, the maximum allowable consumption limits for the remaining years of stage I of the KIP, as contained in Appendix 2-A to the future Agreement between the Government of Chad and the Executive Committee, would be revised as necessary when the Committee considers the second tranche of the KIP

Institutional, policy and regulatory framework

HFC licensing and quota system

36. In line with decision 87/50(g), UNEP has confirmed that Chad has an established and enforceable system of licensing and quotas for monitoring HFC imports/exports in place. The quota for 2024 is 1,509.15 metric tonnes equivalent to 3,229,329 tonnes of CO₂-eq. The quota for HFC imports is allocated to individual importers in metric tonnes and CO₂-eq tonnes, not allowing the importers flexibility in selecting the refrigerants to import within the year. Annual quotas for the following year are issued by the Ministry of Environment through the NOU and then the Ozone Committee sets the quota for individual importers.

Limiting the offer of HFC-based equipment

37. Noting that R-600a-based domestic refrigerators were locally available and had proven to be viable in replacing units based on HFC-134a, the Secretariat explored whether the Government had considered regulatory measures to ban, within the implementation period of stage I of the KIP, the import of HFC-based equipment in this subsector. UNEP explained that the Government of Chad understands that it is premature to ban imports of HFC-based equipment at this stage due to market implications, including the availability and affordability of refrigeration options for consumers.

Technical and cost-related issues

38. The average consumption in the servicing sector of Chad during the baseline years is 1,509.15 mt. However, based on the current uncertainty regarding HFC consumption trends, Chad accepted to be treated as a low-volume-consuming (LVC) country for the first stage of the KIP. The total funds agreed are according to an average HFC consumption range of 300 to 360 mt in the refrigeration servicing sector for the years 2020–2022, at the maximum funding levels established by the Executive Committee in decision 92/37(b)(ii). Consequently, the total cost of stage I of the KIP for Chad amounts to US \$360,000, plus agency support costs and is recommended by the Secretariat.

¹² Inter alia estimated leakage rates, fluctuations in country conditions, aggregation of equipment units in official data, and limitations of the sampling process.

Total project cost

39. At a total cost of US \$360,000, stage I of the KIP for Chad will result in a reduction of 357,36 CO₂-eq tonnes from the country's HFC consumption eligible for funding. Stage I of the KIP will be implemented in two tranches.

40. The treatment of Chad as an LVC country results in a reduction of US \$657,500 relative to the originally submitted proposal of US \$1,017,500. To accommodate this reduction, the components providing for operational support and equipment for six recovery and recycling centres, along with the demonstration project for low-GWP AC were removed altogether. Although changes were not introduced to the strengthening of industry associations, the development of codes of practice, and the training of domestic/commercial refrigeration and MAC technicians, the following adjustments were made to the remaining components:

- (a) *Strengthening the HFC licensing and quota system:* Conducting a study to assess the functionality of the online tool to be set under stage II of the HPMP, and training at least 140 stakeholders on the updated tool, resulting in agreed costs of US \$20,000;
- (b) *Strengthening record-keeping by enterprises and market monitoring:* Foregoing the study on illegal trade while rationalizing the cost of setting up the regulations for reporting, holding information workshops, and monitoring and enforcement, resulting in agreed costs of US \$10,000;
- (c) *Capacity building of customs officers:* Updating the training curricula to include material on flammability and the safe handling of refrigerants among other improvements, and training 65 custom and enforcement officers, resulting in agreed costs of US \$20,000;
- (d) *Provision of refrigerant identifiers to customs:* Reducing from 20¹³ to 10 the number of refrigerant identifiers for identification and analysis of CFCs, HCFCs, HFCs and blends as well as hydrocarbons to be acquired, resulting in agreed costs of US \$50,000;
- (e) *Awareness raising:* Conducting at least 12 sensitization campaigns directed at relevant stakeholders on topics such as the adoption of the Code of Good Practices, certification programme, technician training for the formal and informal sectors, digitization of the licensing system, HFC regulations and updates under the KIP, record keeping for importers, demand-side management and environmental benefits, and the ozone layer and the climate, resulting in agreed costs of US \$15,000;
- (f) *Provision of tools:* Assessing RR tool requirements and potential beneficiaries; and providing two sets of tools each for the AFT and two new training centres, resulting in agreed costs of US \$75,000;
- (g) *Operationalizing the certification programme:* Expanding the technician certification scheme being developed under the HPMP to develop a specialized certification for domestic/commercial refrigeration and MAC sectors; carrying out refresher training for ten certifiers instead of a formal certification; conducting a pilot certification of 150 servicing technicians; preparing plastic certification cards and other material; and carrying out awareness-raising and outreach activities to encourage technicians' participation in the certification system, resulting in agreed costs of US \$50,000;

¹³ As initially planned, 14 identifiers would be delivered to Customs and six to the RR centres.

- (h) *Demand-side management*: Removing the incentive programme for commercial and industrial refrigeration equipment, while keeping draft regulations for mandatory labelling of domestic refrigeration and residential air-conditioning appliances and producing labels and stickers for those types of equipment; implementing outreach programmes for consumers and retailers on labelling, low-GWP technologies and energy efficiency; supporting consultations on the implementation of regulations aimed at reducing demand for high-GWP HFC-based equipment; and holding workshops and preparation of information material, resulting in agreed costs of US \$25,000; and
- (i) *Monitoring and coordination*: Delimiting the scope to cover domestic travel, national consultants, consultation meetings and miscellaneous expenses, resulting in agreed costs of US \$25,000.

Table 10. Requested and agreed costs for activities in stage I of the KIP for Chad

Activities and sub-activities		Cost (US \$)	
		Requested	Agreed
Component 1: Strengthening the regulatory framework and awareness raising			
1.1	Strengthening the HFC licensing and quota system and reporting (UNEP)	40,000	20,000
1.2	Strengthening record-keeping and reporting by enterprises and market monitoring (UNEP)	25,000	10,000
1.3	Capacity building of customs and other enforcement officers (UNEP)	40,000	20,000
1.4	Provision of refrigerant identifiers (UNIDO)	70,000	50,000
1.5	Awareness-raising campaigns (UNEP)	50,000	15,000
<i>Subtotal for component 1:</i>		<i>225,000</i>	<i>115,000</i>
Component 2: Capacity building of main stakeholders in the RAC and MAC sectors			
2.1	Strengthening industry associations (UNEP)	20,000	20,000
2.2	Development of codes of practices (UNEP)	10,000	10,000
2.3	Operationalizing the certification system (UNEP)	100,000	50,000
2.4	Training of domestic/commercial refrigeration and MAC (UNEP)	40,000	40,000
2.5	Provide operational support and equip the six RR centres (UNEP US \$50,000 and UNIDO US \$ 80,000)	130,000	0
2.6	Provision of tools and equipment for training (UNIDO)	100,000	75,000
2.7	Demand-side management (UNEP)	150,000	25,000
2.8	Demonstration project in air-conditioning (UNIDO)	150,000	0
<i>Subtotal for component 2</i>		<i>700,000</i>	<i>220,000</i>
Total for activities in the servicing sector		925,000	335,000
Project implementation, coordination and monitoring (UNEP)		92,500	25,000
Total US \$		1,017,500	360,000

41. The agreed schedule of the HFC phase-down and HCFC phase-out commitments, and of the KIP and HPMP tranches, is presented in annex I to the present document, while activities to be implemented under the HPMP and the KIP are listed in annex II.

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

42. With the adjustment of the total costs, the requested amount for the implementation of the first tranche also decreased from US \$614,000 to US \$216,000. Allocations for activities, outputs and costs have

been revised for all components in order to adjust to the priorities under the updated scenario and eligible amounts as an LVC country. The agreed activities for the first tranche are listed below:

- (a) *Strengthening the HFC licensing and quota system and reporting:* Conduct a study to assess the functionality of the online tool to be set under stage II of the HPMP, and training 80 stakeholders on the updated tool (UNEP) (US \$12,000);
- (b) *Strengthening record-keeping and reporting by enterprises and market monitoring:* Set up regulations for reporting, holding workshops to inform stakeholders, monitoring and continuous compliance enforcement (UNEP) (US \$6,000);
- (c) *Capacity building of customs and other enforcement officers:* Update training curricula, and train 12 customs and enforcement officers (UNEP) (US \$12,000);
- (d) *Develop nine targeted awareness-raising activities for stakeholders on project components as follows:* Conduct nine sensitization campaigns directed at relevant stakeholders on topics such as the adoption of the Code of Good Practices, the certification programme, technician training for the formal and informal sectors, digitization of the licensing system, HFC regulations and updates under the KIP, record keeping for importers, demand-side management and environmental benefits, the ozone layer and the climate (UNEP) (US \$9,000);
- (e) *Strengthening industry associations:* Organize meetings and other activities including providing training in local languages (UNEP) (\$12,000);
- (f) *Development of codes of practice:* Hire a consultant to develop the Code, and organize workshop with main stakeholders (UNEP) (US \$6,000);
- (g) *Operationalizing the certification system:* Expand the technician certification scheme being developed under the HPMP to develop a specialized certification for the domestic/commercial refrigeration and MAC sectors; carry out refresher training for ten certifiers and conduct a pilot certification of 100 servicing technicians; prepare plastic certification cards and other material; and carry out awareness-raising and outreach activities to encourage technicians' participation in the certification system (UNEP) (US \$30,000);
- (h) *Training for domestic/commercial refrigeration and MAC technicians:* Train 120 technicians (UNEP) (US \$24,000);
- (i) *Provide refrigerant identifiers to customs and tools and equipment for training to vocational training centres:* Acquire and deliver at least eight identifiers to customs, including shipping and training; assessment of tools and identification of new recipients; provision of one set of tool kits each for the two new training centres and the AFT (UNIDO) (US \$75,000);
- (j) *Demand-side management:* Draft regulations for the mandatory labelling of domestic refrigeration and residential air-conditioning appliances; produce labels and stickers with information on the low GWP of the refrigerants and the energy efficiency of the equipment; implement outreach programmes for consumers and retailers on labelling, low-GWP technologies and energy efficiency; support consultations on the implementation of regulations aimed at reducing demand for high-GWP HFC-based equipment, workshops and preparation of information material (UNEP) (US \$15,000); and

- (k) *Monitoring and coordination:* domestic travel, national consultants, consultation meetings and miscellaneous expenses (UNEP) (US \$15,000).

Exemption for high-ambient temperature parties

43. Chad is one of the countries operating under the high-ambient temperature (HAT) exemption in line with decision XXVIII/2 of the Parties. The decision allows these countries to request exemptions for specific subsectors or uses where suitable alternatives do not exist.¹⁴ Additionally paragraph 35 indicates that the amount of Annex F substances subject to the HAT exemption is not eligible for funding under the Multilateral Fund while those substances are exempted for that party. As stated on the Ozone Secretariat website, Chad withdrew its notification of intention to use the HAT exemption on 23 September 2024.

Co-financing

44. The country will provide an in-kind contribution, covering office space and other logistical and personnel support whenever required during the implementation of stage I of the KIP. Furthermore, technical expertise from the personnel of the training centres and RAC associations will contribute to KIP implementation.

2024–2026 business plan of the Multilateral Fund

45. UNEP and UNIDO are requesting US \$360,000, plus agency support costs, for the implementation of stage I of the KIP for Chad. The total value of US \$244,080, including agency support costs, requested for the period of 2024–2026, is US \$192,570 below the amount in the business plan.

Sustainability of the HFC phase-down and assessment of risks

46. All regulatory provisions have been taken to ensure the sustainability of activities and ownership of the results of activities, promoting the involvement of all stakeholders such as the Inter-ministerial Ozone Committee composed of 14 ministerial departments and civil society, including the AFT. The main potential risks to the sustainability of the HFC phase-down in Chad include potential illegal trade of refrigerants, particularly through porous borders; supply-chain constraints limiting the local availability of low-GWP technologies; growing demand for RAC equipment and the influx of HFC-based equipment into the country; and the absence of affordable alternative refrigerants or technologies that could exacerbate the use of HFCs. Additionally, the current RR remains under development with only some technicians fully equipped and/or trained to handle alternative refrigerants.

47. To mitigate the potential illegal trade of refrigerants, Chad is focusing on strengthening border control measures, enhancing customs capabilities, and collaborating with regional and international organizations to improve the enforcement of environmental regulations. To address the risks associated with the HFC supply and demand, the country plans to support consultations on regulations to ban the import of HFC-based RAC units, and to draft regulations for mandatory GWP and energy-efficiency labelling of domestic refrigeration and residential AC appliances, along with implementing outreach programmes for consumers and retailers. Furthermore, the certification and training of technicians, as well as the expanded distribution of tools and equipment aimed at strengthening RR performance are to be implemented under stage II of HPMP and will be expanded through the implementation of the KIP.

¹⁴ Exempted equipment under the HAT exemption includes multi-split air conditioners (commercial and residential); split-ducted air conditioners (commercial and residential); and ducted commercial packaged (self-contained) air conditioners.

Impact on the climate

48. The activities proposed, including efforts to promote low-GWP alternatives, training in good practices, refrigerant recovery equipment, and awareness raising indicate that the implementation of stage I of the KIP will reduce refrigerant emissions into the atmosphere, resulting in climate benefits. A calculation of the impact on the climate of the activities in the KIP indicates that by 2029, Chad will have reduced its emissions by approximately 357,361 CO₂-eq tonnes of HFCs, calculated as the difference between the baseline and the 2029 target, assuming that all consumed HFCs would have eventually been emitted.

Draft Agreement

49. A draft Agreement between the Government of Chad 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.

50. If the Executive Committee so wishes, the funds for stage I of the KIP for Chad 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

51. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Chad 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 \$235,000, plus agency support costs of US \$30,550, for UNEP and US \$125,000, plus agency support costs of US \$16,250, for UNIDO, as reflected in the schedule contained in annex I to the present document;
- (b) Noting:
 - (i) That the Government of Chad will continue to monitor HFC consumption to understand the extent to which consumption reported in baseline years is representative of the local market's needs and to assess future HFC demand, and that it will provide this analysis when submitting the second tranche of its KIP;
 - (ii) That, on the basis of the information provided in subparagraph (b)(i) above, the maximum allowable consumption limits for the remaining years of stage I of the KIP, as contained in Appendix 2-A to the future Agreement between the Government of Chad and the Executive Committee, will be revised, if appropriate, when the Committee considers the second tranche of the KIP;
- (c) Approving the first tranche of stage I of the KIP for Chad and the corresponding tranche implementation plan, in the amount of US \$244,080, consisting of US \$141,000, plus agency support costs of US \$18,330, for UNEP and US \$75,000, plus agency support costs of US \$9,750, for UNIDO; and
- (d) Requesting the Government of Chad, UNEP, UNIDO and the Secretariat to finalize the draft Agreement between the Government of Chad 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 CHAD

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)	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251	n/a
1.2	Maximum allowable total consumption of Annex F substances (CO ₂ -eq tonnes)	3,573,612	3,573,612	3,573,612	3,573,612	3,573,612	3,216,251	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	141,000	0	0	94,000	0	0	235,000
2.2	Support costs for Lead IA (US \$)	18,330	0	0	12,220	0	0	30,550
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	75,000	0	0	50,000	0	0	125,000
2.4	Support costs for Cooperating IA (US \$)	9,750	0	0	6,500	0	0	16,250
3.1	Total agreed funding (US \$)	216,000	0	0	144,000	0	0	360,000
3.2	Total support costs (US \$)	28,080	0	0	18,720	0	0	46,800
3.3	Total agreed costs (US \$)	244,080	0	0	162,720	0	0	406,800

* Recommended for approval at the present meeting

HCFC phase-out management plan (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)	10.47	5.23	5.23	5.23	5.23	5.23	0.00	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	10.47	5.23	5.23	5.23	5.23	5.23	0.00	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)	0	208,500	0	198,000	0	0	104,000	639,000
2.2	Support costs for Lead IA (US \$)	0	26,198	0	24,879	0	0	13,067	80,290
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	0	0	0	196,500	0	0	0	401,000
2.4	Support costs for Cooperating IA (US \$)	0	0	0	13,755	0	0	0	28,070
3.1	Total agreed funding (US \$)	0	208,500	0	394,500	0	0	104,000	1,040,000
3.2	Total support costs (US \$)	0	26,198	0	38,634	0	0	13,067	108,360
3.3	Total agreed costs (US \$)	0	234,698	0	433,134	0	0	117,067	1,148,360

Annex II

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

Category of activity	HHPMP – stage II		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
Strengthening legal and regulatory measures to support HCFC-phase-out/HFC phase-down	Banning the import of HCFCs as of 1 January 2030 except for a servicing tail; banning HCFC-based equipment imports as of 1 January 2029; operationalizing the online tool to allow information exchange between the NOU and customs on the use of import quotas for HCFCs in real time	34,000	Strengthening HFC licensing and quota system: study to assess functionality of the online tool to be set under stage II of the HPMP, training for 80 stakeholders on the updated tool	20,000	54,000
Strengthening record-keeping	n/a	0	Strengthen record-keeping and reporting by enterprises as well as market monitoring and compliance enforcement	10,000	10,000
Training of customs and enforcement officers	Conduct 40 training sessions for 1,000 customs officers and other law enforcement agents on control and identification of HCFCs and HCFC-based equipment, updated regulations, and the 2022 Harmonized System Codes; preparation of training materials and translations	155,000	Update the training curricula to include material on flammability and safe handling of refrigerants among other improvements, training for 65 customs and enforcement officers	20,000	175,000
	Conduct at least 20 workshops for importing traders of refrigerants and RAC equipment on the revised procedures for issuing import licenses and granting annual quotas, and on the storage and handling of flammable or toxic refrigerants	40,000	n/a	0	40,000
Provision of ODS identifiers to customs	Provide 10 portable ODS identifiers and spare parts	50,000	Procure and distribute 10 identifiers for multiple refrigerants for customs use	50,000	100,000
Developing standards	Adopt standards on the safe use of flammable and toxic refrigerants as of 1 January 2027	40,000	n/a	0	40,000
Awareness Raising and Gender mainstreaming	Conduct a targeted awareness-raising campaign to encourage students, particularly	15,000	Conduct twelve targeted awareness-raising activities for stakeholders on project components	15,000	30,000

Category of activity	HHPMP – stage II		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
	young women, to study for professions in the RAC sector at vocational training schools, technical high schools and universities;				
	Organize workshops and develop brochures for end users presenting zero/low-GWP technology and storage of flammable refrigerants;	40,000	n/a	0	40,000
Support for RAC associations	n/a	0	Provide technical and organizational support to refrigeration servicing associations: meetings, training in local languages	20,000	20,000
Development of codes of practice	n/a	0	Revise the existing Code of Good Practices for RAC and MAC servicing sectors and organize a launching workshop; disseminate standardised service procedures, with focus on promoting recovery, recycling, reducing emissions and non-venting of refrigerants	10,000	10,000
Certification of RAC trainers and technicians	Establish a certification scheme for RAC technicians; developing three certifying centres and testing the operation of the system by certifying 25 technicians in 2026;	85,000	Expand the technician certification scheme to develop a specialized certification for domestic/commercial refrigeration and MAC sectors; carry-out refresher training for ten certifiers and conduct a pilot certification of 100 servicing technicians; preparation of certification cards and other materials; and carry awareness raising and outreach activities to encourage technicians' participation in the certification system	50,000	135,000
	Certify three trainers in HC technology in Vienna, Austria	25,000	n/a	0	25,000
Training of RAC MAC Technicians	Conduct 50 sessions to train 1,000 RAC technicians in good practices in refrigeration, including techniques for recovery, recycling and reuse, and the handling of	180,000	Train at least 120 technicians on good servicing practices of recovery, minimisation of leaks and safe handling of flammable low-GWP	40,000	220,000

Category of activity	HHPMP – stage II		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
	new refrigeration equipment;		alternatives following the code of practice		
Strengthening centres of excellence	Procure portable refrigerant identifiers and sets of equipment, tools and spare parts for managing HCFCs and alternative refrigerants for 6 centres, and providing training on their use;	215,000	n/a	0	215,000
	Enabling refrigerant recovery and reuse through the establishment of three Recovery and Recycling centres;	111,000	n/a	0	111,000
Provision of tools and equipment	n/a	0	Provision of tools and equipment for training: assessment of tools provided and identification of new recipients; provision of one set of tool kits each for the two new training centres and the RAC association	75,000	75,000
Demand side management	n/a	0	Draft regulations for mandatory labelling of domestic refrigeration and residential AC appliances; produce labels and stickers with information on low-GWP refrigerants and energy efficiency of the equipment; implement outreach programmes for consumers and retailers on labelling; and support consultations on the implementation of regulations aimed at reducing demand for HFC-based equipment, workshops and preparation of information material	25,000	25,000
Project management and coordination	Staff and consultants, monitoring travels and organization of meetings	50,000	Staff and consultants, monitoring travels, organization of meetings	25,000	75,000
Total		1,040,000		360,000	1,400,000
Percentage of total (%)		74%		26%	